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Principal ecological threats of the mining industry in
Armenia and its political and legal background

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Abstract

The “Principal ecological threats of the mining industry in Armenia and its political and legal background” is an independent study conducted in the framework of the Marion Dönhoff Fellowship at the Michael Succow Foundation, during the timeframe: 18.02.2020 - 14.07.2020. The material provided in this publication is for general information only.

Targeted audience

The current research is a critical expert analysis targeted audience of which are the former and current Governments of Armenia, civil society actors, local and international ecologists, environmentalists, journalists, and all entities who are interested in the subject matter. This work is mainly addressed to the RA Government representatives, moreover, civil society, private section (specifically mining companies). The local population plays an important role in defining dialogue, developing strategic planning documents and processes as proposed in this study.

Let it be noted, that in the term “critical” there is no intention to give marks to the current or former Governments of Armenia, and don’t pursue political goals. It is solely guided by environmental priorities for our region, and in this regard, I find that all political authorities in Armenia, both former and incumbent, have shared responsibility in this matter, the former one - for giving a green light to those arguable projects, and the current - for inaction and turning blind eye to the crisis evolved around.

Goals and objectives

The long term goal of this paper was to hold a comprehensive and objective research explaining the ecological crisis evolving in Armenia as a result of mining industry. This has been done by exploring each case in-depth and analyzing the basic impediments or preconditions of healthy environmental development within the country, and revealing the reasons for success or failure during this process.

The objective of the current study was to deliver a perspicuous review of literatures and practices in relation to environmental development analysis and

outline a conceptual framework for the effective management, to analyze and evaluate the scientific direction of the national environmental control system, legislative regulation. With this in mind, the paper draws a critical view on the authorities stance to the subject matter, unfolds the gaps and shortcomings of their approaches to the issue. This work is intended to raise a substantive debate on overall ecological issues threatening the nowadays global world as a result of political processes and prejudices.

Targeted subjects

The research subjects of this paper are focused on two extensive and large-scaled mining projects in Armenia, Amulsar gold mine and Teghout copper-molybdenum mine, by identifying the principal environmental hazards and risks threatening Armenia and the entire region in the result of the realization of these projects, inter alia, water pollution, destruction of forest area, the region's agricultural potential, historical and cultural heritage etc.

Why specifically those two mines case study? First and foremost, due to immeasurable hazards threatening the environment and the ecology of Armenia and the overall region as a result of their exploitation. Secondly, given the public articulation and the resistance that has been formed around both projects for years, which, however, has not yet found its solution and threatens to turn into a nationwide resistance. Third, the Amulsar -Teghut mines are the largest mining projects in Armenia, which also have acquired great political resonance and motivation that need a scrupulous study. These are also issues of political urgency in Armenia for nowadays, due to the formation of a new government, revolutionary ideas and public expectations evolved around them. These projects have also attracted the attention of the international community and dozens of studies have been conducted so far by the international authoritative institutions and organizations.

The study has examined international experience in mining industry, legislation of the Republic of Armenia on environmental protection, more than 30 international environmental conventions and treaties, comparisons have been made with internationally permitted mining benchmarks and mainstreams.

The recommendations in the document are geared towards the systematic problem solving, taking into account priority targets and practical solutions.

I believe that the increasing attention to mining policy in the country should be accompanied by the imperative of improving processes and responsible mining development and pave the ground for the massive discussion of ways and toolkit.

Methods

The information of this study is mainly obtained from articles, scientific materials, reports, legal acts available in open sources, based on an analysis of interviews with several experts and specialists in the field, meanwhile, conducting our authorial interviews as well. In this regard, I would like to be mentioned, that this study was implemented during the period of Covid-19 (coronavirus) pandemic, in conditions of home office, in an absolute isolation and lockdown, when even the basic contact with people was prohibited by the state governments and regulations, therefore, the interviews of this study were realized in remote conditions, and, unfortunately, not in the scale planned initially. Despite these limitations, the available literature and information provided an opportunity to make a qualitative analysis of the information obtained and to reach a number of important conclusions. Based on the examples of several countries, the analytical toolkit has been defined.

In the “Conclusions” and “Recommendation” sections of this study are given general proposals to the Government of the Republic of Armenia and the interested parties of the relevant sphere, have been identified a number of steps and processes which, in our opinion, will enable to ensure the sustainable development of the mining sector.

Literature and media research

During this study the literature and scholarly sources, media references and articles in the field of environmental protection, local and international laws, reports, international environmental agreements and declarations are explored. For the implementation of this work, the existing database was collected and analyzed, in particular: 8 published scientific books, 25 laws of the Republic of Armenia, 7 Government and National Assembly decisions of the Republic of Armenia, plus RA Constitution, 19 international agreements and

conventions, 22 reports and assessments of domestic and international organizations, over 76 media references, researches and articles. (*See for the details in the “References” section*).

The studied literature mainly refers to the local experience of ore mining and subsoil use and the best social and environmental international practices.

List of Individuals and entities interviewed for study, questionnaire

For the implementation of this research it has been partly applied to the qualitative research method, by conducting interviews with the relevant professionals of the field, representatives from the civil society institutions, the local and international environmentalists and ecologists. The list of interviewed people, please, find below:

1. **Levon Galstyan** - Geographer, geomorphologist, coordinator of Pan-Armenian Environmental Front¹, Yerevan, Armenia
2. **Naira Zohrabyan** - a member of the National Assembly of the Republic of Armenia for the Prosperous Armenia party, the Chairwoman of the RA NA Standing Committee on Protection of Human Rights and Public Affairs². Naira Zohrabyan is also a member of the NA Inquiry Committee for Studying the legality validity and reliability of financial and other reports submitted to the bodies of executive power and adopted by them in the framework of investment programs in the area of industrial metal mining. Yerevan, Armenia.
3. **Hakob Sanasaryan** - President of the Green Union of Armenia³.
4. **Seyran Minasyan** - Candidate of Chemical Sciences, Senior Researcher, expert at the Institute of Chemical Physics of the

¹ Pan- Armenian Environmental Front

<http://ecolur.org/en/news/electionspoliticsecology/--/7028/>

²<http://www.parliament.am/deputies.php?sel=details&ID=1333&language=eng>

³<https://www.spyur.am/en/companies/greens-union-of-armenia/2955>

National Academy of Sciences of the Republic of Armenia⁴, Yerevan, Armenia

5. **Andrey Ralev** - independent biodiversity expert, environmental specialist, Balkani Wildlife Society, Sofia, Romania. Andrey is also the founder of the “Perangua” global network for the environmental activists⁵, which supports nature conservation campaigns around the world. “Perangua” is also supporting the campaign in Armenia to save Amulsar from a gold mine together with Ecolur.org, Green Armenia NGO, Bankwatch Network.
6. **Dr. Gudrun Franken** - Head of unit Mining and Sustainability, FB 1.2 Geology of Mineral Resources, Federal Institute for Geosciences and Natural Resources (BGR)⁶, Hannover, Germany.
7. **Michael Reckordt** - working on Resource Policy for PowerShift - Verein für eine ökologisch-solidarische Energie- & Weltwirtschaft e.V. Berlin, Germany.

The list of international organizations that provided useful information, experts’ contacts and links in reply to our query about international and mostly German experience in mining industry:

1. **Urgewald e.V.**⁷- a non-profit environmental and human rights organization. It is based in Sassenberg, Germany, and it also runs an office in Berlin. For 25 years, Urgewald has been fighting against environmental destruction and for the rights of people harmed by corporate profit interests.
2. **Leibniz Institute of Ecological Urban and Regional Development Dresden (IOER)**⁸.
3. **Center for Environmental Systems Research (CESR), Universität Kassel**⁹.

⁴National Academy of Sciences of the Republic of Armenia <https://www.sci.am/orgsview.php?id=27&langid=2>

⁵ “Perangua” global network for the environmental activists <https://perangua.com/>

⁶ Federal Institute for Geosciences and Natural Resources (BGR) https://www.bgr.bund.de/EN/Home/homepage_node_en.html

⁷ Urgewald e.V. <https://urgewald.org/english>

⁸ Leibniz Institute of Ecological Urban and Regional Development Dresden (IOER)⁸

<https://www.ioer.de/1/contact/>

⁹ Center for Environmental Systems Research (CESR),

Universität Kassel <https://www.uni-kassel.de/einrichtungen/en/cesr/contact-and-directions.html>

4. **Museum für Naturkunde - Leibniz Institute for Evolution and Biodiversity Science (MfN), Berlin**¹⁰.

5. **Heinrich-Böll-Stiftung e.V., Die Grüne Politische stiftung**¹¹.

6. **Heinrich Böll Foundation , South Caucasus Office**¹²

7. **PowerShift e.V.** - Verein für eine ökologisch-solidarische Energie- & Weltwirtschaft e.V. **Berlin, Germany**¹³ . This organization applies their expertise in international trade, raw materials and climate policy: Through comprehensive research, Powershift examines political processes, identifies the problems of an unjust economic system and develops policy alternatives. One of the organisation’s main areas of focus is the critical monitoring of Germany’s raw-materials policy and the associated ecological and social risks. PowerShift advocates for mandatory human-rights due diligence for companies and for the implementation of the EU Conflict Minerals Regulation.

8. **Federal Institute for Geosciences and Natural Resources (BGR)**¹⁴, Hannover, Germany.

9. **“Perangua” global network for the environmental activists**¹⁵, Sofia, Bulgaria. This organization supports nature conservation campaigns around the world.

The **Questionnaire** of interviews included the issues related to environmental management, mining projects, damages they caused, the disclosure of international experience, in particular:

¹⁰ Museum für Naturkunde - Leibniz Institute for Evolution and Biodiversity Science (MfN), Berlin

<https://www.museumfuernaturkunde.berlin/en/about/the-museum>

¹¹ Heinrich-Böll-Stiftung, Die Grüne Politische stiftung

<https://www.boell.de/de/navigation/struktur-16450.html?dimension1=startseite>

¹² Heinrich Böll Foundation , South Caucasus

Office <http://www.ge.boell.org/>

¹³ PowerShift e.V. , Berlin <https://power-shift.de/home-en/>

¹⁴ Federal Institute for Geosciences and Natural Resources

(BGR)

https://www.bgr.bund.de/EN/Home/homepage_node_en.html

¹⁵ “Perangua” global network for the environmental activists

<https://perangua.com/>

- . What dangers can the exploitation of Amulsar mine project impose to Jermuk Health Center?
- . How threatening is the Amulsar mine exploitation for Armenia's environment overall?
- . The current situation of water pollution in the rivers of Armenia and the impact of the Teghut mine exploitation on them.
- . The major factors in catastrophic extent of contamination of rivers in Armenia.
- . The standards of mining in the world from a geographical point of view, and their incompatibility with Armenia.
- . Are there geographical peculiarities for exploiting gold and copper mines?
- . The issue of preservation of historical and cultural monuments found in Amulsar and Teghut mine areas.
- . The unblocking of Amulsar is realistic or not?
- . The level of ecological awareness and eco-consciousness of Armenian people.
- . The mining as an environmental debate and the role of politics there.
- . Are there success stories on international ground when the authorities find the best way to cooperate with the public around mine construction projects?

What tools they usually apply (or preferable to apply) to reach this goal?

- . The issue of political patronage in mining sector in Armenia.
- . Mining in the international agenda. Criteria and mainstreams...challenges.
- . Political risk in the mining sector... Political impacts on mining programmes (its scales, patronage, steps to be elaborated by the authorities to reduce the political impact on mining sector.
- . Political and institutional prerequisites for successful mining establishment and development. German Federal Government's approach.
- . What are the principal strategies that the domestic governments should adopt to reduce the environmental damage caused by ore mining industry?

Findings

. As a result of this study, it is found that the mining sector, although being one of the main stimuli of the economy in Armenia and playing a unique role in the strategic development programs, nevertheless, there are no special programs for its evolvement.

. At the same time, the findings of this study showed that the Armenian legislation does not define criteria for assessing the harm caused to the environment and does not require any compensation for such harm.

. No environmental offsetting schemes operating. This creates favorable grounds for mining companies to extract even the smallest quantities of ore, at the price of causing incomparable economic damage to the environment.

After notorious amendments, the mining legislation does not recognize mining waste or tailing waste and thus there is no taxation for it. At the same time, 99.6% of the waste produced in Armenia is mining waste and the mining companies do not have any responsibility for this waste once the mining operation is over. If such pollution of the environment continues without any regulation, taxation and responsibility Armenia will be soon facing not only an ecological disaster, but will suffer from the phenomenon of "resources curse." In fact, the developmental alternatives of the country both on a national and local level are not placed on the public agenda, nor does the civil society have adequate access to bringing them to the level of public decision-making.

. Public participation in decision-making is predominantly declarative.

There is no legislative mechanism for professional evaluation of mining projects by other agencies related to the sector (Ministry of Health of the Republic of Armenia, Ministry of Territorial Administration and Emergency Situations of the Republic of Armenia, Ministry of Culture of the Republic of Armenia, etc.).

. The brief analyses of legal procedures in Armenia bring to the conclusion that Administrative and Cassation Courts of Armenia have consistently made efforts to jeopardize any legal procedures against mine exploitation in Teghut, have made every effort to avoid public court hearings which would publicize the huge violations of law. This once again demonstrates that Armenian public has been totally isolated from decision making on public property issues, as well as from access to justice in order to protest illegal decisions of state officials.

. While talking about the legislative field, it is necessary to point out that there are many problems in terms of their implementation. There are ample evidences of gross violations of environmental legislation, both in the issuance of permits and in

the failure to prosecute for violating the terms of these permits in the future. In particular, the RA Ministry of Nature Protection has been refusing to carry out inspections at the Teghut mine for years, by ignoring the applications of environmental organizations and Human Rights Defender.

. The practice shows that environmental impact assessment (EIA) is carried out on an obviously unprofessional basis. As a rule, expert opinions do not expertise the EIA reports submitted by companies, but simply briefly summarizes the information in the EIA report, without re-evaluating the validity or accuracy of the data presented.

. According to the data obtained as a result of this research, the EIA of the Amulsar mine development program are incomplete, and the relevant research is unreliable. Therefore, it is not possible to answer the question of whether the general operation of the mine can be considered safe.

. In the field of mining industry, there is no conceptual document or strategy developed by responsible state structures or the government, through which it would be possible to pursue long-term management of the sector. In 2010 the draft strategy of the national mining policy and development strategy was put into circulation. So far the draft of this framework document remains the main source of information on strategic development in the mining sector, although it has never formally discussed or approved.

. There is no unified policy for assessing the economic benefits and harms of mining, in some cases on its socio-economic and cultural expediency. There is no sufficient evidence that the mining industry is currently of paramount importance to the country's economic development, as announced by the government. At the same time, there are still no officially approved programs or strategies for further operation of metal compounds and other underground mineral resources.

. The political patronage in mining sector in Armenia is obvious, specifically, since the times of the former Government.

. The new political realities and government in Armenia are not decisive enough in taking steps for resolving the crisis evolved around the Amulsar and Teghut mines exploitation issues. The hopes and expectations of public with the new government and revolutionary principles are not fulfilled.

. Virtually, the government is facing a difficult dilemma today. On the one hand, there are environmental risks that need serious environmental research, on the other hand, the financial and social side of the issue. It's about investing a few hundred million dollars, as well as opening many jobs. However, according to experts in the field, such an approach to the issue as the current government of Armenia has adopted, that is, to artificially extend the time, is not the solution.

. While observing the hazards that can cause and already has caused the Amulsar and Teghut mines operation, the conclusion is that the exploitation of both mines is unacceptable as they are destroying the surrounding ecosystem, causing disproportionate damage to the environment, severe damage to human health, plunder the nation's wealth of mineral resources. Environmental damage related to the exploitation of these mines can have irreversible serious consequences for the health of the people of Armenia and the country's ecosystem.

Recommendations

This paper's principal recommendations are the following:

. Urgently develop and put into action a national mining strategy based on international best practices. Without a national strategy for sustainable development of the mining sector the use of natural resources in Armenia will continue to cause significant environmental and social concerns. Such a document can help improve the management of the sector by: a) providing the perspective of long-term development of exploration and exploitation of mineral resources, b) restricting the state regulation of environmental compliance of mining companies, c) increasing publicity and quick response to public concerns.

. It is necessary to profoundly elaborate a new concept and legislation for the development of mining in Armenia, which will be in balance with the health, environmental and tourism interests of the population and the interests of mining development, giving priority to the first.

. Improve the existing legal framework for the protection of the environment, ensuring separation of functions of policymaking, resource management, resource use, and oversight, precluding conflicts between different legal acts and eliminating conflicts of interest.

. Improve the domestic mining policy. There are indisputable gaps in Armenia's environmental legislation, gross violations of international standards, and very small overall benefit for the people of Armenia. In this situation, Armenia should seek for the help of its international partners to improve the mining sector in the country.

. Designing environmental regulation that adequately protects the environment, which also establishes clear rules for investors.

. Introduce the best international practices of health, safety, environment and community management to a wide range of stakeholders.

. Make requirements for Environmental Impact Assessment (EIA) for the mining industry. Stop issuing permits for new metal mines until proper environmental impact assessment methodologies are developed.

. Before talking about the responsibility for the operation of the mines, the impact of the mining industry on the social (health and safety), economic (assessment of ecosystem services, damage calculation, compensation, etc.), cultural (changes in habitat, endangerment of cultural heritage) situation in Armenia should be thoroughly studied, mining relationship with other sectors of the economy should be clarified, the extent of damage caused to biodiversity and water resources, as well as the possible seismic risk should be scientifically and thoroughly investigated. It is necessary to clearly define and distribute the value of the social and environmental impacts, only in the case of such calculations is possible to ensure accurate decision-making.

. As the government is directly responsible for economic policy, and the main leverage to make decisions is in its hand, the issue of suspension the mine construction in Amulsar is a matter of urgency. The Government of the Republic of Armenia must find so much will in itself for taking into account the interests of all stakeholders and making such a decision in the result of which the operation of the mine will not be at the expense of environmental pollution and violation of environmental norms.

. It is necessary to publish the contract signed with "Lydian" CJSC, to conduct a new EIA and to establish an environmental council under the government with the participation of reputable international experts, and take any steps towards operation only with the approval and control of that a council.

. It is necessary to stand above the interests of various political parties, bad traditions of political debates and political speculations, and approach to the issue exclusively from the environmental point of view.

. One of the key challenges is the ability to initiate a constructive dialogue and guide it in a positive and constructive way. When comments, contributions, or specific actions become visible as a result of dialogue, it will enable to advance and promote a common reasonable and targeted dialogue.

We must follow the path of dialogue. This is the only way, all other solutions will lead to a deadlock.

. As for the operation of the Teghut mine, then it should definitely be suspended by imposing the operating company to recover the damage caused to nature and people. The Armenian government must demand from Teghut CJSC that the company recover all the damages it caused, restore all damaged areas, provide adequate compensation for damages. The new government must assess the existing situation urgently and take determined steps to remedy the defects.

. It is recommended that the Prime-minister arrange Skype consultations with experts hired by the World Bank, who have studied the condition of Armenia's tailing dumps since 2015-2016, as well as with international engineers hired by Valex. Experience shows that such open Skype conversations with the government can play a very extensive and guiding role for both the government and the public.

Introduction

It is appropriate to bring forward a brief history of Armenia since the collapse of Soviet Union. It is believed that the discussion of the development of post-soviet Armenia will give a background of understanding on current situation in the country and the social and economic impact of its development as a whole. It tends to explain the reasons of serious problems Armenia faces since then.

Armenia is a small mountainous country with 29743-km² area. Country is situated in western part of Asia, occupies northeastern part of Armenian plateau – between Caucasus and Nearest Asia (the inter-river territory between the middle flows of the rivers Kur and Araks). Administrative and territorial units of the Republic of Armenia are marzes and communities. Marzes consist of rural and urban communities.¹⁶ The Republic of Armenia gained its independence on 21 September 1991. In 1995, Armenia adopted its Constitution. A national referendum had been held for the country's major Law and the rest of legislation was created or amended based on requirements of the RA Constitution. Together with the independence there started the era of self-surviving in the life of Armenian people. The Armenians started to think over survival in the environment of hunger, collapsed utility, communication and transportation services, without any care or support from the government. Forests and parks in Armenia suffered the most in the process of survival through war and transitional period in the life of the country.¹⁷

Environmental issues in Armenia have always been a subject of concerns since the Soviet era and they are always accompanied by political premises. In recent years, the hazards threatening the environment as a result of large investments in the mining industry are particularly alarming. The underground resources of Armenia are the most

used elements of the environment. By approximate estimation in Armenia there are 613 mines with the value of 170 billion US dollar and the possibility to extract 60 types of minerals. Armenia has 5.1% of the total world resources and 7.6% of the confirmed resources of molybdenum. There are also significant resources of copper, zinc, iron, lead, gold, silver, rhenium, cadmium, tellurium and others. Based on these resources the mining industry in Armenia is developing with comprising 17% of the GDP of the industry. Nowadays the mining industry is declared by the RA Government as a priority sector of economy. It is intensively developing. The Government has issued several hundreds mining licenses without having a long-term program on sustainable use of resources, appropriate tax legislation and legislation on environmental protection as well as comprehensive assessments of environmental and social implications. (see: *Fifth National Report of the Republic of Armenia to the Convention on Biological Diversity, September, 2014*)¹⁸.

Nowadays the mining industry continues to have catastrophic consequences. Thousands of hectares of the territory of Armenia, which is very small with only 29.74 thousand square km, are covered by open mines and tailings ponds.

In parallel with this, the environmental movement has gained momentum in Armenia, the level of ecological awareness and eco-consciousness of people has amplified, which caused problems for the authorities to find a common ground for dialogue with the public. It is crucial to take into account the peculiarities of Armenia and its limited geographical area while talking about the involvement of mining industry. Only 11 metal mines are operating in Syunik region and 28 metal mines are expected to be exploited. As a result of exploitation of existing mines there are already 12 large and small tailing dumps in Syunik. (See: *Levon Galstyan, Aysor.am, 09.07.2013*)¹⁹. In such a small country like Armenia, mining industry in the existing scales is unacceptable. While voicing about the mining industry's challenges, environmentalists are constantly clashing into the wall, because the

¹⁶ The Office of the President of the Republic of Armenia, 'General information about Republic of Armenia' (The office of the President of the Republic of Armenia, 1999-2015) <http://www.president.am/en/general-information/>

¹⁷ Vardan Urutyun and Tatevik Zohrabyan, *Assessment of the Economic and Social Impact of Unsustainable Forest Practices and Illegal Logging on Rural Population of Armenia* (International Center for Agribusiness and Research Education, 2011). <http://icare.am/wp-content/uploads/2019/10/Assessment-by-ICARE-Unsustainable-Forest-Practices-and-Illegal-Logging.pdf>

¹⁸ *Fifth National Report of the Republic of Armenia to the Convention on Biological Diversity* <https://www.cbd.int/doc/world/am/am-nr-05-en.pdf>

¹⁹ Levon Galstyan, *Aysor.am* <https://www.aysor.am/am/news/2013/07/09/syunik-nature/638706>

problems are being discussed, but the authorities do not provide solutions, they just turn a blind eye to it.

While Armenian government officials responsible for the country's economy like to boast annual economic growth of 7% and near double-digit growth in exports, they rarely break down the figures for public consumption.

What is the cost of such growth for the society at large?

To be sure, the economy has registered several positive trends. However, one trend that remains a concern to many is that the mining sector is growing three times faster than manufacturing.

In the first eleven months of 2019, according to Armenia's Statistical Committee (SC), the country's total industrial output amounted to AMD 1.856 trillion (US\$ 3.870 billion), an increase of 9.3% over the same period in 2018.

The mining sector grew by 23.9% in 2019.

The volume of mining output in January-November of this year, according to the SC, amounted to 323.5 billion drams.²⁰

The volume of the mining sector mainly derives from the extraction of metal ores. (See: *Seda Herynyan, Hetq.am, 15.02.2020*)²¹.

1. "Amulsar" gold mine development as an ongoing environmental debate

1.1. The Overall picture

The gold mine on Amulsar Mountain is located on the borderline of RA Vayots Dzor and Syunik Regions, about 6 kilometers from the spa town of Jermuk, within the ridge area of north, north-western branching of Zangezur Range, at the elevation of 2500-2988m. The mine was discovered in 2006 by Lydian International Limited that became the main investor and stakeholder of the project. According to the company's assessment the total reserves of the Amulsar mine are 89376.3

thousand tons of ore, 73733 kg of gold, 294.367 tons of silver.²²

Lydian expects to extract annually some 10 million tons of ore containing 7.8 tons of gold from Amulsar gold deposit for the rather short period of eleven years. The Amulsar license covers a total of 65 km². Initially it was planned that around 426 million USD of capital investment would be spent on the project during the first two years. According to Lydian's calculations, over the life of the mine it will contribute around 488 million USD to the state budget through taxes and royalties. Its total contribution to Armenia's Gross Domestic Product (GDP) annually will be around 185 million USD or 1.4% of GDP (see: *Mikayel Hovhannisyan, FoeEurope, 16.02.2018*)²³.

The Amulsar project is also funded by the members of the World Bank Group - International Finance Corporation (IFC) and European Bank for Reconstruction and Development (EBRD). The EBRD have bought major shares in the company, and have a reputation for investing in destructive fossil fuel projects such as the Trans Adriatic Pipeline. The International Finance Corporation (IFC) had been a 7.9 percent shareholder and invested over 13 million USD in multiple stages since 2007, however they withdrew their finances in May 2017.²⁴

There are other shareholders too, such as the U.S., Canadian and European investment funds.

The construction of the mine has kicked off in 2017 but has stopped in June 2018 when local people started blocking the access roads to the mine, having long contested that it posed a threat to their environment and economic livelihoods, as Lydian plans to use cyanide to leach gold concentrate. (see "Amulsar gold mine, Armenia". Bankwatch. Retrieved 2019-09-27.)²⁵

Numerous researches and investigations (more than 250) have been conducted since then by the local and international experts and scientists on water pollution problems in the region as a result of gold mine potential exploitation in Amulsar. And the

²² Lydian Armenia's official website:

www.lydianarmenia.am/index.php?m=pages&lang=enq&p=70

²³ <http://www.foeeurope.org/yfoee/armenian-gold-mine-threatens-environment-communities-160218>

²⁴ <https://www.business-humanrights.org/en/armenia-environmentalists-urge-govt-private-intl-financial-institutions-to-stop-supporting-amulsar-gold-mine-operated-by-lydian-international-over-health-climate-concerns>

²⁵ <https://bankwatch.org/project/amulsar-gold-mine-armenia>

²⁰ <https://www.armstat.am/en/?nid=12>

²¹ <https://hetq.am/en/article/112100>

dominating assertions conclude that the construction of the mine will increase the threats to the health and living conditions of the local population. A number of crucial water basins, rivers, reservoirs, underground waters and mineral springs are being nourished from the region and particularly from Amulsar. The velvet revolution in Armenia in May 2018, contributed to the expression of multiple voices of protest, people were no longer afraid to raise questions and speak freely about their problems. The protest of the population against the former government of the Republic of Armenia that had given the official consent to the permission to extract gold mine full of ecological disasters in that area, they expressed by blockade of roads around the Amulsar mine, since the judicial struggle is already taking place for the third year and the nearest solution is not expected yet. When the mine construction works are completed and the gold extraction phase begins, it will irreversibly ruin not only the surrounding communities, but also a significant part of the population and the environment in Armenia, and the disastrous environmental consequences may also spread beyond Armenia's borders. Nevertheless, the demands of the local protesting population have not been resolved yet.

As part of his rise to power, the prime minister of Armenia, Nikol Pashinyan had promised to investigate whether Lydian's operations were in line with Armenian legislation. Now Armenians expect him to make good on this campaign promise, although the company has threatened arbitration in an investor-state dispute settlement that can cost the country billions.



Photo 1. Amulsar gold mine, Armenia

1.2. Risks and Hazards

"Mining inherently implies environmental degradation...it is not an environmentally-friendly activity" (Cohen 135, 137). Mineral resource activities affect all environmental media - land, air, water, and associated flora and fauna - as well as the human environment -individual health and safety, local community lifestyles, cultural survival, social order and economic well-being (for details see generally Eggert 1, Cohen 134, Warhurst/Environmental 39, ECOSOC/Integration 11, Wälde 41, ESCAP & UNEP 1, White 310, World Bank/Environmental Assessment 1). While the majority of the impacts of mining are said to be "localized", mining can cause national, transboundary and global environmental problems (Wälde 42, Warhurst/Limitations 135, ECOSOC/Integration 10).

Mining can destroy large areas of vegetation, topsoil and terrain, create hazards from excavations, landslides, slope failures, cave-ins, erosion and subsidence, deprive ecosystems and other users of water through water-intensive practices, and produce noise, dust, human-development disturbance, and quantities of solid waste in the form of tailings and waste rock disposal sites (as much as 1,000 units of waste for a single unit of mineral yield). Toxic chemicals (xanthates, cyanides, sulphates, etc.) are used in primary processing, some base metals are themselves toxic (lead, mercury, cadmium), and toxic and other gases can be released (for example, methane in coal mining, a major greenhouse gas). Water quality - in surface waters, wetlands, groundwater and oceans - can be adversely affected by this extraction phase; acid drainage from mines and tailings/waste dumps, toxic leaks and overflows from tailings dams or reagent ponds, leaching of metals from waste piles, and sedimentation/erosion from devegetated sites and excavations can cause localized problems of magnitude as well as extend for hundreds of kilometers, causing transborder impacts on people and nature. The metallurgical stage (smelting, refining, etc.) generates even more risks to human health and the environment. Air pollution includes direct emissions of compounds of sulphur, carbon, nitrogen, and toxic metal particulates, indirect emissions from the fossil fuels used for energy, releases of potentially hazardous dusts and gases in the workplace, and the generation of acidic

deposition (acid rain, etc.). Water pollution includes all of the above acidic, toxic and sedimentary process discharges, leaks, spills, leaching, and surface runoff. Solid and hazardous waste treatment, storage, and disposal issues multiply with the metallurgical residues. The reclamation stage is also fraught with problems. Abandoned mines may continue to cause water supply contamination, ecosystem destruction, landform, and lifestyle 1. impacts. Some metal products are potentially dangerous, as are some uses and misuses of mining products. Disposal of used mineral products, particularly heavy metals, creates major problems for domestic landfills and has given rise to controversial "dumping" in developing countries with inadequate facilities. Even the seemingly positive area of mineral recovery or recycling has been tarnished in the view of many because of "sham" operations (in actual fact, dumps) and other risky practices. All of these environmental hazards and impacts also threaten indigenous cultures and native community land use, and socio-economic and cultural practices in developing countries with resource-based economies.

(See: *Mining, Environment and Development, a series of papers prepared for the United Nations Conference on Trade and Development(UNCTAD)*)²⁶.

The Amulsar Gold Mine project has initially received negative reviews from both international and local organizations and experts , a number of studies have been conducted to identify potential risks and hazards in the result of the mine exploitation.

Numerous scientists, environmentalists, lawyers, NGOs, businessmen and residents of the region, as well as prestigious international experts have voiced the inadmissibility of mine development in Amulsar since 2010.

In order to portray the objective and comprehensive picture of the hazards we decided to conditionally constitute the following groups of risks and dangers that could occur due to the Amulsar mine operation.

1. Uncontrollable risks for major water basins
2. Negative impact on health tourism

3. Actual damage threatening the land resources
4. Activation of the landslide processes
5. Risks with uranium deposits
6. Destruction of the region's agricultural potential
7. Destruction of historical and cultural heritage

Now let us examine each case in details:

1.2.1. Uncontrollable risks for major water basins

The main reason of water pollution is mining industry, which is the most dangerous, because it is more difficult to neutralize, restore and manage the pollution of the mining. If the nature is capable to clean the pollution with communal and domestic wastewater in a relatively short period of time due to its self-clean ability, then pollution from mining can be irreversible, that means it will not be possible to restore the previous, before mining state of river water. It is associated with heavy, toxic metals. Heavy metals remain in the river's ecosystem for a long time, in the bottom sediments, and in that sense, the impact of the mining industry is much more dangerous, but we have a serious problem today due to irresponsible mining and poor water management. (See the interview with Seyran Minasyan about water pollution in Armenia in the "Interviews" section , Chapter 2, of this study").

Amulsar Mountain and its surrounding area are of principal hydrological importance to Armenia and are part of the Lake Sevan basin. The Arpa and Vorotan rivers derived from this mountain, and open mine development will not only eradicate the tributaries flowing into these rivers, but will inevitably lead to the contamination of these tributaries and hence the river basins with heavy metals, which already exist on the surface (more than 1000 hectares of land will change the landscape). (see N. Vardanyan, 2016, *Ecolur.org*)²⁷ . The same can be said for the 144 freshwater and Jermuk mineral water sources, the flow of some springs will decrease or most of them will drain.

²⁶ *Mining, Environment and Development, a series of papers prepared for the United Nations Conference on Trade and Development(UNCTAD)*
<http://www2.udec.cl/alfati/intro/docs/pring.pdf>

²⁷ N. VARDANYAN, 2016, LEGAL OPINION/COMPARATIVE ANALYSIS/ ON AMULSAR GOLD QUARTZITE MINING
<https://ecolur.org/en/news/amulsar/--/8648/>

The fact that the exploitation of Amulsar is an open threat to Lake Sevan was recognized by the Government's Expert Committee on Lake Sevan Conservation in 2012.²⁸ Any activity with a possible negative impact on the ecosystem of Lake Sevan is prohibited by the Law on Lake Sevan (*see Article 10. Fulfillment of Activities in Central, Direct Impact and Indirect Impact Zones*)²⁹.

The open pit mining will also affect Darb river, which waters many vineyards and agricultural lands and feeds fish-farms down the stream.

No assessment is made on how the intensive explosions will affect the rock formations of Jermuk and its underground water resources (hot springs), located from 2km to 10 km away from the mine. It is also not assessed how the explosions will affect the highly vulnerable Vorotan-Arpa tunnel built specifically to save Lake Sevan. Jermuk hot springs have made Jermuk an international hot spring resort and not only will its reputation as a clean environment conducive to health recovery be at stake, but also the entire industries of agriculture, fish-farming, mineral water bottling and tourism. (*see the Call of Armenian environmentalists "Reject any support for Mining in Amulsar", 8.11.2014*)³⁰.

1.2.2. Negative impact on health tourism

With the launch of the Amulsar mine project, the immediate and principal environmental, economic, and social impacts will be directly on the Arpa river valley areas and the resort town of Jermuk, which is a spa and tourism center known for its unique mineral healing springs (*N. Vardanyan, 2016, Legal Opinion/Comparative Analysis/ on Amulsar Gold Quartzite Mining*). It is located in 8-10 km distance in a straight line on the mine infrastructure. The town has not been involved in the Amulsar mine development project since 2009 as an affected community, no public discussions were held there, which violated the right of Jermuk residents and Arpa valley residents to participate in the decision-

²⁸ Authorities of the Scientific-Expert Committee are laid down in RA Law on Lake Sevan, Articles 19, 20 and 21 http://www.geoteam.am/media/documents/Technical%20Reports/Impact%20Assessment%20Reports/Radioactivity_Impact_Assessment_Radman.pdf

²⁹ Law on Lake Sevan http://www.cawater-info.net/library/eng/am_lak_sev.pdf

³⁰ Call of Armenian environmentalists, "Reject any support for Mining in Amulsar" <http://ragmamoul.net/hy/news-in-english/2014/11/08/reject-any-support-for-mining-in-amoulsar/>

making of the early stages. As a result of civil pressure in 2016 the company partially included Jermuk in its social impact assessment, however, officially excluding Jermuk from public discussions and disregarding Jermuk residents' opinion in the licence process directly violates the requirements of the Law of the Republic of Armenia on Environmental Impact Assessment and Expertise³¹ and the Aarhus Convention³².

In the RA Government's Decision # 1064-N, 18.09.2008, "On declaring the city of Jermuk a tourism center"³³ is stated: «4. Jermuk has its unique place and traditions in Armenia rich with resorts », and there was no records about development of the mining program or impact assessment on that plan, as the city has adopted the tourism development perspective. Amulsar gold mine project also faces a number of plans and strategies implemented by the lending of World Bank in Armenia, in particular, the "Southern Corridor Tourism Development Strategy", which includes Jermuk as one of the strategic tourism development sites.³⁴

1.2.3. Actual damage threatening the land resources

According to the RA Law on "Compensation Tariffs for the Damage Caused to the Fauna and Flora as a Result of Environmental Legal Offenses"³⁵, damage compensation per square meter is set AMD 10,000 in case of installing industrial wastes in forest fund lands, 100 million AMD per hectare, and if the same provision applies to 920 hectares, the loss would be 92 billion drams or 192 million dollars. The question may arise that the areas to be destroyed are not predominantly forest areas. Nevertheless, the role of these areas is not inferior

³¹ RA Law on Environmental Impact Assessment and Expertise <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC179251/>

³² The Aarhus Convention

<https://aarhus.osce.org/about/aarhus-convention>

³³ RA Government Decision # 1064-N, 18.09.2008, <https://www.artis.am/DocumentView.aspx?DocID=46681>

³⁴ World Bank's "Southern Corridor Tourism Development Strategy" <http://documents.worldbank.org/curated/en/528101467988937597/pdf/103149-WP-P146596-Box394855B-PUBLIC-Armenia-Tourism-Corridors-Development-Strategy-March-2015.pdf>

³⁵ RA Law on "Compensation Tariffs for the Damage Caused to the Fauna and Flora as a Result of Environmental Legal Offenses" <https://www.artis.am/DocumentView.aspx?DocID=1776>

to conventional forest land and is even more valuable in terms of water formation and water distribution systems they have. 152.3 hectares of the above mentioned 920 are two open pit holes, 118 will remain under cyanide ore, 141 under empty rock, 55 will be under low metal content ore. In fact, the 466 hectare area will not only be useless for centuries, but also will become a scattering source for heavy metals and other toxic substances around the environment. If we assume \$ 100 million of this area for at least one thousand, then the damage to the Republic of Armenia will make AMD 46.6 trillion or \$ 97 billion. Of course, this amount is miserable in comparison with the poisoning and loss of the mentioned areas, and it is impossible to express the loss of land in drams. (see *Hakob Sanasaryan, "The Economic and Environmental Dangers of Amulsar Mine Operation", 12.01.2018*).³⁶

1.2.4. Activation of the landslide processes

The interstate highway Yerevan-Meghri passes through this area, the only way connecting Armenia with Iran. Are all the risks which can lead to landslide activation taken into consideration? This question is also not clarified. Explosives may activate landslip processes with their unpredictable consequences. The place for tail accumulation at the height of 2570-2360 meters is located in a distance of several kilometers to the epicenter of a disastrous quake in 735. The project doesn't have any calculations and risk projections for a quake with a magnitude of 10. (see: *Experts discussion on possible risks and ecological problems of Amulsar mine operation, 14.09.2018*)³⁷

1.2.5. Risks with uranium deposits

The issue of mercury and radioactive elements, mainly uranium, is also causing great concern among the population regarding the issue of Amulsar mine. Although in the Project are missing elements other than gold and silver, however, the elements existing in 222.9 million tonnes of empty

rock are submitted, inter alia, 653 tonnes of thorium. (see: *H. Sanasaryan, "Amulsar, radioactive elements", 16.10, 2019*).³⁸

Some information about the deposits of uranium in Amulsar is given by Prof. Aloyan, in his article published in 2007 and entitled "The Potential of Radioactive Raw Materials in Armenia and the Perspectives of its Evolvement".³⁹ There he writes, that the most promising in the uranium ores of the Vayotsdzor region are the Vayk and Amulsar minerals. Amulsar uranium is located 4 km southeast of Kechut village and 5 km northwest of Amulsar summit. The site has 15 stations with underground excavations and boreholes with secondary uranium mineralization (odinite, torbenite, metatorbenite). Mineralization is found in up to 50-60 meters depth. It is predicted to extinguish to a depth of 100 meters. In the five most significant areas uranium content ranges per thousand up to 0.5 percent, with an average content of 0.025-0.03%. In 5 sites of Amulsar is counted approximately 70 tonnes of uranium, and considering the thorium uranium site, its total reserves can be estimated at 100 tonnes. In the discoveries of Vayk uranium reserves are projected at 20-30,000 tonnes, and the industrial development of the uranium ore in Vayk is related primarily to the gold content in that ore.

It is also noteworthy to bring to attention the comprehensive 126-page uranium-thorium discovery assessment report conducted by the "Amulsar Exploratory Group" in 1952-1954⁴⁰, where there are obvious facts of uranium and thorium mineralization in the Amulsar area.

1.2.6. Destruction of the region's agricultural potential

The mine is located on the pasture area of the villages of Gndevaz and Saravan, and the mine site is located in a rural, mountainous area. Most of the mine area is grassland used for livestock grazing.

³⁶ *Hakob Sanasaryan, "The Economic and Environmental Dangers of Amulsar Mine Operation", 12.01.2018, <https://hetq.am/hy/article/84915>*

³⁷ *Experts discussion on possible risks and ecological problems of Amulsar mine operation <http://www.y-su.am/news/en/Ecological-problems-of-Amulsar-were-discussed>*

³⁸ *H. Sanasaryan, "Amulsar, radioactive elements" <https://hetq.am/hy/article/108680>*

³⁹ *Г.П. Алоян, Ресурсный потенциал радиоактивного сырья Армении и перспективы его освоения, Горный журнал, 2007, N 635:*

⁴⁰ *Сводный отчет Амулсарской поисково-разведочной партии по работам за 1952-1954 гг. https://drive.google.com/file/d/1LbMT2NjnsT1VcPw3xEZLOE911Uajw_RY/view*

The cyanide gold extraction plant will be located in the village of Gndevaz in the area of apricot orchards where the ore will be transported. Given that the main source of livelihood of the rural communities' population is farming and fruit growing (mainly apricot production), in the result of the mining a large part of the population is deprived of its principal means of livelihood, because the pastures will be destroyed, some of the gardens have already been cut, and the other part will be polluted, only 274 private land plots with total area of 152 hectares in Gndevaz will be excluded from agricultural production and will be useless for further exploitation. (see: *Letter to the Government of the Republic of Armenia on the Grounds for Terminating the Amulsar Plan, 29 May, 2018*)⁴¹.

1.2.7. Destruction of historical and cultural heritage

In the documents submitted to the RA Ministry of Nature Protection the company notes "The study identified 81 potential archaeological sites that are likely to be affected by Project activities, although none of them, according to local and international experts, is not of great importance". (see: *Amulsar Gold Mine Project Environmental and Social Impact Assessment, Lydian Armenia, May, 2016*)⁴²

It is not clear on what basis and by what authority the Company assesses the value of 81 potential archaeological sites and considers them irrelevant. Meanwhile, according to the letter of the RA Historical and Cultural Research Center: "Settlements, tombstones and cemeteries have been found. These aforementioned values have been submitted to the Ministry of Culture to give them the status of a monument. The tombs are located 10 km southeast of Kechut village at the foot of Amulsar, 18-23 km from Gndevaz village at the top of Amulsar's Erato, Tigran and Artavazd peaks".⁴³ According to Article 23 of the RA Land Code: "1. Historical and cultural lands are considered to be sites of historical and cultural values and

preservation of the historical environment, tombs and other historical and cultural values. 2. Any activity contrary to their intended and operational significance **shall be prohibited** on historical and cultural plots".⁴⁴

According to Article 26 of the RA Mining Code:⁴⁵ «1. Subsoil use **is prohibited** in certain areas defined by the legislation of the Republic of Armenia in terms of national security, human life and health, historical-cultural values or the protection of the environment; if the land on the site of the requested subsoil contains: 1) graves, 2) natural, historical and cultural monuments".

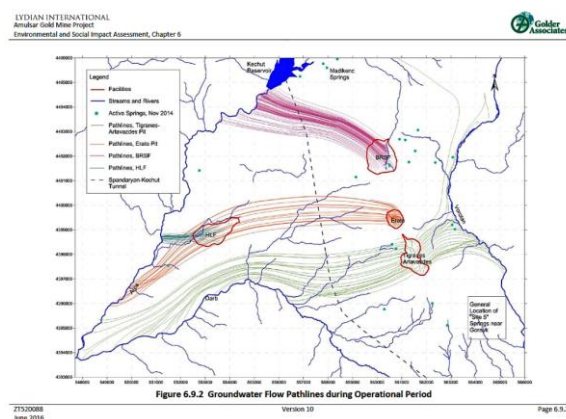


Photo 2.

1.3. International independent experts' conclusions on the dangers of Amulsar mine exploitation⁴⁶

Four internationally famous experts (from Australia, USA and Canada), have been researching documents from Lydian International's website since July of last year and concluded in their evaluations, that Amulsar gold mine project poses various environmental risks. On May 16, 2018 they

⁴¹ Letter to the Government of RA
http://www.armecofront.net/amulsar/grounds-for-stopping-project-in-amulsar/#_ftn13

⁴² *Amulsar Gold Mine Project Environmental and Social Impact Assessment, Lydian Armenia*,
<https://www.lydianarmenia.am/resources/mainFiles/pdf/763129f7c819a7b1a0065c63f036d597.pdf>

⁴³ *Letter of the RA Historical and Cultural Research Center*
<http://www.ecolur.org/files/uploads/pdf/amulsar.pdf>

⁴⁴ RA Land Code:
<https://www.arlis.am/DocumentView.aspx?docid=74667>

⁴⁵ RA Mining Code:
<https://www.arlis.am/DocumentView.aspx?docid=72865>

⁴⁶ *Summary report on Lydian Amulsar gold mining project by internationally renowned experts:*
<http://www.armecofront.net/wp-content/uploads/2015/03/2017-6-18-Summary-Lydian-BMC.pdf>

presented their final conclusion, which we are bringing to the attention of all the interested entities.

“Ann Maest, PhD, Buka Environmental, Boulder, CO, USA

André Sobolewski, PhD, Clear Coast Consulting, Inc. Gibsons, BC, Canada

Andrea Gerson, PhD; Roger Smart, PhD Blue Minerals Consultancy, Wattle Grove, Tasmania, Australia

16 May 2018

Primary Concerns Regarding the Amulsar Gold Project

The Amulsar Gold Project is nearing the end of construction and is at a crucial point in its development both economically and environmentally. The project is located in a sensitive area of national importance that supplies clean water for drinking and agricultural uses across Armenia (see <https://goo.gl/15pWkJ> for location and topography). Given the planned mining approaches, there is a very high risk that acidity, metals, cyanide and thiocyanate, sulfate, and nitrate will pollute groundwater, springs, rivers (the Arpa, Darb, and Vorotan), and the Kechut Reservoir for decades or longer (see <https://goo.gl/FYwyRD> for water and contaminant flow paths). Lydian proposes measures that are inadequate to prevent their release into the environment. Protection of water quality is the most critical and long-term environmental concern for large-scale metal mines such as Amulsar. We provide several examples showing how Lydian’s plans underestimate the potential of the mine to pollute water resources and discuss their implications.

Underestimated acid drainage and contaminant leaching potential

Lydian and its consultants have made simplistic and inaccurate statements about the potential of the mine to pollute waters. For example, they claim that all the ore is oxide. This implies that cyanide heap leaching will be effective in recovering gold from the ore and that the spent ore remaining on site will not pollute springs, groundwater or surface water. Lydian has further stated that none of the Amulsar ore and only a portion of the barren (waste) rock

will generate acid. These statements are not supported by Lydian’s own results or by experience from other mine sites. Lydian’s own data about the geologic complexities at the site show that sulfide minerals are present in the ore and waste and that it will not be possible to adequately separate them from ore, which means that there is a potential for long-term acid generation and contaminant release (even after lime addition) from the spent heap and the waste rock. The potential for long-term release of contaminants cannot be properly determined with the present data because too few samples of ore and waste were tested and because samples with higher metal and sulfide content were excluded from testing, resulting in a bias that underestimates contaminant release.

Using Lydian’s data and the approach recommended by the industry-sponsored GARD Guide (Global Acid Rock Drainage), nearly all the ore and waste samples analyzed are potentially acid-generating. When acid drainage forms, metal and sulfate concentrations increase markedly. Lydian has focused on acid-generation potential but not talked publicly about the potential for Amulsar wastes and spent ore to leach metals and other contaminants to nearby streams and groundwater. Their test results show that leachate from the spent ore and waste rock at Amulsar will contain high concentrations of antimony, arsenic, copper, and zinc well above Armenian water quality standards. Antimony and arsenic can easily enter the food chain and pose a risk to humans at low concentrations. Copper and zinc are toxic to fish and other aquatic biota at low concentrations, especially in waters with low hardness values, such as those at key locations near the mine. Other important contaminants of concern at Amulsar with known toxicity to humans or aquatic life include ammonia, cadmium, cyanide, lead, mercury, nitrate, and selenium. Experience at other heap leach operations shows that thiocyanate is also likely to form and will require removal because of its toxicity. Lydian has presented a water treatment scheme that removes a small number of these contaminants, but they cannot state with certainty that other contaminants like arsenic, antimony or mercury will not be released and adversely affect the water and crops of people living downstream from the mine.

Environmental consequences

The potential environmental consequences are similar for many of the issues identified: contamination of groundwater, springs, streams; water in the Spandaryan-Kechut Tunnel; and water in the Kechut Reservoir. The worst water quality is predicted for leachate from the waste rock facility (BRSF), which is up-gradient of the tunnel, the Kechut Reservoir, and the Arpa River. Because waste rock test samples were not representative of the higher metal and sulfide content, the impact of contaminated water to aquatic life and people downstream from the mine is likely to be more severe than predicted. Decreased flows in streams, springs, the tunnel, and the reservoir and lower groundwater levels due to pit dewatering and decreases in groundwater recharge caused by the presences of large waste and ore facilities covering the landscape are also identified in the Amulsar Environmental and Social Impact Assessment (ESIA). Such degradation in water quality and clean water availability are highly problematic for an area that provides much of the country's water supply to the Kechut Reservoir.

The Amulsar ESIA shows the predicted flow paths of contaminated water travelling from mining sources (waste rock, cyanide heap leach facility, open pits) to water resources during mine operation and closure. Contaminants from the waste rock pile will flow to the Kechut Reservoir and the Arpa River. The cyanide heap leach facility (where ore is placed and will remain during closure) will partially cover a tributary flowing to the Arpa river, and contaminants are also predicted to flow to the Arpa River through groundwater. The Tigranes-Artavazdes Pit contaminants are predicted to flow to the Spandaryan-Kechut Tunnel, the Vorotan River, and the Darb River, which flows into the Arpa River. Flow paths from the Erato Pit, which will not be backfilled, reach nearly all receptors, including the Arpa River upstream of the Kechut Reservoir. These results are based on a groundwater model that did not consider the abundant faults in the area that could bring contaminants more quickly, and with less dilution, to unanticipated receptor locations, including springs.

1.4. Environmental and Social Impact Assessment (ESIA)

Report Analysis of the Amulsar Gold mine project

Environmental and Social Impact Assessment Report (ESIA)⁴⁷ of the Amulsar Gold mine complex was written by Wardell Armstrong International (WAI) and other expert consultants, and was published in May 2016. The ESIA consists of 7 chapters, about 800 pages in length (excluding 26 appendices). The preparation of the report, ordered by the Amulsar mine stakeholder Lydian Armenia CJSC, was carried out by 9 local and 12 international organizations. Professional groups were selected from the Ministry of Nature Protection of the Republic of Armenia, National Academy of Sciences of RA, American University of Armenia, several outstanding environmental and research NGOs. Foreign organizations have also participated, specifically, the University of Cambridge, multidisciplinary specialized research and consulting institutions from the United Kingdom, USA, Australia, Czech Republic and other companies and laboratories. The Project has previously gone through the Environmental Impact Assessment (EIA) approval process set forth under Armenian legislation. The regulatory EIA is an integral part of the permitting process required to obtain the Mining Right. The EIA process involved a number of public hearings, and it was reviewed and approved by the Ministry of Nature Protection (MNP), related organizations outside the MNP, and individual independent experts. The approval of the EIA was originally granted by the MNP on the 17th of October, 2014. (*See ESIA, non technical summary, pg. 10*).

1.4.1. Local experts views on Lydian's ESIA/EIA

Armenian local specialists were not inferior in their qualities to the specialists who participated in the formation of the EIA. In this line also appeared the major scientists who did not participate in the development of EIA / ESIA documents. They were raising doubts about amplifying radioactive background of Jermuk and Kechut reservoir (hence of the Sevan) poisoning, increasing the level of dust

⁴⁷ Lydian ESIA
<https://www.lydianarmenia.am/index.php?m=publications&lang=en&p=99>

in the resort, ignoring the acid drainage factor, Lydian's qualification issue, a company that has never been developed such projects before, and several other issues of intolerable increase in the density of mining in small Armenia.

Here are some examples:

Director of the Ecological Research Center of the National Academy of Sciences of the Republic of Armenia, Doctor of Geological and Mineral Sciences, **Armen Saghatelyan** pointed out many of the shortcomings that the government should have discovered by ordering a special study abroad since 2016. Here are some short references:

. "The document contains everything, including a "violation of the aesthetic appearance of the landscape", but the most important thing is the analysis of real risks, which, as it is known, can be controllable and uncontrollable. For example. There is not even a word about acid drainage in the submitted documents, while it is one of the most serious uncontrollable risks of the project."

. The documents submitted by the company do not contain data on the degree of sulfide depletion of rocks, the volume of water penetrating, the level of sulfur dissolution, etc. The same applies to the absence of ecotoxicological indicators. Once the company start to carry out the stripping work and the dangerous acid drainage phase begin, it is no longer be significant whether the mine is exploited or not. A large amount of money will be required for waterproofing. And the company involved in this adventurous ordeal can always leave Armenia, putting the case at the so-called geological risk. (*All references see: Dr. Armen Saghatelyan, "Amulsar Wonderland", Noyan Tapan, 30.12.2016*)⁴⁸.

Geographer, geomorphologist **Levon Galstyan** is one of the specialists who studied the dangers of Amulsar operation from the very first days.

Here are some of his arguments (*The whole interview with Levon Galstyan see in the "Interviews" section of this Chapter*):

- The Lydian International presents the program the way that everything is manageable for them and no problems will arise. Whereas, both the international and local experience shows that during open-pit mining through the cyanide gold leaching method has not registered a single case of non contamination.

- The Armenian government has not made a full risk assessment. It has been calculated that the dust will not reach the Jermuk resort, but that the dust will settle in the vicinity of the area, then melt and mix with the surface water and spread, there is no talk about that.

- Levon Galstyan casts reasonable doubt on the existence of acid drainage. After his criticism, Lydian removed from its ESIA the parts relating to his precise observations.

- Levon Galstyan calculated that the Republic of Armenia, with its small territory, is not capable to carry out such a rich mining industry, the density of which exceeds all standards, endangering the possibility of sustainable development in the country.

Harut Bronozyan, an American-Armenian chemical /ecological engineer, is concerned about the technical gaps and problems in the operation of the Amulsar mine. He even formed an expert group of American specialists to study Lydian's expertise conclusions. He is especially suspicious of Lydian's lack of experience in this field. (*See : Harout Bronozian, "Technical gaps and problems of Amulsar mine project: interview with chemical/ecological engineer (USA), Noyan Tapan, 05-04-2017*)⁴⁹.

Here are some references to his concerns:

. "They have no experience in mining. If it were experienced, maybe there would be no need for this many questions as we would know their style of working. Now we can't trust their words"

. "...Since we talk about a dangerous project. It should be clearly mentioned in the contract who will be responsible if something goes wrong. If it is not mentioned in the contract, then Lydian will have no obligations."

"Until now Lydian has not presented the plan view of its project... The whole production process should be presented in detailed scheme, diagram. Everything should be presented there. These are huge graphs, sometimes even several graphs. Meanwhile Lydian's diagram is a schematic diagram, which they either copied from somewhere else or used a standard one, it is of little value."

"The government approved Amulsar's mine project without independent expert analysis or technical

⁴⁹Harout Bronozian "Technical gaps and problems of Amulsar mine project", Noyan Tapan, 05-04-2017 [https://nt.am/en/news/236836///?hayworld=%20\(%D5%A1%D5%B6%D5%A3%D5%AC\)](https://nt.am/en/news/236836///?hayworld=%20(%D5%A1%D5%B6%D5%A3%D5%AC))

⁴⁸ Armen Saghatelyan, "Amulsar Wonderland", Noyan Tapan, 30.12.2016, <https://nt.am/am/news/232005/>

assessment and without taking into consideration the opposition of scientists and environmentalists. Moreover, Ministry's staff has no proper education and experience in environmental sciences and engineering".

"In case of Amulsar, the rocks contain sulfides, which after crushing will expose the sulfides to oxygen and rainwater and can oxidize to sulfuric acid producing acid mine drainage and contaminate the groundwater and surface water. This is clearly indicated in the Lydian Environmental Impact Assessment, page 26 for example, and will constitute the biggest environmental catastrophe for Armenia's groundwater and surface water contamination, on fish and ecology. Lydian company also is not member of International Network for Acid Prevention, while big companies in the world are its member".

"Did investors, stakeholders review the enormous amount of criticisms and published information by the public, attorneys, scientists and engineers in Armenia and abroad for the past 4-5 years? Armenia's losses from this project will exceed economic gains".

1.4.2. ELARD's Report on Lydian's ESIA/EIA

After the revolution in Armenia in April-May 2018, the public confrontation with Lydian's programs gained a new quality. The residents of the environment, together with the public activists, blocked the roads leading to Amulsar not allowing Lydian to continue the process of launching the Amulsar gold mine (see: "Environmental Activists Halt Construction at Armenian Gold Mine", *Bellingcat*, August 20, 2018)⁵⁰. The new Armenian authorities, who used this tactic of blocking the roads, now were forced to meet the demands of the protesters. As a result of public pressure and within the framework of several criminal cases initiated against the Lydian's project, in October 2018, the Armenian government announced a new tender on the pre-qualification procedure for the operation of the Amulsar gold-bearing quartzite mine. The «Earth link & Advanced Resources Development» (ELARD) company wins the tender among the two

⁵⁰Environmental Activists Halt Construction at Armenian Gold Mine", *Bellingcat*, August 20, 2018 <https://www.bellingcat.com/news/rest-of-world/2018/08/20/environmental-activists-halt-construction-armenian-gold-mine/>

international organizations that submitted applications (see: *ELARD Company Selected for Complex Expert Assessment of Amulsar Mining Project As Result of Competition*, *Ecolur*, April 25, 2019)⁵¹.

In February 2019, the Government of the Republic of Armenia allocated the amount of 396 thousand 900 USD to the company «Earth Link & Advanced Resources Development» (ELARD) to conduct complex forensic examination commissioned within the criminal case investigated in General Department of Investigation of Particularly Important Cases of the RA Investigative Committee for exploitation of mine of gold-bearing quartzite of Amulsar, as well as for examination of reports on assessment of environmental, nature protection and social impact of mine exploitation. (see: *Money Provided from Government's Reserve Fund to Conduct Complex Examinations Commissioned for Exploitation of Gold-Bearing Quartzite of Amulsar*, **21.02.2019**)⁵².

In 14.08.2019, the Investigative Committee of the Republic of Armenia publishes the final report of the complex examination implemented by the expert group of Advanced Resources Development (ELARD), which consists of 5 parts and basically criticizes Lydian's ESIA.⁵³

The document is extensive (300 pages), hereby, we present the provisions that indicate main contradictions. (see: *ESIA Review Independent 3rd Party Assessment of the Impacts on Water Resources and Geology, Biodiversity and Air Quality*, July 22, 2019)⁵⁴.

"...The ESIA description of the local geology is disorganized, incomplete, and incomprehensible without reading the original documents. The text

⁵¹ELARD Company Selected for Complex Expert Assessment of Amulsar Mining Project As Result of Competition, *Ecolur*, April 25, 2019 <https://www.ecolur.org/en/news/mining/investigative-committee-clarifying-elard-company-selected-for-complex-expert-assessment-of-amulsar-mining-project-as-result-of-competition/11078/>

⁵² *Money Provided from Government's Reserve Fund to Conduct Complex Examinations Commissioned for Exploitation of Gold-Bearing Quartzite of Amulsar*, 21.02.2019 <http://investigative.am/en/news/view/amulsar-pordzaqnnutyunner.html>

⁵³ ELARD's Report on Complex Examination within Criminal Case on Willful Concealing of Information about Pollution of Environment Related to Exploitation of Amulsar Gold Mine <http://investigative.am/en/news/view/amulsar-porcaqnnutyanezrakacutyun.html>

⁵⁴ESIA Review Independent 3rd Party Assessment of the Impacts on Water Resources and Geology, Biodiversity and Air Quality, July 22, 2019 <http://investigative.am/images/2019/lidian/porcaqnnutyun/amulsar11.pdf>

gives the impression of poorly understood structural and stratigraphic relationships, distribution and causes of alteration types, and the sequence of events in the genesis and occurrence of the various rock types along the ridge. The text also seems unclear as to whether all the rock types and alteration types are characterized for ARD..." (pg 22, Assessment of the ESIA Characterization of Local Geology).

"...No mineralogic analyses were performed on colluvium in the Tigranes/Artavazdespit area and no analyses were performed on borrow materials. For the barren rock in the Tigranes/Artavazdes pit area, 154 ABA tests were performed without any NAG pH tests to complete the classification. Likewise, for the spent ore of this pit area, 6 ABA tests were conducted without complementary NAG pH tests". (pg.27, Assessment of the ESIA Characterization of ARD Potential).

"...The foregoing text underscores the seismic hazard risk for the Project Area. The historical record of pre-instrumental and instrumental earthquakes indicates that strong to very strong earthquake shaking has probably occurred at the Project Area at least three times in the last 900 years". (pg.37, Seismic Hazard Potential).

"...In different sections of Lydian, the numbers do not correspond to each other, for example, in pg. 58, part 2, there is a double difference between the water intake of the surrounding rivers and the data entering the mine area (for instance, for 60% of Arpa River, 15% is mentioned in the other section etc)".

"There is no information on the schedule of construction works, the sequence of works, or the suspension of construction." (Part 3, pg 18).

"...The Amulsar Mine closure cost items are questionable and the overall cost appears to be underestimated. Below are some of the key concerns: The post closure operation, maintenance & monitoring (OM&M) period is limited to only five years. In the US, regulatory requirements and guidelines for closure (e.g., RCRA 40CFR Part 264.117; Nevada NAC 445A.446; USEPA, 2000) indicate post closure costs should be calculated for a revolving 30-year period (20 minimum), especially when contamination sources remain. Post closure costs should include routine OM&M activities as well as periodic replacement, maintenance and repair actions that will be required after 5 years (e.g., treatment system components, liners, covers, containment systems, monitoring wells/points,

piping, etc.), which can be significant. It is noted that 6% is allocated for unforeseen expenses, while in practice they make an average of 20%. " (pg. 90, Post Closure Cost).

"The" mine closure and restoration plan "part is very general, directly not applicable in the current situation. ESIA / EIA came to the wrong conclusion that polluted water will not reach the groundwater. " (see: *Water quality and water resources impact assessment, Part 4, pg 32*).⁵⁵

"The ESIA has included more promises, while it is supposed to represent the responsibilities".

"Acid drainage geochemistry of the ESIA is misleading." (Part 4, pg 54)

"The technical / professional expenses included in the ESIA in the amount of 3% are underestimated. Expenditure design guidelines show that in such cases, costs exceed 15% (Part 5, 3.5., pg 15).

It should be noted, that the conclusion of ELARD does not give a final opinion if it is possible to allow the operation of the mine with such an ESIA/EIA? The ELARD's international team states that it cannot answer the question whether the operation of the Amulsar mine is safe, as Lydian studies and Environmental Impact Assessment (EIA) are incomplete and unreliable. (See: *ELARD expert, "Lydian's" EIA is incomplete and does not allow a solid assessment of the impact, Azatutyun, August 30, 2019*)⁵⁶. In August 2019, during a video conference with the participation of 8 ELARD experts, Lydian's representatives, the RA Investigative Committee, the Prime Minister and the parliamentarians, ELARD's report and the investigator's statement were discussed about Lydian's risks that are manageable in case of performing ELARD's 16 recommendations, 10 of which have been already implemented by Lydian.⁵⁷ The environmentalists staged protests afterwards, by strongly criticizing the Investigation Committee statement, commenting on the authorities' pre-determined decision to allow its further activities.⁵⁸

⁵⁵ *Water quality and water resources impact assessment, Part 4, pg 32*

<http://investigative.am/images/2019/lydian/porcaqnutyun/5.pdf>
⁵⁶ *ELARD expert, "Lydian's" EIA is incomplete and does not allow a solid assessment of the impact, Azatutyun, August 30, 2019* <https://www.azatutyun.am/a/30137969.html>

⁵⁷ *PM Pashinyan holds video conference with ELARD experts, 29 August, 2019* <https://armenpress.am/eng/news/986342.html>

⁵⁸ <https://news.am/arm/news/528690.html>

Ecologist, lawyer **Nazeli Vardanyan** thinks that the conclusion of ELARD report cannot have a legal value, as it is based only on the data of Lydian's EIA. New inspections were to be carried out. "The RA law on EIA expertise is in fact completely violated by both Lydian and former members of the government, who approved Lydian's plan, but Pashinyan ignores this outrageous illegality. Apart from that, the conclusion submitted by the Ministry of Environment on September 4 and all the documents related to it are still hidden from the public and are not published (for example, the conclusions of the institutes of the National Academy of Sciences) on the grounds for revoking the Lydian EIA. (See: (*Nazeli Vardanyan, The result of Amulsar's "examination" cannot be a basis for the government's decision. 15.08.2019*)⁵⁹).

1.5. Public counteraction

The environmental community in Armenia and abroad, as well as local communities, are actively opposing the project. Immediately after the announcement of the Amulsar project, resistance has begun. Residents of the local community opposed the mine, which was clearly expressed by public hearings⁶⁰, the attitude of the local self-government bodies, protests and disclaimer to sell the land for years by the owners. (Eventually, the state declared those lands as of priority public interest). Independent experts and even the Expert Commission on Lake Sevan Protection of the National Academy of Sciences have given negative conclusions about mining activities in this region. There have been numerous protests in Yerevan and Jermuk since 2011-2012, discussions, critical articles have been written, petitions were conducted addressing the RA Government and international funders, complaints have been sent to the court (judicial bodies and the Aarhus Convention Compliance Committee).

Some of these actions are listed below:

1. During a conference in Jermuk in March, 2012, resort businessmen opposed opening a mine in Amulsar⁶¹.
2. In the summer, 2012, about 100 nature lovers from Yerevan, Jermuk and residents of nearby communities organized an expeditionary protest in Amulsar.⁶²
3. In May, 2012, Jermuk residents address a letter to the RA president calling for suspension of Amulsar Mine with the bases that the Project is against Jermuk Development Plans.
4. In May, 2012, biodiversity experts organized a conference, during which they presented shortcomings in the data provided by the Company and emphasized that Amulsar and the surrounding protected areas should be merged into one national park instead of a mine, which would bring sustainable economic benefits to the region in the long run and preserve nature.⁶³
5. In July, 2012, the Mayor of Jermuk Vardan Hovhannisyanyan expresses a strong stance on the Amulsar Mine with an open letter⁶⁴ to the Company, and the Jermuk Council of Elders appeals to Minister of Nature Protection A. Harutyunyan with a call to stop the mine project⁶⁵.
6. When Armen Sargsyan, the ambassador to the United Kingdom at various times, the former Prime Minister, and currently serving as President of RA, organized the private visit of Prince Charles to Armenia in 2013 with incomprehensible motives while being a member of the Board of Directors of Lydian International, at that time environmentalists

⁶¹ <https://ecolor.org/en/news/amulsar/resort-business-in-jermuk-vs-amoulsar-project/3684/>

⁶² <https://epress.am/2012/06/11/%C2%AB%D4%B7%D5%AF%D5%B8%D5%AC%D5%B8%D6%82%D6%80-%D5%A3%D5%B6%D5%A1-%D4%B9%D5%B8%D6%82%D6%80%D6%84%D5%AB%D5%A1%C2%BB-vs-%C2%AB%D5%8B%D5%A5%D6%80%D5%B4%D5%B8%D6%82%D5%AF%D5%A8-%D5%B0%D5%A1%D5%B6%D6%84.html>

⁶³ <https://ecolor.org/en/news/amulsar/the-zone-of-amoulsar-project-on-opencast-gold-mining-is-the-habitat-of-redlisted-animal-and-plant-species-photos/3849/>

⁶⁴ <https://nt.am/am/news/167838/>

⁶⁵ <https://ecolor.org/hy/news/amulsar/aldermens-council-in-jermuk-demanding-minister-to-stop-project/3867/>

⁵⁹ Nazeli Vardanyan, *The result of Amulsar's "examination" cannot be a basis for the government's decision. 15.08.2019* <https://news.am/arm/news/528690.html>

⁶⁰ <https://www.youtube.com/watch?v=0XlmgAGY-fg>

in Yerevan staged a protest against British mining investments and Armen Sargsyan's activities.⁶⁶

7. In 2014, environmentalists disrupted the conference entitled "Responsible Mining" and sponsored by Lydian International, complaining about irresponsible mining in Armenia and the Amulsar project, the inaction of the government, the pollution of Armenian waters, the failure of the Jermuk National Park project planned to be constructed in the area of Amulsar.⁶⁷

8. Since 2016, an online petition has been launched, geared towards the Government and international financiers, and more than 8,000 people have signed up as of May, 2018.⁶⁸

9. In 2016, a protest action⁶⁹ was held in front of the Ameriabank's head office against their decision to finance the Amulsar Gold Project for \$ 24 million, and dozens of citizens, boycotting the bank's decision, closed their accounts at Ameriabank, and the bank's online rating fell for a few days almost from 5 stars to 2,2 accompanied by hundreds of criticisms condemning the bank's decision.

10. Another protest took place at the 30th anniversary ceremony of the Ministry of Nature Protection's in December, 2016, when environmentalists thwarted the event by their

⁶⁶ <https://eprress.am/2013/03/28/%D5%80%D5%80-%D5%B6%D5%A1%D5%AD%D5%AF%D5%AB%D5%B6-%D5%BE%D5%A1%D6%80%D5%B9%D5%BA%D5%A5%D5%BF%D5%A8-%D5%B0%D5%A1%D5%B4%D5%B8%D5%A6%D5%BE%D5%A1%D5%AE-%D5%A7%D5%9D-%D4%B1%D5%B4%D5%B8%D6%82%D5%AC%D5%BD.html>

⁶⁷ <https://hetq.am/en/article/53601>

⁶⁸ https://www.change.org/p/stop-mining-in-amulsar-do-not-finance-lydian-international-%D5%A1%D5%B4%D5%B8%D6%82%D5%AC%D5%BD%D5%A1%D6%80%D5%AB-%D5%B0%D5%A1%D5%B6%D6%84%D5%A8-%D5%B9%D5%AB-%D5%B7%D5%A1%D5%B0%D5%A1%D5%A3%D5%B8%D6%80%D5%AE%D5%BE%D5%A5%D5%AC%D5%B8%D6%82-%D5%A4%D5%A1%D5%A4%D5%A1%D6%80%D5%A5%D6%81%D6%80%D5%A5-%D6%84-%D5%AC%D5%AB%D5%A4%D5%AB%D5%A1%D5%B6%D5%AB-%D6%86%D5%AB%D5%B6%D5%A1%D5%B6%D5%BD%D5%A1%D5%BE%D5%B8%D6%80%D5%B8%D6%82%D5%B4%D5%A8?recruiter=20917648&utm_source=share_petition&utm_medium=facebook&utm_campaign=share_facebook_responsive&utm_term=des-lq-no_src-custom_msg&fb_ref=Default

⁶⁹ <https://hetq.am/hy/article/73460>

speeches and giving the Minister poisoned water from the tailing dump.⁷⁰

11. In March, 2017, environmental activists thwarted the presentation of the European Bank for Reconstruction and Development (EBRD), European Union and Swedish government's Business Woman joint program, unfolding how the Amulsar Mining Project (which is also supported by the EBRD) impact on demographic problems of Jermuk, depriving women of their livelihoods and sustainable jobs in tourism and health sector and increasing the number of sexual violence and sexually transmitted diseases, when hundreds of male miners move and settle in the town of Jermuk. After the intervention of environmentalists the EBRD's rating on social media has also dropped significantly and the site was suffused with critical questions and rebukes. Two days later, the EBRD closed the page, hiding criticism from the public.

12. In March, 2017, Gndevaz residents physically impeded explosions planned by Lidian Armenia in the area designed for the construction of the heap leach pad. A few days later, they also blocked⁷¹ the village road and stopped the car of RA Prime Minister Karen Karapetyan, who was visiting the region during the election campaign. The villagers expressed their concerns about the Amulsar mining project, and as a result, the Prime Minister proposes Lydian Armenia to hold a public discussion in Gndevaz on March 16 (further this discussion was postponed for about a month and took place after the election) to answer questions of local residents with the participation of government experts.

13. In December, 2017, an alternative public expertise have been held around the Amulsar gold mine, during which industry experts delivered speeches on acid drainage and heavy metals spread, impact and tectonics of Jermuk mineral waters, legal issues, environmental and economic uncertainty and radioactive elements, on the problematic sides of international standards, the reports of independent international experts.⁷²

14. Since February, 2018, various active citizens from Armenia and abroad started to establish

⁷⁰ <https://www.facebook.com/armecofront/videos/1469246306448762/>

⁷¹ <https://www.youtube.com/watch?v=ykt-tQe9uF0>

⁷² <http://www.armecofront.net/en/press-releases/amulsar-alternative-public-expertise-on-december-12/>

contacts with the Swedish state institutions , who are committed to funding⁷³ the acquisition and supply of plant equipment for Amulsar gold mine, and demanded to stop the funding.

15. In April, 2018, a major campaign rally held from Yerevan to Jermuk, by conducting outreach and protest actions in Areni, Vayk, Yeghegnadzor, Gndevaz and Jermuk.⁷⁴

16. In May, 2018, residents of Jermuk, Gndevaz and Kechut kept the road to the mine closed⁷⁵ for four days , virtually halting construction works there and demanding the termination of all mine-related work and cancellation of the mining program. At the same time, members of the Jermuk Council of Elders and several resorts of Jermuk also addressed letters⁷⁶ to the Government and the Prime Minister in support of this complaint.

17. In March, 2020, a complaint has been sent to the Berne Convention Secretariat. The complaint details how the government ignored evidence in the environmental impact assessment of the Amulsar gold mine, which pointed to significant impacts on the flora and fauna at the Djermuk, Gorhajk and Sevan Lake candidate Emerald sites, a designation given by the Bern Convention to areas of outstanding natural significance. The complaint has been signed by Andrey Ralev, independent biodiversity expert, Fidanka McGrath, policy officer of CEE Bankwatch Network, Inga Zarafyan, president of ‘EcoLur informational NGO’. (See: *Complaint to Berne Convention Secretariat: Armenia breaks international agreement on biodiversity over gold mine funding, 31.03.2020*)⁷⁷.



Photo 3.



Photo 4.



Photo 5.

⁷³ <https://hetq.am/en/article/85693>

⁷⁴ <https://hetq.am/en/article/88142>

⁷⁵ <https://ecolor.org/en/news/mining/-3--/10136/>

⁷⁶ <https://news.am/arm/news/452872.html>

⁷⁷ <https://www.ecolor.org/en/news/mining/---/12238/>

1.6. Legal background of the Amulsar gold mine project

1.6.1. Infringements of RA laws

The principal impediments to the operation of the Amulsar gold mine is insufficient justification for the legal basis.

As a result of the arguments presented by the specialists periodically and our detailed examination of the legislation of the Republic of Armenia with combination of facts, make evident that the implementation of the project will proceed with gross violations of RA laws.

Accordingly, the following legal acts are violated:

- . RA Law on Fauna
- . RA Law on Flora
- . RA Code about Subsoil
- . RA Land Code
- . RA Law On Preservation of Historical and Cultural Values
- . RA Constitution
- . RA Code about Lake Sevan
- . RA Water Code
- . RA Law on Atmospheric Air Protection
- . RA Law on Environmental Impact Assessment and Expertise
- . RA Government decision on the procedure for public hearings
- . RA Law on Urban Development
- . RA Law on Ensuring Sanitary and Epidemiological Safety of Population
- . RA Law on State regulation of provision of technical security

Now let us examine each case through comparative analysis:

Violation of RA Law on Fauna

Article 17 of the RA Law on Fauna stipulates: "All the objects of fauna are subject to legal protection in the Republic of Armenia. Economic, constructional and social activities envisaged for provision of security of fauna objects and their habitat, as well as the continuity of their existence, will be implemented in accordance with procedures defined by the Republic of Armenia." Article 18 of the RA Law on Fauna stipulates: "The users of natural resources, who harm the species mentioned in the Red Book of the Republic of Armenia during

economic or other activities, must undertake measures for their protection. Any activity that will result in the decrease of the quantity of animal species registered in the Red Book of the Republic of Armenia or will deteriorate their habitat is prohibited."⁷⁸

Violation of RA Law on Flora

Article 17 of the RA Law on Flora stipulates: "Those land users who have species of plants registered in the Red Book of the Republic of Armenia growing on their plots must undertake measures for the protection of such plants in a manner defined by Republic of Armenia Law. Any activity that will result in the decrease of the quantity of plant species registered in the Red Book of the Republic of Armenia or will spoil their habitat is prohibited.

"Article 18 of the RA Law on Flora stipulates: "All the objects of flora are subject to legal protection in the Republic of Armenia."⁷⁹

Violation of RA Code about Subsoil

Article 26, part 3 of the RA Code about Subsoil stipulates the grounds for the prohibition of mining: "The use of separate subsoil allotments shall be prohibited in a manner prescribed by Republic of Armenia Law aiming to ensure national security, protection of human life and health, historical and cultural values or nature and the environment, if the land plot on the claimed subsoil allotment: 1) Has cemeteries on it 2) Accommodates natural, historical or cultural monuments 3) Accommodates plants or animal settlements registered in the Red Book of Armenia, or if it is on migration routes of animals."⁸⁰

The existence of red-listed species in the territory of Amulsar mine development has been intensively discussed still from 2012. The findings of WWF

⁷⁸ RA Law on Fauna <https://cis-legislation.com/document.fwx?rgn=7454>

⁷⁹ RA Law on Flora <https://cis-legislation.com/document.fwx?rgn=7449>

⁸⁰ RA Code about Subsoil <http://extwprlegs1.fao.org/docs/pdf/arm185554.pdf>

Armenia⁸¹ studies show that the following red-listed species have been detected in Amulsar and its adjacent areas: one plant species - *Potentilla porphyrantha*, two species of lizard, eighteen species of birds and four species of mammals. (see “Red-Listed Species in Amulsar Territory Revealed, Ecolur, May 22, 2013)⁸².

Conclusion: The Amulsar Gold Project is in contravention of RA Law on Fauna, RA Law on Flora, RA Code about Subsoil, because this area are growing and living plant and animal species registered in the Red Book of Armenia. The prohibition clauses in these legal acts are fixed in an imperative manner and do not provide for any reservations or exemptions. The compensation plans presented herein may not be considered as enforcing these laws.

Violation of RA Land Code

According to Article 23 of the RA Land Code: "Historical and cultural lands are considered to be sites of historical and cultural values and the preservation of the historical environment, ... tombs and other historical and cultural lands.

Taking into consideration that Article 23 of RA Land Code considers land areas around Amulsar mountain as cultural and historical ones, thus any activity contradicting to their primary and operational significance is banned.⁸³

Violation of RA Law about Preservation and Utilisation of Immovable Historical and Cultural Monuments and the Historical Circle

Amulsar project also violates the RA law about preservation and utilisation of immovable historical and cultural monuments and the historical circle⁸⁴. The Environmental and Social Impact Assessment (ESIA) of Lydian International says, “Surveys have

identified 81 potential archaeological sites that are likely to be impacted by Project development, although none of these is considered by Armenian and international cultural heritage experts to be of high importance.”⁸⁵

According to the statements of the company specialists, Institute of Archaeology and Ethnography of NAS RA has carried out excavations and detected many valuable items, though the area was not taken for state preservation and it's on the verge of destroyal. (see *Experts Opinions of Working Group on Amulsar Project, October, 2018*).⁸⁶

Violation of RA Constitution

Provision of land areas occupied with cultural and historical monuments for mining purposes violates also **11 Article of the Armenian Constitution**, which says, “Monuments of history and culture and other cultural assets are under the care and protection of the state.”⁸⁷

In her "Conclusion on Amulsar Gold Quartzite Deposit" Nazeli Vardanyan, environmental lawyer, writes about violation of other acts:⁸⁸

Violation of RA Law on Lake Sevan

According to Article 3 of the law on Lake Sevan, Kechout and Spandaryan reservoirs, the catchment basins of Arpa and Vоротan Rivers make up a part of Lake Sevan catchment basin.⁸⁹

Article 10 of the same law says, “1. Any type of activity in central, direct impact and indirect impact zones that has a dangerous impact on Lake Sevan ecosystem is prohibited. 2. Prohibited activities in the direct impact zone are: a) use of ecologically harmful technologies producing wastewater, b)

⁸¹ *The Findings of WWF Armenia* <http://ecoright.am/wp-content/uploads/2018/02/WWF-%D4%B1%D5%B4%D5%B8%D6%82%D5%AC%D5%BD%D5%A1%D6%80%D5%AB-%D5%B6%D5%A1%D5%AD%D5%A1%D5%A3%D5%AE%D5%AB-%D5%87%D5%84%D4%B1%D4%B3-%D5%84%D5%A1%D5%BD%D5%B6%D5%A1%D5%A3%D5%AB%D5%BF%D5%A1%D5%AF%D5%A1%D5%B6-%D5%AF%D5%A1%D6%80%D5%AE%D5%AB%D6%84.pdf>

⁸² *Red-Listed Species in Amulsar Territory Revealed* <https://ecolur.org/en/news/mining/redlisted-species-in-amulsar-territory-revealed/4886/>

⁸³ RA Land Code <https://www.arlis.am/DocumentView.aspx?docid=74667>

⁸⁴ RA law about preservation and utilisation of immovable historical and cultural monuments and the historical circle <https://www.arlis.am/DocumentView.aspx?DocID=38019>

⁸⁵ *The Environmental and Social Impact Assessment (ESIA) of Lydian International*, 2016

<https://www.lydianinternational.co.uk/reponsibility/esia>

⁸⁶ *Experts Opinions of Working Group on Amulsar Project, October, 2018* <https://ecolur.org/en/news/amulsar/ecolur-starts-publishing-experts-opinions-of-working-group-on-amulsar-project-submitted-to-armenian-prime-minister/10478/>

⁸⁷ RA Constitution <https://www.president.am/en/constitution-2005/>

⁸⁸ *Conclusion on Amulsar Gold Quartzite Deposit, Nazeli Vardanyan, October 2018*

<https://ecolur.org/en/news/amulsar/ecolur-starts-publishing-experts-opinions-of-working-group-on-amulsar-project-submitted-to-armenian-prime-minister/10478/>

⁸⁹ RA Law on Lake Sevan http://www.cawater-info.net/library/eng/am_lak_sev.pdf

production, use, and storage of radioactive substances and wastes, as well as ecologically hazardous or toxic substances; c) deployment of enterprises dealing with ore processing.”

Vardanyan also affirms: "According to Clause 6 of Chapter 4 of "Territorial Mapping of Catchment Basin of Lake Sevan" endorsed by governmental resolution N 746-N on 18.07.2013, "Borders of the catchment basin of Spandaryan reservoir are fixed, as well as the 3000-meter-long horizontal stripe stretching from the axis of Vorotan-Sevan tunnel as the immediate impact zone of the catchment basin of Lake Sevan." Nevertheless, this provision of the resolution has been violated by the company, as the significant part of the bottomholes has been located in the 3000-meter-long horizontal stripe (buffer zone), which is a serious threat of pollution for Lake Sevan."

Violation of RA Water Code

International experts' analysis of the Company's EIA indicates that acid drainage will lead to long-term contamination of ground water, springs, Spandaryan-Kechut tunnel, Kechut reservoir with heavy and hazardous metals. (*see: Conclusions of international renown experts, August, 2017*)⁹⁰. The waters of Kechut Reservoir reach Lake Sevan , thus violating

the above mentioned articles of the RA Law on Lake Sevan (*see A. Saghatelyan, Operation of Amulsar will lead to very dangerous and reactive waters penetrating into the Lake Sevan, May, 2016*)⁹¹.

A number of requirements of the RA Water Code are also violated (Article 99, 108 of the RA Water Code).⁹²

Conclusion: Gross violations of the provisions of the RA Law on Lake Sevan and the RA Water Code will cause irreversible damage to the waters in Lake Sevan catchment basin and, ultimately, to the Lake Sevan ecosystem itself.

Violation of RA Law on Atmospheric Air Protection

According to Article 31 of the RA Law on Atmospheric Air Protection "Location in localities of terricones, ore barrows and embankments, warehousing of industrial wastes, industrial and domestic refuse and other waste products being sources of pollution of atmospheric air with dust, harmful gases and substances smelling bad, and also burning of the specified waste products in territory of the enterprises, establishments, organizations and localities is forbidden".⁹³

Meanwhile, according to recently released documents, communities of the mine vicinity will be affected by dust, noise and stench. (*see: N. Vardanyan, Legal Opinion/Comparative Analysis/ on Amulsar Gold Quartzite Mining, November, 2016*)⁹⁴

Article 30 of the same Law states: "Extraction of minerals, explosive works, location and operation of terricones, ore barrows and waste products should be made in agreement with specially authorized bodies in the sphere of protection of atmospheric air, and also other bodies with observance of rules on prevention or reduction of pollution of atmospheric air in the order established by the legislation of the Republic of Armenia".

In the materials submitted to the expertise the measures preventing air pollution are lacking.

Violation of RA Law on Environmental Impact Assessment and Expertise and

Violation of RA Government decision on the procedure for public hearings (N-1325)

Jermuk Town hasn't been initially recognized as a project-impacted community and no public hearings were held there, as the legislation says.⁹⁵ Now Jermuk Town is recognized as a project-affected community, but no hearings were held there thus not taking into consideration the opinion of the largest community located next to the mine. Besides, the opinions of all interested ministries and departments haven't been taken into consideration. Thus, for example, the opinion of RA Health Ministry on the mine is missing, which is a must for

⁹⁰ *Conclusions of international renown experts, 2017*
<http://www.armecofront.net/en/news/amulsar-conclusions-of-international-renown-experts/>

⁹¹ A. Saghatelyan, *Operation of Amulsar will lead to very dangerous and reactive waters penetrating into the Lake Sevan*
<https://www.aravot.am/2016/05/17/693025/>

⁹² RA Water Code
<http://extwprlegs1.fao.org/docs/pdf/arm34344.pdf>

⁹³ RA Law on Atmospheric Air Protection
<https://www.ecolex.org/details/legislation/law-no-n-c-1109-1-3p-121-on-atmospheric-air-protection-lex-faoc050259/>

⁹⁴ N. Vardanyan, *Legal Opinion/Comparative Analysis/ on Amulsar Gold Quartzite Mining*
<https://ecolor.org/en/news/amulsar/--/8648/>

⁹⁵ RA Government decision on the procedure for public hearings (N 1325-Ն)
<https://www.artis.am/DocumentView.aspx?docid=94183>

expertise. The positive opinion has been issued without taking into consideration the impact on human health and hazard resulting from mining. The opinion of RA Culture Ministry has not been taken into consideration neglecting the existing 81 historical monuments in the area. The expertise body hasn't taken into consideration the negative opinion of project-affected communities – Gndevaz and Saravan, as well as those of Jermuk residents. (see: N. Vardanyan, *Legal Opinion/Comparative Analysis/ on Amulsar Gold Quartzite Mining*, November, 2016)

The above mentioned facts and assertions show that the Environmental Impact Assessment reports submitted by the Lydian International⁹⁶ did not provide their integrity, reliability and scientific justification and thereby the requirements of the Article 5 (2) (4) and Article 27 (2) (3) of RA Law on Environmental Impact Assessment and Expertise are violated.⁹⁷

Violation of RA Law On Urban Development
According to RA Law “On Urban Development”, objects of special regulation in urban development can be separated,
b) In the catchment basin of Lake Sevan, in specifically protected areas of nature, as well as in the areas of hydrotechnical structures related to the use of water resources,
d) in the areas of urban development objects related to the interest of more than one administrative-territorial units.”⁹⁸

Violation of RA Law on Ensuring Sanitary and Epidemiological Safety of Population

According to Article 23 of RA Law “On Ensuring Sanitary and Epidemiological Safety of Population”, which says “Decisions on the issues of special significance by governmental bodies in the sector of ensuring sanitary and epidemiological safety of population shall be reached only in case of the availability of the positive opinion based on the data of professional expert assessment by RA State

Hygiene And Anti-Epidemic Inspectorate.”⁹⁹ Amulsar project hasn't undergone any sanitary and hygienic expert assessment. (see: *Experts Opinions of Working Group on Amulsar Project*, October, 2018)¹⁰⁰.

Violation of RA Law on State regulation of provision of technical security

In the article 4 of the “RA Law on State Regulation of Provision of Technical Security” is mentioned: "Accident risk assessment - a process which aims to identify, analyze and assess the probability of technogenic accident conditions in a hazardous manufacturing facility, a description of the factors driving the process, the scale of the accident, the severity of their impact on health and the environment."¹⁰¹

No technical safety expertise has been carried out on the transportation, maintenance, use and safety of highly toxic cyanide. Even though in the framework of this project is expected to carry, store and use more than 1,000 tonnes of sodium cyanide and other highly hazardous chemicals annually. (see: *Grounds for Terminating the Amulsar Project, Letter to the Government of the Republic of Armenia*, May, 2018)¹⁰².

It should also be added, that the current expenditures for the Armenian government after the termination of the mine operation may transcend the state income received during operation. Current Armenian legislation and management practices do not provide effective technical and financial mechanisms for managing and restoring ecological degradation after mining operations. The consequences remain on the state and its citizens as the enormous expense. (*About extremely weak environmental legislation and taxation, as well as enormous economic damage, please, see : H. Sanasaryan, “The Economic and Environmental*

⁹⁶ *The Environmental and Social Impact Assessment (ESIA) of Lydian International*, May, 2016

<https://www.lydianinternational.co.uk/reponsibility/esia>

⁹⁷ RA Law on Environmental Impact Assessment and Expertise <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC179251/>

⁹⁸ RA Law On Urban Development <https://www.arlis.am/DocumentView.aspx?docID=69797>

⁹⁹ RA Law On Ensuring Sanitary and Epidemiological Safety of Population

<https://www.arlis.am/documentview.aspx?docid=29774>

¹⁰⁰ Experts Opinions of Working Group on Amulsar Project <https://ecolor.org/en/news/amulsar/ecolor-starts-publishing-experts-opinions-of-working-group-on-amulsar-project-submitted-to-armenian-prime-minister/10478/>

¹⁰¹ RA Law on State regulation of provision of technical security <https://www.arlis.am/DocumentView.aspx?docID=65225>

¹⁰² Letter to the Government of the Republic of Armenia http://www.armecofront.net/amulsar/grounds-for-stopping-project-in-amulsar/#_ftn10

Consequences of Amulsar Mine Operation, 12.01.2018)¹⁰³.

Let us be reminded, that numerous violations of the “Lydian International” have been so far litigated in the Administrative Court of the Republic of Armenia for more than three years. There are currently three trials pending in the courts of the Republic of Armenia, and other applications are being prepared. (See: *Court cases over Amulsar mine exploitation*).¹⁰⁴

1.6.2. Armenia's international environmental commitments and violations caused by “Amulsar” project

The provisions of international conventions and agreements in which Armenia is participating have been violated while granting exploitation permit to Amulsar mine project, and court cases are currently pending by the UN Economic Commission for Europe with regard to this case. (See *proceeding details here*)¹⁰⁵.

According to the experts findings the following international conventions have been violated (See: *Experts Opinions of Working Group on Amulsar Project Submitted to Armenian Prime Minister, October, 2018*)¹⁰⁶:

- . The Aarhus Convention
- . The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)
- . Convention on Environmental Impact Assessment (“Espoo Convention”)
- . The Convention on Biological Diversity
- . Framework Convention on Climate Change
- . The UN Convention to Combat Desertification
- . The European Landscape Convention
- . The Convention concerning the Protection of World Cultural and Natural Heritage

¹⁰³ H. Sanasaryan, “The Economic and Environmental Consequences of Amulsar Mine Operation” <https://hetq.am/hy/article/84915>

¹⁰⁴ *Court cases over Amulsar mine exploitation* <http://www.armecofront.net/amulsar/court-cases-against-lydian/>

¹⁰⁵ <http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/envppcccom/acccc2016138-armenia.html>

¹⁰⁶ *Experts Opinions of Working Group on Amulsar Project* <https://ecolor.org/en/news/amulsar/ecolor-starts-publishing-experts-opinions-of-working-group-on-amulsar-project-submitted-to-armenian-prime-minister/10478/>

. The Minamata Convention on Mercury

Violation of the Aarhus Convention

This convention lays down three fundamental rights – access to information, participation in decision-making on environmental matters and access to justice: in this case, all these three rights have been grossly violated.¹⁰⁷

Let us be reminded, that, in parallel, the Aarhus Convention Compliance Committee is also examining whether to impose measures against Armenia as a result of systematic violations of the Aarhus Convention by the Armenian Government.¹⁰⁸

Violation of the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)

The Bern Convention is both part of the Armenian and European secondary environmental legislation.¹⁰⁹ In its Environmental and Social Policy document, the European Bank for Reconstruction and Development (EBRD) states¹¹⁰ that it is committed to implementing European secondary legislation and specifically to not finance projects breaching the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention).¹¹¹

According to the report on Biodiversity offsetting and other problems of the ESIA of Amulsar gold project in Armenia, conducted by the International experts Andrey Kovatchev, Elena Tsingarska-Sedefcheva, Andrey Ralev, Amulsar Gold project violates a number of crucial points of the Bern

¹⁰⁷ *The Aarhus Convention* <https://aarhus.osce.org/about/aarhus-convention>

¹⁰⁸ *DECISION VI/8A CONCERNING ARMENIA* <http://www.unece.org/environmental-policy/conventions/public-participation/aarhus-convention/tfwg/envppcc/implementation-of-decisions-of-the-meeting-of-the-parties-on-compliance-by-individual-parties/sixth-meeting-of-the-parties-2017/decision-vi8a-concerning-armenia.html>

¹⁰⁹ Article 216(1) TFE <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A12012E216>

¹¹⁰ B. The EBRD's commitments”, point 7, page 1 and Appendix 1, “EBRD Environmental and Social Exclusion List” Page 8. May 2014, Environmental and Social Policy European Bank for Reconstruction and Development (EBRD), Pp. 64. <https://www.ebrd.com/cs/Satellite?c=Content&cid=1395238867768&d=Default&pagename=EBRD%2FContent%2FDownloadDocument>

¹¹¹ *Bern, 19/09/1979. Treaty 104. Convention on the Conservation of European Wildlife and Natural Habitats.* https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/104/signatures?p_auth=864D7ApJ

Convention, (*see: Report of International experts , January, 2019*)¹¹² inter alia:

- . missing assessment of the impacts of the Amulsar Gold Project according to the Bern Convention,
- . Lydian's ESIA report applies methodologies not reflecting the Bern Convention and incompatible with the Emerald Network,
- . possible impacts on species and habitats included in Standard Data Form of "Djermuk Area" AM000009 ASCI¹¹³.

Violation of the Environmental Impact Assessment ("Espoo Convention")

in the case of the Amulsar mining project, there was not carried out an examination of the cross-border impact, which is a mandatory requirement of the International Convention on Environmental Impact Assessment ("Espoo Convention"). This means that in the case of contamination of the waters flowing to neighboring states, the governments of these countries can claim compensation for damages to Armenia and cause a lot of problems at the international level. (*See: Environmental Impact Assessment ("Espoo Convention")*)¹¹⁴.

1.7. Political background of the Amulsar Gold Mine Project

Given the new political realities and transformations evolving within the Republic of Armenia in recent years, the issue of Amulsar gold mine exploitation is acquiring a new political articulation.

Lydian's Amulsar Gold mine project was under the patronage of the former authorities of Armenia. The license for Amulsar mine exploitation was issued by the former government, Lydian has received medals of gratitude from the former President of the Republic of Armenia, Serj Sargsyan¹¹⁵, in 2017 Lydian Armenia CJSC was exempted from import duty for goods costing 2

billion 489 million AMD (around 5 million USD), prior to that , the Armenian Government has granted Lydian Armenia CJSC, a privilege not to pay VAT for the imported goods for three years. (*See, Ecolur, June 23, 2017*)¹¹⁶.

Further, the movements against the exploitation of the Amulsar mine amplified sharply.

In April-May, 2018, Armenia changed its government in the result of the "velvet" revolution, led by Nikol Pashinyan, the dissident journalist and politician widely seen as the leader of the revolution, the government has painted itself as post-ideological and representing nothing less and nothing more than "the people" – with few concrete policies in between¹¹⁷. And this vagueness, in tandem with post-revolutionary euphoria, has transformed the new government, and "Nikol" as Pashinyan is popularly known, into a blank screen onto which all manner of Armenian society's hopes are projected. To be sure, these hopes are multifarious, often contradictory, and usually deep-seated challenges to the old order that **are not** easy to put into action. In the spa town of Jermuk, these feelings have now coalesced into the country's first post-revolutionary crisis: a confrontation that pits local residents against an international company and the long and corrupt legacy of mining in Armenia. (*See: "Neoliberalism, mining and Armenia's politics of plunder", Armine Ishkhanyan, June , 2016*).¹¹⁸

Immediately after Armenia's revolution in April and May 2018, the Jemuk town rose up in revolt against a local gold mine. For years, concerned local residents had struggled with the company that runs the mine, but the conflict had never before reached fever pitch. The revolution, it seems, is changing the balance of power. (*See: Armenia: before the goldrush, Peter Liakhov , January, 2017*).¹¹⁹ In the wake of the velvet revolution - and drawing inspiration directly from it - the protesters at Amulsar began their blockade in the hope the new government would take notice.

At the time of the revolution, the construction of the mine was nearing completion (more than 70%).

¹¹² *Report of International experts*: <https://bankwatch.org/wp-content/uploads/2019/01/Amulsar.-Report-2-Biodiversity-min.pdf>

¹¹³ <http://natura2000.eea.europa.eu/Emerald/SDF.aspx?site=AM000009&release=2>

¹¹⁴ Environmental Impact Assessment ("Espoo Convention") https://treaties.un.org/doc/Treaties/1991/02/19910225%2008-29%20PM/Ch_XXVII_04p.pdf

¹¹⁵ <https://www.lydianarmenia.am/index.php?m=newsOne&lang=arm&nid=138>

¹¹⁶ <https://ecolur.org/en/news/amulsar/-2-489-9270/>

¹¹⁷ <https://www.opendemocracy.net/en/odr/saint-nick-of-armenia-how-nikol-pashinyan-rescued-armenia-and-made-it-merry/>

¹¹⁸ Neoliberalism, mining and Armenia's politics of plunder",

Armine Ishkhanyan,

<https://www.opendemocracy.net/en/odr/neoliberalism-mining-and-politics-of-plunder-in-armenia/>

¹¹⁹ Armenia: before the goldrush, Peter Liakhov

<https://www.opendemocracy.net/en/odr/armenia-before-goldrush/>

Today, the mine's once deafening construction yards lie silent. The four entrances to the mine are blocked by protestors who keep watch day and night. The company had informed authorities about the process of applying for international arbitration in connection with the ongoing blockade of the road leading to the mine by environmental activists. Lydian is entitled to submit the documents to international arbitration three months after the official notification.¹²⁰

At present, the issue of Amulsar mine operation is in uncertain state. The trial is pending on the basis of the local residents claim, that demands to revoke permits granted to the company for the Amulsar Gold Project and the positive conclusion of the environmental expertise. Many environmentalists, political technologist, while analyzing the moods of the authorities, stress that the solution to the problem is expected to be not professional but political. (See: Levon Shirinian "The political component of the Amulsar mine operation. Possible ways to solve the problem", ParaTV, video, 23 Aug 2019).¹²¹

Given the public articulation of the issue, its possible serious impact and risks on the socio-economic and environmental prospects of the country, some political forces deem appropriate the achievement of the publicly admissible decision through referendum. (See: ARF proposes referendum to resolve Armenia Amulsar gold mine issue, 21.08.2019)¹²². Independent biodiversity expert, environmental specialist **Andrey Ralev**, during the interview with us stressed the fact that "all around the world mines are important part of environmental and political debate. They give a lot of jobs, but create also environmental and health problems to many people. So politicians have a difficult time to decide what to do - approve or not a mine, close it or not. In situation like this it is easier to promote mining in more autocratic, less democratic states. Armenia is a good example - corruption (especially during the previous regime, but also looks like there are some problems now in part of the Pashinyan

government) has helped open many unsustainable mines with huge problems for the population. When we talk about politics and environment a problem is the blind believe in Pashinyan among great part of the society. This doesn't allow to have an objective view of the situation and also stops people from doing things ("Pashinyan will solve our problems")". (See the whole interview with Andrey Ralev in the "Interviews" section of this chapter).

On 6 May, 2020, the US-based NGO "Freedom House" published their report entitled "Enhancing Democracy and Freedom: Transitional States" which is touching upon the environmental issue in Armenia with regard to Amulsar case. The report noted: "In Armenia, local concern over runoff from the planned Amulsar gold mine became a headache for Prime Minister Nikol Pashinyan, who inherited the project from the corrupt administration ousted by popular protests in 2018. Activists have blocked the mine's approach road for months; they say Pashinyan will prove that he's no different than the leaders he replaced if he greenlights the project"¹²³.

1.7.1. Inaction of the Authorities

After the revolution, the Armenian government has clearly formed some expectations regarding the Amulsar issue, and now an opposite approach to those expectation is being pushed forward, and tensions have amplified. Some political scientists believe that the situation around Amulsar was also caused by the inaction of the current authorities. "Processes have been evolving in Amulsar since May, 2018, and the authorities have not interfered at all. Jermuk residents, environmentalists had raised expectations, now they are disappointed",- said Arthur Khachatryan, Member of Supreme Body of the ARF Dashnaktsutyun political party (see: *The issue of Amulsar is much more actual than it was two years ago*. Arthur Khachatryan, August, 2019).¹²⁴ Some political forces today accuse the current government of failing the revolution and betraying its values and goals in the socio-economic sphere.

¹²⁰LYDIAN ANNOUNCES SUBMISSION OF NOTICES TO GOVERNMENT OF ARMENIA UNDER BILATERAL INVESTMENT PROTECTION TREATIES

[HTTPS://WWW.ECOLUR.ORG/EN/NEWS/AMULSAR/-/10941/](https://www.ecolur.org/en/news/amulsar/-/10941/)

¹²¹ (See: Levon Shirinian "The political component of the Amulsar mine operation. Possible ways to solve the problem", ParaTV, video, 23 Aug 2019).

<https://www.youtube.com/watch?v=iNZhkEvpCel>

¹²² ARF proposes referendum to resolve Armenia Amulsar gold mine issue, 21.08.2019 <https://news.am/enq/news/529576.html>

¹²³ Freedom House report "Enhancing Democracy and Freedom: Transitional States

https://freedomhouse.org/sites/default/files/2020-04/05062020_FH_NIT2020_vfinal.pdf

¹²⁴ *The issue of Amulsar is much more actual than it was two years ago*. Arthur Khachatryan, August,

2019).<https://www.tert.am/am/news/2019/08/23/Amulsar/3077519>

Similar to the previous regime, the incumbent also ignores the voice of affected communities, alarms from professionals and even the obvious risks and potential irreversible consequences indicated by the expertise ordered by its own. They find it extremely worrying that the current government is sparing no effort to justify the corruptive mechanisms for licensing Amulsar, a company with offshore suspected origin, and its criminal inaction in identifying the individuals and organizations involved, the lack of willingness to find an alternative to mining, with the prospect of the false threat of defeating in the international court and paying huge fines. (See: *Amulsar is a testament to Nikol Pashinyan's rule. Sasna Tsrer, August, 2019*)¹²⁵. Meanwhile, a propaganda battle is raging between the mining company and the protestors – and Armenia's post-revolutionary government faces its first major crisis.

Operation of Amulsar mine continues to be a "Damocles sword" for the current government, since, in fact, it has no clear procedure and regulations of the issue for now, and most likely it will not be in the near future as well. However, according to experts in the field, such an approach to the issue as the government has adopted, that is, to artificially extend time, is not the solution. In an interview with us several experts pointed out that, eventually, it is impossible to avoid finding solutions at the end, so wasting time and uncertainty is not the best way to go.

1.7.2. Domestic political stakeholders of the

Amulsar conflict

Political parties and forces in Armenia are keenly interested in the Amulsar issue. Radical nationalist forces, in particular "Sasna Tsrer", are an interested but less visible part of the Amulsar movement. Their activism and visibility is restrained by pro-democracy civil groups and locals rejecting violence (See: *Amulsar Mine will not be exploited even with the cost of life, environmentalists are determined* (2018.07.06)).¹²⁶ The

¹²⁵ *Amulsar is a testament to Nikol Pashinyan's rule. Sasna Tsrer, August, 2019*

<https://www.panorama.am/am/news/2019/08/15/%D5%8D%D5%A1%D5%BD%D5%B6%D5%A1-%D4%BE%D5%BC%D5%A5%D6%80/2153622>

¹²⁶ *Amulsar Mine will not be exploited even with the cost of life, Environmentalists are determined*

(2018.07.06). 1in TV. Video, <https://www.youtube.com/watch?v=jkWjHqmj8t4>

latter do not want to grant party dividends to any other political group in Amulsar's case, than to the Prime Minister Nikol Pashinyan's political force that is trusted by them. The locals also made this clear in their open letter to the Prime Minister on August 16, 2019 (See: *Jermuk residents demand Pashinyan to meet*)¹²⁷. The newly formed extra-parliamentary oppositional political groups, large and small, are also approaching this issue in the viewpoint of public interest and not in terms of party and / or financial power positions. The latter strongly opposed the operation of the mine in Amulsar. (See: *Michael Nahapetyan, Amulsar cannot be operated; August 15, 2019, Civilnet*)¹²⁸. The parliamentarian opposition parties "Prosperous Armenia" and "Enlightened Armenia" are not rushing to take a position on this issue. The head of the latter managed to appear as neutral, making double-evasive expressions (See: *Edmon Marukyan, "We give five points to Nikol Pashinyan with the 10-point system, Civilnet, 16 August, 2019*).¹²⁹

Liberal political forces are still in silent or neutral position. Their position can most likely be transformed at any time depending on the current power balance. Former leading Republican Party (RPA) and ARF Dashnaktsutyun party, which were part of the former Government, were directly involved in the issue of the Amulsar mine exploitation. If the Republican Party is responsible for these decisions at the level of the President and the Prime Minister, then the ARF, through the portfolio of the Minister of Nature Protection,

¹²⁷ *Jermuk residents demand Pashinyan to meet, August 16, 2019*

https://www.Iraqir.am/2019/08/16/467903/?fbclid=IwAR1H1CRPZIQVbauTrWIEWKs9mYH8z_Q3EQI2TboGynNsDROnDHZLbo_LYM

¹²⁸ *Michael Nahapetyan, Amulsar cannot be operated; August 15, 2019,*

https://www.civilnet.am/news/2019/08/15/%D4%B1%D5%B4%D5%B8%D6%82%D5%AC%D5%BD%D5%A1%D6%80%D5%A8-%D5%B9%D5%AB-%D5%AF%D5%A1%D6%80%D5%A5%D5%AC%D5%AB-%D5%B7%D5%A1%D5%B0%D5%A1%D5%A3%D5%B8%D6%80%D5%AE%D5%A5%D5%AC%E2%80%A4-%D5%84%D5%AB%D6%84%D5%A1%D5%B5%D5%A5%D5%AC-%D5%86%D5%A1%D5%B0%D5%A1%D5%BA%D5%A5%D5%BF%D5%B5%D5%A1%D5%B6/365656?fbclid=IwAR3DkK2Bwpm2X3txa7Kc4linK6G1_5OKkdUOktyMnt67VWc0Atz-NfJZ7U0

¹²⁹ *Edmon Marukyan, "We give five points to Nikol Pashinyan with the 10-point system, Civilnet, video*

<https://www.youtube.com/watch?v=fcNuACD2Hio&feature=youtu.be&t=143>

which administered 2014-2016 under the management of Aramays Grigoryan and 2016-2018 under Artsvik Minasyan. (See: *Artsvik Minasyan "Amulsar can be a good example of combining economic development and environmental protection". December, 2018*).¹³⁰

Although the nationalist orientation of the ARF Dashnaksutyun would be in favor of protecting the land and water of the locals, however, during their coalition rule, the alienation of the lands of the Gndevaz and the commencement of construction work has taken place, as well as the Lydian's signing of a highly controversial \$ 5.7 million Jermuk National Park memorandum. (See: *Bankwatch report, January, 2019, and report by WWF Armenia President Karen Manvelyan, August, 2018*).^{131 132} The representatives of the former ruling RPA party qualify the suspension of Amulsar project as deteriorating investment environment. (See: *Arpine Hovhannisyanyan, "If Lydian Armenia applies for arbitration and wins, it will receive 50% compensation from the Armenian government.", February, 2019*).¹³³

There are also other old political-party divisions aimed at nullifying the revolutionary nature of the Revolution and directing public outrage over Amulsar directly against Prime Minister Nikol Pashinyan, his government and the ruling political force. The manifestations of this group are visible in the political speeches of Zaruhi Postanjyan and her party members. (See: *Zaruhi Postanjyan, Amulsar transaction is obviously a corruption deal. August, 2019*)¹³⁴.

These and related forces can use any tension around the Amulsar conflict to be ready to inflame the issue and bring the problem to crisis, however, not for excluding the mine exploitation in Amulsar, but for

¹³⁰ Artsvik Minasyan "Amulsar can be a good example of combining economic development and environmental protection". December, 2018 <https://analitik.am/news/view/449557>

¹³¹ KAREN MANVELYAN: AMULSAR'S POSITIVE EIA OPINION CONTRADICTS ARMENIAN LEGISLATION: NUMEROUS RED-LISTED SPECIES DETECTED IN MINE AREA [HTTPS://WWW.ECOLUR.ORG/EN/NEWS/MINING/---/10510/](https://www.ecolur.org/en/news/mining/---/10510/)

¹³² Bankwatch Report <https://bankwatch.org/wp-content/uploads/2019/01/Amulsar.-Report-2-Biodiversity-min.pdf>

¹³³ Arpine Hovhannisyanyan, "If Lydian Armenia applies for arbitration and wins, it will receive 50% compensation from the Armenian government.", February, 2019 <https://www.tert.am/am/news/2019/02/19/Arpine-hovhannisyanyan/2926435>

¹³⁴ Zaruhi Postanjyan, Amulsar transaction is obviously a corruption deal. August, 2019 <https://www.24news.am/news/52021>

inciting complaints, suspicions and mistrust against the current government, causing gaps between the government and civil / grassroots groups, and revoking the Revolution at large.

1.7.3. External political stakeholders of the Amulsar conflict

Amulsar is a political project involving representatives of different countries around the world.

Diaspora

As for the involvement of the external parties, first of all, we are talking about the Diaspora, particularly , prominent and influential figures renown with their affinity to Armenia's democratization and defense of public interests, such as Serj Tankian and Arsine Khanjian, who previously supported and still support the Amulsar movement. Recently, Serj Tankian again publicly called for support of Amulsar movement (See: Famous musician urges his fans to press governments in their countries to sign a petition to halt the operation of the Amulsar mine, August, 2019).¹³⁵

On the other hand, representatives of Diaspora institutional bodies comprise influential wealthy people who, according to environmentalists, have financial interests in the Lydian mining project, being parties to an investment or lending organization. Specifically, the names of investment funder Joseph Ogurlian, affiliated with AGBU, IDEA Founder Ruben Vardanyan and Canadian-Armenian Vahan Kololyan are voiced. (See: Investigation of Armenian Environmental Front, February, 2017)¹³⁶.

West and Russia

The operation of the Amulsar mine also has a geopolitical context. Due to the involvement of Western capital, it naturally has the support of

¹³⁵ Famous musician urges his fans to press governments in their countries to sign a petition to halt the operation of the Amulsar mine, August, 2019

<https://armeniasputnik.am/world/20190804/19933049/arn-n-britanian-u-kanadan-jnshelen-hayastanin-tankyani-haytararutyuny.html>

¹³⁶ Investigation of Armenian Environmental Front, February, 2017

<http://www.armacofront.net/rahos/qteq-baregorcneri-kapy-hanqakermeri-het/>

Western countries. After the revolution, the US Ambassador Richard Mills met with Deputy Prime Minister of the Interim Government Tigran Avinyan, during which the Ambassador attached importance to the continuation of the activity of Lydian-Armenia as a major international investment program.¹³⁷ In another subsequent public address, the same ambassador had already more directly stressed Lydian-Armenia's continuity with US investment opportunities in the Armenian economy in line with US policy by clearly showing US government support for its country-specific investor capital (*See: US Ambassador: Potential investors are watching the Lydian case, July, 2018*).¹³⁸

Representatives and ambassadors of both the US and the UK Embassy since 2013 have formally supported Lydian in public speeches and in diplomatic and working meetings with various members of the Government of the Republic of Armenia, with the directors and public representatives of environmental decision-makers. (In response to a question from a UK journalist, the UK Foreign Office said that only in 2013 The Ambassadors of the United Kingdom have had four meetings with the RA Water Committee on the Amulsar Mine Project. No further details are mentioned. The question and answer are not publicly available). In recent years, Lydian has served as a sponsor of embassy events, demonstrating its collaborative support to them. During 2012-2014 UK Ambassadors Jonathan Aves and Catherine Leach have been specifically active in defending Lydian and Amulsar mine project.¹³⁹ Completing his diplomatic career, Jonathan Aves continued in 2017 at one of the major banks funded Amulsar, the European Bank for Reconstruction and Development, holding a senior position.¹⁴⁰

It is for this same reason that the Russian Federation seems to be in the opposite position in the development of the mine, in order not to allow the activation of Western capital in the Armenian economy and the retreat of the dominant Russian

capital. It is not easy to follow the actions of the Russian Federation, as their diplomatic corps, unlike the Westerners, is not inclined to publicize its steps taken by the negotiations. Nevertheless, the positions of the countries are more than ambiguous, as Russian-Armenian capital in the face of businessman Ruben Vardanyan and his affiliated Ameria Bank, also interested in Amulsar mine development. (*See: Phylantropists Relationships With Miners . environmentalists about Amulsar, Epress.am. February, 2014*)¹⁴¹. The latter has been a lender of the Amulsar mining project since November 2016.

Therefore, the issue of Amulsar lies not in the geopolitics of states, but in the interest of the capital under their protection and the interests of the individuals who own them. Consequently, the issue of mine development in Amulsar cannot lead to the issue of Armenia's position in the US-Russia, West-North geopolitical tensions. In economic terms, on one side of this conflict is American, English, Canadian, Russian capital, on the other side, the large scale capital of Armenia (Jermuk mineral water factory owners), economic resources of medium and small entrepreneurs of the enlarged Jermuk community, livelihoods of the employed residents of the community. Lydian tries to convey a purely geopolitical voicing to the issue, by regularly stating that environmentalists opposed to the Amulsar project, later locals, are serving foreign interests. After locals closed the mine roads in October 2018, Lydian's director Hayk Aloyan once again voices in the press that "Amulsar's problem is not environmental, that" panic "triggers are directed by other forces." (*See: Amulsar problem is not environmental, we know those who provoke "panic". Director of Lydian Armenia, October, 2018*)¹⁴². It is often voiced unjustified hypothesis that the movement of the Amulsar mine is geared towards the withdrawal of operating permits from a Western company and handing over to a Russian company (*See: article "Who*

¹³⁷ Official meeting of US Ambassador Richard Mills with Deputy Prime Minister of the Interim Government Tigran Avinyan <https://www.gov.am/am/news/item/13572>

¹³⁸ US Ambassador: Potential investors are watching the Lydian case, July, 2018 <https://banks.am/en/news/newsfeed/15857>

¹³⁹ AMBASSADOR AND NATURE PROTECTION MINISTER DISCUSS AMULSAR PROJECT <https://www.aysor.am/en/news/2013/06/25/harutyunyan-lich/632539>

¹⁴⁰ <https://www.ebrd.com/who-we-are/senior-management/jonathan-aves.html%20>

¹⁴¹ *Phylantropists Relationships With Miners . environmentalists about Amulsar, Epress.am. February, 2014* <https://epress.am/2017/02/14/%D4%B3%D5%BF%D5%A5%D6%84-%D5%A2%D5%A1%D6%80%D5%A5%D5%A3%D5%B8%D6%80%D5%AE%D5%B6%D5%A5%D6%80%D5%AB-%D5%AF%D5%A1%D5%BA%D5%A8-%D5%B0%D5%A1%D5%B6%D6%84%D5%A1%D5%AF%D5%A5%D6%80%D5%B6%D5%A5%D6%80.html>

¹⁴² *Amulsar problem is not environmental, we know those who provoke "panic". Director of Lydian Armenia, October, 2018, video, https://www.youtube.com/watch?time_continue=9&v=F1BtrOAGyBw*

is infected with Amulsar Gold Fever?", *1in.am*, June , 2018)¹⁴³, however, that does not correspond to the reality. Locals and environmentalists standing at the core of the Amulsar movement are actually trying not to suspend Lydian's work, but to exclude anyone from operating the mine in Amulsar. Environmental movement participants are also known for their activity against other mines, including Teghout copper-molibdenum, Zangezur Copper and Molybdenum Plant etc.

International movements

The Amulsar movement also enjoys the attention of international human rights and environmental movements and those who support Armenia's democratization process. It is probably one of the biggest international solidarity struggles dating since Armenia's independence. Dozens of publications in foreign media testify to this, inter alia, such prestigious outlets as: Aljazeera¹⁴⁴, France 24¹⁴⁵, Public Radio of France and Germany, Reuters News Agency¹⁴⁶, as well as the international news site OpenDemocracy¹⁴⁷.

Solidarity statements¹⁴⁸ issued by dozens of outstanding environmental and human rights organizations¹⁴⁹, a global campaign¹⁵⁰ recently

launched by London-based organizations make this movement part of the international human rights and environmental protection movement. According to Amulsar Movement activists, hundreds (or thousands) of people donate to the movement not only from Armenia but also from different countries around the world (mainly from Diaspora Armenians and international movements), with the help of which activists have been able to continue blocking the Amulsar mine for more than a year.

1.8. Interviews

Levon Galstyan: The operation of the Amulsar gold mine is a matter of national security

(Interview with Geographer, geomorphologist, coordinator of Pan-Armenian Environmental Front, Levon Galstyan).

- Concerns about the exploitation of Amulsar gold mine are growing. It is known that Lydian International (founded in 2005-2006) which is trying to promote Amulsar's gold mining project in Armenia, has tried to implement similar projects in other countries, but has failed. What company are we dealing with?

L.G. - Lydian International, that is an offshore company registered in the famous offshore zone of Jersey, having no experience in the field of mining, has created a myth that they have a large group of scientists and specialists, and are implementing their program in Armenia on the basis of serious research. They say they are such a serious organization that is funded by EBRD and IFS corporations and will act according to their standards. And they declare that the exploitation of Amulsar mine will not have any impact on the natural environment. Sorry, such claims are for ignorant people who do not realize what gold mining is. Gold open pit mining and cyanide leaching method world experience proves, that Lydian's assertions about Amulsar groundwater will

¹⁴³ Who is infected with Amulsar Gold Fever?", *1in.am*, June , 2018 <https://www.1in.am/2366255.html>

¹⁴⁴ Armenia: Mining Out the Leopard, People and Power, Aljazeera <https://www.aljazeera.com/programmes/peopleandpower/2019/01/armenia-mining-leopard-190130061637859.html>

¹⁴⁵ Armenian activists fight to shut down gold mine, save their water, <https://observers.france24.com/en/20180713-armenian-activists-fight-shut-down-gold-mine-save-water>

¹⁴⁶ Gold of contention: Armenia land dispute in spotlight as government steps in, <https://www.reuters.com/article/us-armenia-mine-protests/gold-of-contention-armenia-land-dispute-in-spotlight-as-government-steps-in-idUSKCN1T701D>

¹⁴⁷ HOW CITIZENS BATTLING A CONTROVERSIAL GOLD MINING PROJECT ARE TESTING ARMENIA'S NEW DEMOCRACY

(2018.09.03) <https://www.opendemocracy.net/en/odr/citizens-battling-a-controversial-gold-mining-project-amulsar-armenia/>

¹⁴⁸ BANKWATCH NETWORK, SOLIDARITY LETTER ON AMULSAR FROM 40 INTERNATIONAL CSOS , 22 JANUARY, 2019

<HTTPS://BANKWATCH.ORG/PUBLICATION/INTERNATIONAL-CSOS-LETTER-REGARDING-AMULSAR-MINE>

¹⁴⁹ FIDH, Amulsar Mine in Armenia: The government must avoid potential environmental and human disaster, 20.06.2019

<https://www.fidh.org/en/region/europe-central-asia/armenia/amulsar-mine-in-armenia-government-must-avoid-potential-environmental>

¹⁵⁰ Stop Lydian's toxic attack on democracy, Global Justice Now and War or Want, London: https://act.globaljustice.org.uk/stop-lydian%E2%80%99s-toxic-attack-democracy?fbclid=IwAR0VAqIwF-dmuLnJF6J5nB2QzVqIU_iTsIE06Ee5Qfwz-VPICeQDv45q61k/

not change its chemical composition as a result of acid drainage and other types of pollution from open-pit rocks and empty rock and that waters filled with heavy and dangerous metals will not be transferred to the Kechut Reservoir, and from there to Lake Sevan and the Arpa River, are not unequivocal at all.

- In fact, the former Prime Ministers Tigran Sargsyan and Hovik Abrahamyan, based on some documents submitted by Lydian, have concluded that the mine can be exploited, and there is no danger from that.

L.G. - We, as environmentalists, raise a question, if the Government of the Republic of Armenia has not made a full assessment of the risks, as a citizen of the Republic of Armenia, why should we 100% believe in records of the company which is an interested party in the mine operation? And all the experts, scientists, environmentalists who have nothing to do with this program and are not funded by Lydian, thus have no interest, they claim in their analysis that there are serious dangers that have not been identified or wrong conclusions have been made on the facts presented by the company.

I will list the highest risks that we have specified. There are risks that can be managed or mitigated during any type of mining, but there are also uncontrollable risks. The Lydian International presents the program the way that everything is manageable for them and no problems will arise. Whereas, both the international and local experience shows that during open-pit mining through the cyanide gold leaching method has not registered a single case of non contamination. And in this way, they are trying to exploit a mine in Armenia, in an area where the tributaries of the Vorotan and Arpa rivers are formed, at a distance of only 7-8 km from the mine, there are two powerful hydro-technical and strategic structures: Spandaryan and Kechut reservoirs. Spandaryan Reservoir feeds the entire Syunik region, and the Kechut Reservoir feeds Lake Sevan, and the Arpa River feeds the entire Vayots Dzor region. In addition, the Spandaryan and Kechut reservoirs are connected to each other by an underground water tunnel, which runs under the western slope of Amulsar. And this is just 2 km from the mine. Now Lydian claims that the operation of the mine will not have any impact on the Vorotan-Arpa tunnel.

- Hasn't a risk assessment been made in Armenia?

L.G.- Let me stress at once that in Amulsar case and other mining cases, in general, which can have an impact on the natural environment, we do not implement a real impact assessment. Since 2011 we have studied many programs, participated in many expertises and realized that in Armenia the expertise is carried out according to someone's taste, wish, given amount or the size of the bribe, or according to the order by the authorities. The operation of the Amulsar gold mine will have a huge impact on people's health and social status. There is another important circumstance as well. Lydian insists there will be no change with the water. But the reality is quite different. We have an official document received from state bodies, that 4.6 million cubic meters of water flows through the tunnel each year as an underground stream. Amulsar groundwater flows into the tunnel and moved to Kechut reservoir. Experts believe that if the mine will open, of course, the absorption will be stronger, as the protective layer will open. A huge hole will be created, which will fill the tunnel with heavy metals and other toxic substances, which will flow into the Kechut Reservoir at the time of snowing or raining. Part of it will flow into Lake Sevan, and the rest will flow down the Arpa river, polluting all the water basins afterwards. Who can prove us that such a thing cannot happen? No one! The next: it has been calculated that the dust will not reach the Jermuk resort, but that the dust will settle in the vicinity of the area, then melt and mix with the surface water and spread, there is no talk about that. During the operation of the mine, it is impossible that the dust may not rise, or the wind may not spread the dust. It will naturally sit on the snow, pastures, vegetation and, as a result of melting, it will flow into the rivers with rainwater. We don't need to prove this either, as both local and global experience shows that dangerous substances are being transported from open pit mines through dust. Even if there is a faint suspicion that our water resources may be endangered, then this program has no right to be implemented, because it is a matter of national security for us.

- Jermuk is a health center, the Armenian government has invested a lot of money in the implementation of the Jermuk development program. But it turns out that with the exploitation of Amulsar gold mine, not only that project will fail, but also our national

wealth will be destroyed. So, what danger can the exploitation of Amulsar mine impose to Jermuk Health Center?

L.G. - Let me say at once that the operation of the gold mine will have a very dangerous impact on Jermuk, which will be displayed in both directions. The first is the ecological danger. According to Lydian's research (commissioned in England), it turned out that the mineral waters of Jermuk and the waters of Amulsar have no connection with each other. They also say that the Amulsar geological unit is completely separate and has nothing to do with City block. And they conclude that there can be no connection between hydrogeological, ie groundwater and mineral waters. Meanwhile, our scientists-geologists, studying the same Lydian expertises, came to the opposite conclusion: they are the same waters. Let me turn to the second danger associated with Jermuk. The city of Jermuk was established and developed as a health resort and family recreation area built on mineral waters. Lydian has already rented Jermuk health resort for 10 years. In other words, for 10 years we have been losing Jermuk as a brand, as a resort, family and leisure area.

Investing in mining is not a step towards state development, because that money will mostly flow into the pockets of certain people. Armenia has a limited area, therefore, the development of the mining industry, with such volumes, will put at a risk the existence of our state. The \$ 370 million received from Amulsar is not an investment, it is given to us in exchange for the irreversible pollution of our country. We will not back down and will defend our country, its nature, its water resources in every possible way. It will not be easy for those who want to exploit and finance the Amulsar gold mines

-Mr. Galstyan, in many of your articles you have regularly touched upon the issue of inadmissibility of mining in Armenia on such a large scale. We would like to ask you to elaborate a little on the standards of mining in the world from a geographical point of view, and their incompatibility with our country, which (those standards), in your opinion, are not maintained in the current business plans?

L.G. - Armenia has a total area of 29.7 thousand square kilometers, where approximately 460 mines already have permission for exploitation, out of which 27 are metal mines, and additional 85 metal mines are currently in the study phase and waiting

to be exploited. As a result, there are already about eight hundred million tons of tailings in 23 open and closed tailing dumps, which are saturated with heavy metals and other dangerous substances. At this rate, after 2-3 decades there will be hundreds of toxic and extremely dangerous tailing dumps in Armenia, which could be disastrous for the country and its people. To all those "wise men" and executives of mining companies, who compare Armenia to Canada, Australia, USA, Sweden or Russia in order to prove the necessity of the development of the mining industry in Armenia, instead of engaging in demagoguery we advise them to open the world map and see the difference between Armenia and these countries in terms of area, density of population and biodiversity. In addition, we advise them to thoroughly research the laws, regulations, and taxation system of those countries, compare them to ours and only then speak about the necessity of exploiting new mines, make majestic announcements or try to appear as the saviors of the country.

Naira Zohrabyan: Authorities of Armenia must follow the path of dialogue, all other solutions will lead to a deadlock.

(Interview with Naira Zohrabyan, a member of the National Assembly of Armenia for the Prosperous Armenia party, the Chairwoman of the RA NA Standing Committee on Protection of Human Rights and Public Affairs. Naira Zohrabyan is also a member of the NA Inquiry Committee for Studying the legality validity and reliability of financial and other reports submitted to the bodies of executive power and adopted by them in the framework of investment programs in the area of industrial metal mining.)

-Ms. Zohrabyan, you are periodically raising the issue of saving and preserving historical and cultural monuments found in the vicinity of Amulsar. We would like to ask you for details , what will be their fate?

N.Z. - There are more than 80 bronze tombs in the area taken by Lydian. Of those 80 tombs in the Amulsar area, 46 have been excavated at the moment, and it is at least surprising that the former Ministry of Culture, which was the authorized body in the field, has not yet certified the discovered monuments. According to our legislation and international conventions, at the moment when historical and cultural monuments are discovered,

any work in the area is stopped and the authorized body is immediately notified. Till now the monuments have not been identified in the certificate of the monuments, but also there is no conclusion of the professional commission whether the exploitation of Amulsar mine will not destroy our cultural heritage. I must say that we will be consistent in this matter and if it turns out that the further exploitation of Amulsar mine will devastate our archaeological heritage in the area, plus the environmental catastrophic risks of mine operation, these are iron arguments in the hands of the government to win Amulsar's case in any international arbitration.

- As a member of the Inquiry Committee on Amulsar issue in the National Assembly, please let us know what revelations have been made by you and what activity the Committee is currently carrying out?

N.Z. - Our Inquiry Committee regularly meets up with specialists in the field, environmentalists and human rights advocates and lawyers. Recently, we met with Nazeli Vardanyan, who is part of the working group set up by the prime minister's decision to check compliance with international standards in the mining industry, and who provided the committee with quite remarkable facts.

And so, 11 laws and 9 international agreements were violated by giving Lydian Armenia the permit to operate Amulsar gold mine. The most noteworthy of these are violations of the RA Code "On Subsoil". According to Article 25 of the Code, mining is prohibited in areas where there are plants and animals registered in the Red Book. There are such plants and animals in Jermuk, in particular, the apricot-Matnuni plant and the gray bear. By the way, about the gray bear. A Lydian Armenia biodiversity expert has done a shocking statement by saying that bears love noise and explosions, therefore, it is possible to carry out explosions at Amulsar. Let me remind that any explosion is forbidden in Jermuk. And explosions are not made in Jermuk, even for the construction of a new building, in order not to damage the mineral water flows. And the explosions when operating Amulsar will be just devastating for Jermuk. As for the apricot-Matnuni plant, it was removed from its natural environment, put in a pot and transferred to the Sevan basin, thus they decided that have solved the problem.

- In your opinion, the unblocking of Amulsar is realistic or not?

N.Z. – First and foremost, let me be reminded, that it is the exclusive constitutional right of the people of Jermuk to go on strike and apply to all protest actions allowed by law. All the actions of the people of Jermuk are absolutely fitting with the Constitution of the Republic of Armenia, and none of the law enforcement system has the right to ban those actions. If the authorities are intended to use a force against activists and protesters, be aware that the consequences will be catastrophic for the Republic of Armenia. We must follow the path of dialogue. No matter, some people will think what we say is no longer relevant, I insist, this is the only way, all other solutions will lead to a deadlock.

Andrey Ralev : Amulsar is one of the places that new mines shouldn't be allowed

Interview with Andrey Ralev - independent biodiversity expert, environmental specialist, Balkani Wildlife Society, Sofia, Romania. Andrey is also the founder of the "Perangua" global network for the environmental activists¹⁵¹, which supports nature conservation campaigns around the world. "Perangua" is also supporting the campaign in Armenia to save Amulsar from a gold mine together with Ecolur.org, Green Armenia NGO, Bankwatch Network. 09.04.2020

A.V. -How will you assess the mining as an environmental debate and the role of politics here...

A.R. -It is obvious that all around the world mines are important part of environmental and political debate. They give a lot of jobs, but create also environmental and health problems to many people. So politicians have a difficult time to decide what to do - approve or not a mine, close it or not... In situation like this it is easier to promote mining in more autocratic, less democratic states. Armenia is a good example - corruption (especially during the previous regime, but also looks like there are some problems now in part of the Pashinyan government) has helped open many unsustainable mines with huge problems for the population.

¹⁵¹ "Perangua" global network for the environmental activists
<https://perangua.com/>

Finland is an exception, democratic state, but very liberal to opening new mines.

A.V. - Are there success stories on international ground when the authorities find the best way to cooperate with the public around mine construction projects? If yes, please, specify... And it is interesting, what tools they usually apply (or preferable to apply) to reach this goal?

A.R.- A relatively good example is the Ada Tepe gold mine near Krumovgrad, Bulgaria. After strong debate, campaign from NGOs and local people, they changed their technology. Decided no to use cyanide technology for heap leaching (same as Amulsar) and to use only one of four hills they had concession for.

A.V. -How threatening is the Amulsar mine exploitation for Armenia's environment?

A.R.- I would say there are some proven negative impacts and too many uncertainties to approve it. What we do know: already we have pollution of Arpa River during construction and destruction of habitats in the open pits, Heap Leach Facility, transport conveyors, etc. Amulsar is a pretty special mountain - important source of water, huge importance for endemic flora, core habitat for many birds and mammals. And also has potential for tourism (trekking, birdwatching, skiing) and livestock breeding. It is also a pretty important biocorridor for big mammals between South and Central Armenia, Artsakh. My personal opinion is that Amulsar is one of the places that new mines shouldn't be allowed. Also too close to Gndevaz and the Arpa River Canyon (an amazing place for biodiversity).

A.V. -The level of ecological awareness and eco-consciousness of Armenian people as per your view...

A.R.- When I first came in 2013 the situation was pretty bad with littering, air pollution, etc. Even worse in Artsakh. I see a slow improvement now. And especially among young people. I am happy it is not only in Yerevan - a great example is Jermuk and the Amulsar defenders.

Thanks to the Amulsar campaign there is a rising community of eco-conscious Armenians. Also I see in the birdwatching community many more people are against poaching. But it is not enough, environmental problems are everywhere and very

disappointing for me is the lack of will in the new Ministry of Environment to change that. For example the water management problems or the transforming of grasslands into arable land. When we talk about politics and environment a problem I see is the blind believe in Pashinyan among great part of the society. This doesn't allow to have an objective view of the situation and also stops people from doing things ("Pashinyan will solve our problems").

A.V. -Do you see a political patronage in mining sector in Armenia and specifically with regard to Amulsar project?

A.R.- Yes, for sure. Much more in the previous government, but also now. And also there is a lack of experience in the current government - so they are afraid to stop Amulsar.

Gudrun Franken: Armenia is rank 60 out of 180 countries evaluated for the total value of mine production.

Interview with Dr. Gudrun Franken, Head of unit Mining and Sustainability, FB 1.2 Geology of Mineral Resources, Federal Institute for Geosciences and Natural Resources (BGR), 152 Hannover, Germany 02.04.2020

A.V. -Are there geographical peculiarities for exploiting gold and copper mines? (because I've heard many times from international experts, that for such a small country like Armenia, the mine exploitations in such scales is an abundance).

G.F. - Geologically the location of Armenia has a favourable position in the region with respect to mineral deposits. Located at the edge of the Eurasian plate the region was (and is) subject to plate tectonics and can be compared to other resource-rich regions e.g. in South America, where also copper-rich porphyries associated with molybdenum can be found. The geology is very diverse as a result of several phases of collision and extension of the land mass, which enabled e.g. the formation of polymetallic deposits from former

¹⁵² Federal Institute for Geosciences and Natural Resources (BGR)

https://www.bgr.bund.de/EN/Home/homepage_node_en.html

oceanic crust. These deposits are often rich in copper, lead, zinc and gold.

In relation to the size of the country the value of mine production in Armenia is quite high and comparable to other countries with similar geological setting such as Chile and Peru. In comparison however, mining projects in Armenia are rather of medium size or small. For copper, mine production of the largest mine in Chile for example is 500.000 t/a, whereas the largest mine Kajaran in Armenia has about medium size with around 40.000 t/a of production. Armenia is rank 60 out of 180 countries evaluated for the total value of mine production. Armenian copper production (with copper being 2/3 of Armenias mine production by value) was around 0.7% of the world copper production in 2017.

(The whole interview with Dr. Franken see at the “Expert views” section of the Chapter 3).

1.9. Conclusions

1.9.1. Amulsar mining endangers environmental safety in Armenia

Amulsar gold mine development project violates Armenian legislation and international environmental agreements, specifically, 14 laws of the Republic of Armenia and 9 international conventions.

“Lydian International” has submitted incomplete documents, on the basis of which the expertise results cannot be complete. The investigation commissioned by the Investigative Committee of RA found out that there are many shortcomings, omissions in the documents of the mining company, incomplete data or no data at all. From the scientific point of view the use of unacceptable and incomplete methods of hazard assessment are met. It is unrealistic to come to the right conclusion through the wrong methodology. And since the studies are not complete, it is not possible to conclude that the risks are fully manageable.

This study increases our conviction that no metal mine in Amulsar region can be exploited. Continuation of activities in Amulsar can cause irreparable damage to the natural environment and threaten the ecological and state security of the Republic of Armenia.

As a result of the operating of the mine, the lands, waters and atmospheric air of the surrounding villages and Jermuk city will be polluted. The company or the state is not responsible for the damage suffered by the residents of Jermuk and the economic entities operating in Jermuk. These damages have not been assessed in the Amulsar project and have not been discussed with the residents of Jermuk.

Given the real and well-grounded socio-economic interests of the civil/national groups involved in the Amulsar movement, the level of awareness of people's rights to life and health and the public interest priority, we are confident that the Amulsar movement cannot be extinguished or neutralized, even if the new government does not show the political will to defend the public interest priority and fails to find a political and legal mechanisms to solve the problem.

Taking into account also the configuration and level of interest of the domestic and foreign political forces affiliated with the Amulsar movement, real risks of guiding the people’s potential of the Amulsar movement to different sides, we believe that the incapability of the new government to resolve the issue is fraught with the disruption of confidence and collaborative ties between the civilian/grassroots forces and the new ruling force, with explosive domestic tensions and, eventually, with the real dangers of disrupting the realization of the revolution goals . The Amulsar issue, that has nourished and revived from the revolution has two conflict sides: on one side there are local communities and civic/grassroots groups, on the other side is the Lydian mining company.

In this conflict, all political forces, especially the new government and the ruling force , are imposed to stand on one of these two positions.

2. “Teghut” copper and molybdenum mine exploitation issues

2.1. History

Teghut Mine is a closed copper and molybdenum open-pit mine in Armenia's northern province of Lori in the village of Teghut with deposits valued at \$15.5 billion USD . (*See: Emil Danielyan, New*

Armenian Mining Giant Inaugurated, *Azattyun*, Dec. 2014).¹⁵³

Open-pit mining operations there began in 2014. The exploitation of the Teghut mine is the largest in the history of independent Armenia with its volume.

Teghut and its neighboring village, Shnogh, have a combined population of approximately 3600 people and the villagers have traditionally been farmers and cultivators of forest products. The Teghut forest is adjacent to these villages and represents one of Armenia's few remaining preserved forest areas. (See: *"Teghut mine in Armenia –an Ecological and Human Rights Disaster, Armenian Environmental Network"*)¹⁵⁴.

Community residents formally demanded from Ministry of Nature Protection to cancel mine expansion project.¹⁵⁵ By the end of January 2018 reports were published that tailing dam of got cracks and unprocessed mine waste leaks into Shongh river which became visibly polluted.¹⁵⁶ However, minister for nature protection maintains there measurements could not determine any river pollution.¹⁵⁷

From the earliest days of the introduction of the Teghut mining project, professionals and ecologists have been warning that this mine should not be permitted whatsoever. Each and every state official who approved the mining permissions is well aware of the fact that they have authorized an ecological crime. Numerous evidences of environmental pollution and destruction have been documented during the past 4-5 years, which confirms the worst predictions of ecologists – destruction of hundreds of hectares of centuries-old virgin forest, failure of the project to plant trees on another location as a

compensation, pollution of Shnogh River with heavy and dangerous metals (See: *Seyran Minasyan's research "The impact of the Teghut mine on the water quality of the Shnogh River"*, March, 2016)¹⁵⁸, continuous leaks from the improperly designed tailing into the environment, etc. Recently, the uncontrolled release of polluted waters directly into Debed River worsened the situation. (see: *Armenian Environmental Front (AEF) civil initiative "What is going on at Teghut Mine"*, January, 2018).¹⁵⁹

2.2. Mine financing and ownership

In 2001, the Government of Armenia granted a license for exploitation of the Teghut mine to extract copper and molybdenum to the Armenian Copper Programme(ACP) Closed Joint Stock Company, a subsidiary of Vallex F.M. Establishment registered in Lichtenstein. In 2004, in connection with changes in legislation, the ACP license was renewed with a term until 2025. (See: *Armenian Environmental Network" Teghut mine in Armenia –an Ecological and Human Rights Disaster"*)¹⁶⁰.

In 2014, Vallex, which was run and at least partly owned by Russian-Armenian businessman Valeri Mejlumyan, claimed to have already invested almost \$340 million in Teghut. It has borrowed the bulk of that money from VTB, a leading Russian bank. In 2013, the company also attracted \$62 million in funding from a Danish pension fund which was due to be partly or fully channeled into purchases of metallurgical equipment¹⁶¹.

In 2017 Danish state agency has decided to withdraw already issued export credit guarantees to mine operators accusing its private owner of failing

¹⁵³ *Emil Danielyan, New Armenian Mining Giant Inaugurated*, *Azattyun*, Dec. 2014

<https://www.azattyun.am/a/26757299.html>

¹⁵⁴ *Teghut mine in Armenia –an Ecological and Human Rights Disaster, Armenian Environmental Network*

<https://static1.squarespace.com/static/59d3d807cd0f6860fbd3a8fb/t/59e8ce2ba803bb8c149d23e5/1508429356498/General-Teghut-Factsheet.pdf>

¹⁵⁵ SHNOGH COMMUNITY RESIDENTS DEMANDING FROM RA NATURE PROTECTION MINISTRY TO WITHDRAW TEGHOUT COPPER AND MOLYBDENUM MINING EXPANSION PROJECT SUBMITTED BY "TEGHOUT" CJSC <http://www.ecolur.org/en/news/mining/shnogh-community-residents-demanding-from-ra-nature-protection-ministry-to-withdraw-teghout-copper-and-molybdenum-mining-expansion-project-submitted-by-teghout-cjisc/9718/>

¹⁵⁶ [HTTP://WWW.ARMECOFRONT.NET/EN/NEWS/WHAT-IS-GOING-ON-AT-TEGHUT-MINE-VIDEO/](http://www.armecofront.net/en/news/what-is-going-on-at-teghut-mine-video/)

¹⁵⁷ <https://armenpress.am/eng/news/921812/ministry-tests-samples-from-debed-shnogh-rivers-no-pollution-recorded.html>

¹⁵⁸ *Seyran Minasyan's research "The impact of the Teghut mine on the water quality of the Shnogh River"*, March, 2016 <http://www.armecofront.net/Irahos/teghuti-hanqavayri-azdecutiuny-snogh-gei-vra/#>

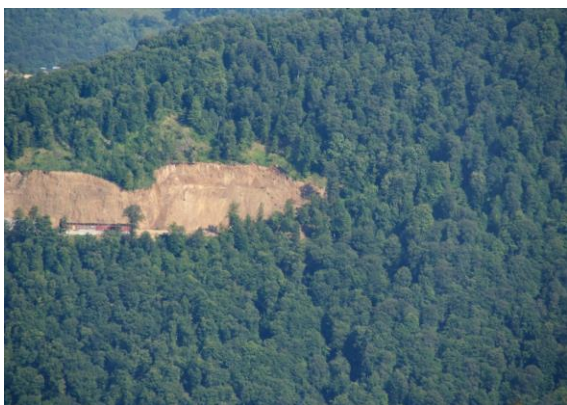
¹⁵⁹ *Armenian Environmental Front (AEF) civil initiative "What is going on at Teghut Mine"*, January, 2018 <http://www.armecofront.net/en/news/what-is-going-on-at-teghut-mine-video/>

¹⁶⁰ *Armenian Environmental Network" Teghut mine in Armenia –an Ecological and Human Rights Disaster* <https://static1.squarespace.com/static/59d3d807cd0f6860fbd3a8fb/t/59e8ce2ba803bb8c149d23e5/1508429356498/General-Teghut-Factsheet.pdf>

¹⁶¹ <https://www.azattyun.am/a/26757299.html>

to comply with international environmental standards¹⁶².

In 2018 February - Vallex Group declared suspension of all operations. Mine operator issued a statement declaring it will suspend all operations and lay off all workers except for few responsible for preservation of existing infrastructure¹⁶³. The statement disseminated by "Vallex" Group says: "The opinions of the involved organizations prescribe that the further operation of Teghout ore dressing combine, without increase in the level of the stability of the tailing dump dam and ensuring seismic and static safety, will pose a real hazard of the self-collapse of the dam. Consequently, urgent measures shall be taken to ensure the stability of the tailing dump dam, as well as seismic and static safety"¹⁶⁴. "Vallex" even planned to build a new tailing dump to operate the mine. However, Teghut CJSC, the second largest copper and molybdenum mine in Armenia, was transferred to Russia's VTB Bank due to its inability to repay the \$ 380 million loan. After the mine is reopened the former owner of the company "Vallex" group warned about the risk of collapse of the tailings dam and possible victims. ¹⁶⁵However, the work of the mine and the enrichment plant continued.



¹⁶² DENMARK WITHDRAWS FUNDING FOR ARMENIAN MINING PROJECT

[HTTPS://WWW.AZATUTYUN.AM/A/28817980.HTML](https://www.azatutyun.am/a/28817980.html)

¹⁶³ ARMENIAN MINING GIANT VALLEX GROUP ANNOUNCES MASS LAYOFFS

<https://steelquru.com/mining/armenian-mining-giant-vallex-group-announces-mass-layoffs/501645>

¹⁶⁴ <http://www.ecolur.org/en/news/teghout/vallex-group-declared-about-collapse-risk-of-teghout-tailing-dump/11356/>

¹⁶⁵ "VALLEX" GROUP DECLARED ABOUT COLLAPSE RISK OF TEGHOUT TAILING DUMP

<https://www.ecolur.org/en/news/teghout/--/11356/>

Photo 6. Teghut Copper-Molybdenum Mine in Armenia's northern Lori province



Photo 7. Construction of the Teghut mine

2.3. Dangers and consequences

Various active people and groups have been articulating about the violations and ecological problems in the Teghut mine for years. Applications have been written to various Danish human rights organizations, and support has been provided to investigative journalists in Armenia. Hereby we would like to identify the main hazards and risk that the Teghut mine project implies:

- . Teghut tailing dump safety issue
- . Destruction of forest area
- . Species loss
- . Water pollution
- . A high seismic risk

Now let us examine each case separately.

2.3.1. Teghut tailing dump safety issue

The tailing dumps and landfills are located at the end of the technological processing and valorization process of useful minerals from the ore, and their main function is the permanent storage and disposal of tailings and water. Since these facilities do not bring a direct income to the company, they are generally viewed as an expense only, often not being given enough attention, which leads that almost all domestic tailing dumps in their operational work encountering minor or major problems. The tailing dumps and landfills represent the large and important mining and industrial facilities, altitudes often over 100 m, filled with tailings and water and

always present a high risk to the environment. (*See: Tailing dumps and Landfills, Mining and Metallurgy*)¹⁶⁶.

The Teghut mine in Armenia comprises a highly toxic tailing dump along the Debed River. The issue of Teghut tailing dump security requires thorough scrutiny by the responsible state structures. The new administration of Teghout CJSC, operating the Teghut copper-molybdenum mine, insists that the tailing dump is safe and now is operating that tailing dump. (*See: "Clarification of "Teghout" CJSC on the reopening of the mine and the stability of the tailing dump" August, 2019*)¹⁶⁷

The Government of the Republic of Armenia, represented by RA Ministry of Environment and Nature Protection and Mining Inspection, ignores the fact that Teghout mine date expired 5 years ago and that the application by Teghout CJSC was returned in 2016 by Environmental Expertise Center SNCO.

Meanwhile, former company owner Vallex Group and international organizations are warning about the risk of tailing dump collapse and possible casualties.

The International Council of Miners and Minerals (ICMM), whose mission is to ensure safety, fairness and stability in the mining industry, sent a letter¹⁶⁸ on July 10, 2019 to RA Government members: Minister of Nature Protection Erik Grigoryan, Deputy Minister of Energy Infrastructure and Natural Resources Hakob Vardanyan, Deputy Minister of Energy and Natural Resources Vardan Gevorgyan which says:

“Mining engineering services provider Global Resource Engineering (GRE), registered in Denver, Colorado, USA, contacted ICMM and reported that Teghut tailing dump in Armenia is in an extremely dangerous condition: it faces the imminent danger of collapse that could result in human casualties. This is supported by geotechnical and other surveys conducted by GRE in 2017-2018. Their findings were later confirmed as a result of an independent technical review of the data in 2018. The extremely

dangerous situation is the result of a combination of inadequate design and construction, misuse and inadequate management.”

Australia's ATC Williams expert company has also documented the volatility of Teghut tailing dam, which considered the tailing dam as "extremely dangerous" in 2018. It should be reminded that Vallex Group suspended the operation of Teghut tailing dump based on the results of the abovementioned companies. The logic of the new administration of Teghout CJSC is that there is no leakage from the tailing dump because the volumes do not exceed. (*See: Ecolur, Who To Believe to In Case of Teghout Tailing Dump Safety? December, 2019*)¹⁶⁹.

President of the Green Union of Armenia, **Hakob Sanasaryan**, while talking on the current situation with the Teghut tailing dump, states that the wall of the Teghut tailing dump is built incorrectly. “They cut down the forest, and now the tail poures on the cut trees and vegetation, "swallows"... that is, zero isolation. A dam was to be erected in the middle of the valley, but it was placed at the end, not far from Shnogh. The height of the tailing dump should be more than 260 meters. Currently, the tailings are being poured into the Shnogh River, which is a tributary of the Debed. There were eight types of fish in Shnogh, now there are none, there are not even insects and frogs, the gardens of the people of Shnogh have dried up after irrigating with that water”. (*See the whole interview with H. Sanasaryan at the Interviews section of this chapter*).



Photo 8. Teghut mine tailing dump

¹⁶⁶ *Tailing dumps and Landfills, Mining and Metallurgy*
<https://irmbor.co.rs/en/services/engineering/tailing-dumps-landfills/>

¹⁶⁷ *Clarification of "Teghout" CJSC on the reopening of the mine and the stability of the tailing dump" August, 2019*
<https://hetq.am/hy/article/106088>

¹⁶⁸ *TEGHOUT TAILING DUMP SAFETY ISSUE NOT ENVIRONMENTAL ISSUE?, ECOLUR, JAN. 2020*
[HTTPS://WWW.ECOLUR.ORG/EN/NEWS/MINING/-/11950/](https://www.ecolur.org/en/news/mining/-/11950/)

¹⁶⁹ *Ecolur, Who To Believe to In Case of Teghout Tailing Dump Safety? December 16, 2019*
<https://www.ecolur.org/en/news/teghout/-/11903/>



Photo 9. Dust emissions from the Teghut mine tailing dump

2.3.2. Destruction of forest area

According to the World Bank report, issued in April, 2016, Armenia is in danger of losing all of its forests in the next 20-30 years. Forests in Armenia have shrunk from 20% to 7% in the previous twenty years. (See: *Armenia: Strategic Mineral Sector Sustainability Assessment* , World Bank, April, 2016).¹⁷⁰

Pre-project reports indicated that open-pit mining at Teghut will lead to the destruction of 357 hectares of rich forest, including 128,000 trees.¹⁷¹ Vallex Group has pledged to offset this damage by planting twice as many trees in adjacent areas and thus creating a new and bigger forest.

More than 200 hectares of forest have been cut down so far for the exploitation of the Teghut mine. Two different institutions, Hayantar SNCO and Vallex Group, which operates the Teghut mine, said this in response to various journalistic inquiries. Prior to the commissioning of the mine, for example, in the early 2000s, the natural loss of forest in this area was up to 1 hectare. Satellite observations have recorded a significant increase year after year since the start of the cutting the trees for the Teghut mine exploitation. Global Forest Watch map shows that before 2014 193 hectares of forest have already been cut down in the territory of Teghut mine.

Now let's talk about forest restoration.

According to the miner, as of January 31, 2017, the total reforested area was about 490 hectares. There

¹⁷⁰ "Armenia: Strategic Mineral Sector Sustainability Assessment" , World Bank, April, 2016
<http://documents.worldbank.org/curated/en/289051468186845846/pdf/106237-WP-P155900-PUBLIC.pdf>

¹⁷¹ <http://www.armeniapedia.org/wiki/Mining>

were problems with the preservation of seedlings in the 17-hectare forested area, around which the forestry organization has started a lawsuit that is still pending. According to "Vallex", the preservation of forest crops in 2016 was average 62%. The Ministry of Nature Protection does not even possess this information. Former Minister of Nature Protection Artsvik Minasyan does not deny that a negative performance was observed and it is obvious. (See all details mentioned above in the journalistic investigation of *Hetq.am* "Where has the 30-hectare Teghut forest disappeared?", February, 2017)¹⁷².

2.3.3. Species loss

Species loss is the inevitable result of water pollution and habitat destruction.

As one of Teghut's last remaining ancient forests, it is the home to a wide variety of plant and animal species. According to the abstract, there are 200 species of plants, 55 species of mammals, 86 species of birds, 10 species of vermigrades and 4 species of amphibians. The Red Book of Armenia, a listing of all endangered plant and animal species, includes 6 endangered plant and 29 endangered animals species found in Teghut.

The allocated land for the Teghut mining operation is 3,684 acres-82% (or 3,044 acres) of which is covered with forests. Teghut forest is home to 6 species of flora and 29 species of fauna listed as endangered in the Red Book of Armenia. The project plans clear-cutting nearly 900 acres of old growth, virgin forest. As a result of resource extraction, one of the forested mountains will be replaced by a 600-meter deep pit.

According to **Eleonora Gabrielyan**, president of the Armenian Botanical Society and doctor of biological sciences, Teghut is home to Armenian Red Book species such as the walnut, Trautvetter's maple, and the Caucasian Persimmon, of the ebony family.

The Teghut forest is also home to animal species listed in the Red Book. "The rock eagle and snake eagle can be found here and both are listed as endangered species in the Armenian and International Red Books. There are also certain small bird species which are listed in the Armenian Red Book," said **Martin Adamyanyan**, doctor of biological sciences and director of the Biological

¹⁷² "Where has the 30-hectare Teghut forest disappeared?", *Hetq*, February, 2017 <https://hetq.am/hy/article/75577>

Museum at the National Academy of Sciences Institute of Biology. (See: Kirk Wallace "Teghut , The Dangers" April 5, 2012)¹⁷³ .

2.3.4. Water pollution

In addition to the destruction of the centuries-old forest ecosystem, the exploitation of the Teghut mine has caused other serious negative consequences, one of which is the severe deterioration of the water quality of the rivers flowing in the areas adjacent to the mine. The vivid evidence of it is presented by **Seyran Minasyan**, a researcher at the Institute of Chemical Physics of the National Academy of Sciences of the Republic of Armenia. (See: *Effect of Teghut Mine of Quality of Shnogh River: Seyran Minasyan's Research, 2015*)¹⁷⁴.

According to this research the quality of the river water is steadily deteriorating in parallel with the mining activity for 2009-2015. As compared with 2009, the average concentrations of these elements (Mn, Ni, Cu, Zn, As, Se, Mo, Pb) have increased according to the hydrological seasons. The pressure of Teghut mine on the quality of the river water and ecosystem has wide-scale nature. Shnogh was a wonderful mountain river, which had clean, very high quality water, while now we have water of the 5th degree of pollution there. (See the whole interview with Seyran Minasyan in the "Interviews" section of this Chapter).

The Shnogh River is also classified as risk water body according to the EU Water Framework Directive.

Exploitation of the mine produces about 500 million tons of tailings and 600 million tons of various other wastes. Dumping tails is disposed in the gorge of Duqanadzor River. Tailings containing lead, arsenic, zinc, sulfurous compounds and much more dumped into the Shnogh and the Debed rivers, making them unfit for drinking, irrigation or plant and animal life. The Debed River flows into Georgia therefore water pollution from mining activities would also be a transnational problem. (See: *Armenian Environmental Network, Teghut Mine in*

Armenia –an ecological and human rights disaster , 2012)¹⁷⁵ .



Photo 10. Pollution of Shnogh River with permanent effluent from Teghut tailing dump

2.3.5. A high seismic risk

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.) This possess a risk of failure of the enormous tailing reservoir, in which case the entire region will be affected, including the valley of Debed River that crosses into the neighboring Republic of Georgia. (See: *Urgent appeal to UN High Commissioner for Human Rights on about the issue of Teghut copper-molybdenum mining project , July 2012*)¹⁷⁶.

According to the results of the research provided by the British "In Situ Site Investigation Services", the American "Global Resource Engineering", the Austrian "ATC Williams" and the Russian "Механообр инженеринг" companies the reopening of the Teghut copper-molybdenum mine

¹⁷³ Kirk Wallace "Teghut , The Dangers" April, 2012
<https://www.armenia-environment.org/blog/2017/11/10/teghut-iii-the-dangers>

¹⁷⁴ *Effect of Teghut Mine of Quality of Shnogh River: Seyran Minasyan's Research, 2015*
<http://www.armecofront.net/rahos/teghuti-hangavayri-azdecutiuny-snogh-geti-vra/#>

¹⁷⁵ Armenian Environmental Network, Teghut Mine in Armenia – an ecological and human rights disaster , 2012)
<https://static1.squarespace.com/static/59d3d807cd0f6860fb-d3a8fb/t/59e8ce2ba803bb8c149d23e5/1508429356498/General-Teghut-Factsheet.pdf>

¹⁷⁶ *Urgent appeal to UN High Commissioner for Human Rights on about the issue of Teghut copper-molybdenum mining project , July 2012* <http://ecoright.am/wp-content/uploads/2018/02/Teghut-Armenia-Appeal-UN-HRC.pdf>

in the body of the tailing dam which contains static and seismic risks will inevitably increase the risk of rising water levels and dehydration, creating a real risk of tailing dam self-destruction. (See: *Andranik Aleksanyan "Has the danger of the Teghut tailing dump been determined by eye?" July 12, 2019*)¹⁷⁷.

In other words, international companies have warned that the mine's tailing dam could simply collapse, flooding the environment and settlements with toxic tailing dam.

In the last year and a half, no work has been done to neutralize the above-mentioned dangers.

2.4. Legal Background

2.4.1. Violation of National Laws of the Republic of Armenia

The decisions related to Teghut mining violate provisions of the RA Constitution and a number of national laws, including:¹⁷⁸

- . RA Law on Environmental Impact Assessment and Expertise (EIA) [Articles 5, 11 & 14]¹⁷⁹
- . RA Law on Seismic Protection (Article 12)¹⁸⁰
- . RA Government Resolution 237-N of March 13, 2003¹⁸¹
- . RA Land Code [Article 48]¹⁸²
- . RA Constitution [Articles 10, 31, 48, 33.2]¹⁸³
- . RA Law on Flora [Article 17]¹⁸⁴
- . RA Law on Fauna [Article 18]¹⁸⁵

¹⁷⁷ *Andranik Aleksanyan "Has the danger of the Teghut tailing dump been determined by eye?" July 12, 2019*

<https://www.politica.am/?p=29871>

¹⁷⁸ [http://ecoright.am/wp-](http://ecoright.am/wp-content/uploads/2018/02/Teghut_Armenia_Appeal_UN_HRC.pdf)

[content/uploads/2018/02/Teghut_Armenia_Appeal_UN_HRC.pdf](http://ecoright.am/wp-content/uploads/2018/02/Teghut_Armenia_Appeal_UN_HRC.pdf)

¹⁷⁹ RA Law on Environmental Impact Assessment and Expertise (EIA) <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC179251/>

¹⁸⁰ RA Law on Seismic Protection

<http://www.parliament.am/legislation.php?sel=show&ID=1316&language=eng#5>

¹⁸¹ RA Government Resolution 237-N of March 13, 2003 on establishment of the list of critical, important and general purposes facilities in the field of seismic protection

http://www.nssp-gov.am/Pdf/Resolution_list.pdf

¹⁸² RA Land Code:

<https://www.arlis.am/DocumentView.aspx?docid=74667>

¹⁸³ RA Constitution <https://www.president.am/en/constitution-2005/>

¹⁸⁴ RA Law on Flora <https://cis-legislation.com/document.fwx?rgn=7449>

¹⁸⁵ RA Law on Fauna <https://cis-legislation.com/document.fwx?rgn=7454>

. RA Law on Administration Principles and Administrative Proceeding [Article 62]¹⁸⁶

. RA Water Code¹⁸⁷

. RA Code about Subsoil¹⁸⁸

Article 5 of the **Environmental Impact Assessment and Expertise (EIA) Law** of the Republic of Armenia reads:¹⁸⁹ "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 emergency situations." Moreover, based on Article 12 of the RA law "On Seismic Protection"¹⁹⁰ and RA Government Resolution 237-N of March 13, 2003¹⁹¹, an expertise of seismic risks would be 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. The project only states the fact that the mine is located in an extremely active seismic zone, while the issue of seismic risks as a result of explosions or exploitation of the mine has not been subject to expertise. (See: *Urgent appeal to UN High Commissioner for Human Rights on about the issue of Teghut copper-molybdenum mining project*, July 2012)¹⁹².

According to the Article 11 of the EIA Law, historical and cultural monuments and other cultural assets are under the care and protection of the state. According to Article 5 of the EIA Law of Armenia: "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." Decision-making on

¹⁸⁶ RA Law on Administration Principles and Administrative Proceeding

<https://www.arlis.am/DocumentView.aspx?DocID=75264>

¹⁸⁷ RA Water Code

<http://extwprlegs1.fao.org/docs/pdf/arm34344.pdf>

¹⁸⁸ RA Code about Subsoil

<http://extwprlegs1.fao.org/docs/pdf/arm185554.pdf>

¹⁸⁹ RA Law on Environmental Impact Assessment and Expertise (EIA)

<http://www.fao.org/faolex/results/details/en/c/LEX-FAOC179251/>

¹⁹⁰ RA Law on Seismic Protection

<http://www.parliament.am/legislation.php?sel=show&ID=1316&language=eng#5>

¹⁹¹ RA Government Resolution 237-N of March 13, 2003 on

establishment of the list of critical, important and general

purposes facilities in the field of seismic protection

http://www.nssp-gov.am/Pdf/Resolution_list.pdf

¹⁹² Urgent appeal to UN High Commissioner for Human Rights on about the issue of Teghut copper-molybdenum mining project

, July 2012 http://ecoright.am/wp-content/uploads/2018/02/Teghut_Armenia_Appeal_UN_HRC.pdf

exploitation of copper-molybdenum reservoir did not take into account availability of cultural monuments.

The area allocated for mining is home to about 20 historical and cultural sites. Since 2009, on the territory of around 1500 hectares archeologists discovered artifacts as old as 5000 years and remnants of early Bronze Age settlements. Excavation efforts and new discoveries are still in progress. A number of valuable historical monuments and artifacts are to be destroyed and lost as a consequence of mining in Teghut. This violated Armenia's EIA Law, as well as the Aarhus Convention¹⁹³ on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, ratified by Armenia in 2001. (See: *“Urgent appeal of Save Teghut Civic Initiative on the Issue of Teghut copper-molybdenum mining project”*, pdf).

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. (See: *Suren Hobosyan “Teghut 2009-2010 Preliminary results of archeological excavations”, Historical-Philological Journal (2). pp. 199-211.*)¹⁹⁴.

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.

In addition to the above mentioned violations, the property rights of community and individuals were also violated in the process of decision-making of allocation of lands to ACP. Based on the **RA Government decision 1278-N of 01.11.2007**¹⁹⁵, the Government of Armenia allocated 1,491 ha for exploitation of the mine to ACP. Part of these lands

were owned by private citizens and were taken away through eminent domain according to **RA Government Decision 1279-N of 01.11.2007**¹⁹⁶. The villagers received miserable compensation—about 10-20 cents per square meter of land—paid by ACP for their fertile lands and crops. Some villagers lost their property, while others' property will be largely affected by and eventually degraded through contamination caused by mining. Currently, there are 10 pending cases brought by residents of Shnogh and Teghut communities to the European Court of Human Rights complaining against violation of their right to property (Parsadanyans case N 5444/10; Mashinyans N 65124/09; Davit Ghumashyan N67888/10; Harutyunyans N 65200/09; Mher Alikhanyan N 4413/10; Ramazyans N 54769/10; Levon Alikhanyan N 6818/10; Osmanyans N 71306/11; Vardanyans N 4178/10; Alikhanyan and Meliksetyan N 4168/10). (See: *Urgent appeal to UN High Commissioner for Human Rights about the issue of Teghut copper-molybdenum mining project*, July 2012).

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 List of Threatened Species. Two species out of 260 beetles and butterflies existing in the region are in the The International Union for Conservation of Nature (IUCN) Red List of Threatened Species. One out of 10 species of reptiles is also registered in the International Red List of Threatened Species, two of them are registered in the respective Armenian Red List, and seven out of 86 species of birds and another seven out of 55 species of mammals are included in the Armenian Red List of Threatened Species of IUCN.

Thus, the mining industry in Teghut infringes directly on the imperative requirements of the 3-rd point of Article 17 of the **RA Law on Flora**¹⁹⁷ and the 3-rd point of Article 18 of the **RA Law on Fauna**¹⁹⁸. The RA Ministry of Nature Protection

¹⁹³ *The Aarhus Convention*

<https://aarhus.osce.org/about/aarhus-convention>

¹⁹⁴ Suren Hobosyan “Teghut 2009-2010 Preliminary results of archeological excavations” <http://hpi.asj-qa.am/5691/>

¹⁹⁵ *RA Government decision 1278-N of 01.11.2007 on Changing the Status of Lands and on Provision of Lands for Operation of the Teghut Copper-Molybdenum Mine.* <https://www.arlis.am/DocumentView.aspx?docid=40265>

¹⁹⁶ *RA Government Decision 1279-N of 01.11.2007*

<http://www.irtek.am/views/act.aspx?aid=41486>

¹⁹⁷ *RA Law on Flora* <https://cis-legislation.com/document.fwx?rgn=7449>

¹⁹⁸ *RA Law on Fauna* <https://cis-legislation.com/document.fwx?rgn=7454>

had a legal duty to invalidate the EIA under the standards of the RA EIA law.

Violations of RA Constitution¹⁹⁹

According to **Article 33.2** 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 out the expertise on the impact on the environment, the impact of the planned activity on a person's health was not studied, assessed and subjected to expert review.

According to **Article 10** of the RA Constitution, the state shall ensure the protection and reproduction of the environment and the reasonable utilization of natural resources. Contrary to this statement of the Constitution, the Government of Armenia failed to consider any alternative economic activity to mining in Teghut (which is also a requirement of law).

According to **Article 31** of the RA Constitution the right to property shall not be exercised to cause damage to the environment or infringe on the rights and lawful interests of other persons, the society and the state. The property rights of community and individuals were violated in the process of providing mining license. As mentioned earlier, many private land owners are now contesting the actions of the Government in the European Court of Human Rights.

According to **48 article** of the RA Constitution, the basic tasks of the state in the economic, social and cultural spheres include“(10) to pursue the environmental security policy for present and future generations.”According to expert analyses (see footnote 1), the economic costs to the environment were underestimated and presented to be about 300 times lower than they would be in case estimated in accordance with national legal standards.

2.4.2. Violation of International conventions

In the opinion of experts, operation of the Teghut mine is in breach of the principles of the numerous international conventions ratified by the Republic of Armenia.

¹⁹⁹ RA Constitution <https://www.president.am/en/constitution-2005/>

According to Article 6 of the Armenian Constitution, all international treaties ratified by the Armenian Parliament, are part of the national legal system and in case they contradict with national legal norms, those of international treaties shall prevail.²⁰⁰

International agreements which have been violated by Teghut mine project include, but are not limited to:

- . Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)²⁰¹
- . UN Framework Convention on Climate Change²⁰²
- . UN Convention on Biodiversity²⁰³
- . UN Convention on Combating Desertification²⁰⁴
- . UN Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)²⁰⁵
- . UNESCO World Heritage Convention²⁰⁶
- . European Landscape Convention²⁰⁷
- . UN Convention on Access to Information²⁰⁸

Violation of Aarhus Convention

By approval of Teghut mining project the Government of Armenia violated the Aarhus Convention.²⁰⁹ The Compliance Committee found that Armenia failed to inform the public in advance or in a timely manner for the purpose of environmental decision making, as required by the Convention. Moreover, presently Ecodar Armenian NGO is contesting in the Aarhus Convention Compliance Committee Armenia's failure to ensure

²⁰⁰ RA Constitution <https://www.president.am/en/constitution-2005/>

²⁰¹ The Aarhus Convention <https://aarhus.osce.org/about/aarhus-convention>

²⁰² UN Framework Convention on Climate Change <https://unfccc.int/resource/docs/convkp/conveng.pdf>

²⁰³ UN Convention on Biodiversity <https://www.cbd.int/convention/text/>

²⁰⁴ UN Convention on Combating Desertification https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mt_dsg_no=XXVII-10&chapter=27&clang=en

²⁰⁵ Environmental Impact Assessment Convention (“Espoo Convention”) https://treaties.un.org/doc/Treaties/1991/02/19910225%2008-29%20PM/Ch_XXVII_04p.pdf

²⁰⁶ UNESCO World Heritage Convention <https://whc.unesco.org/en/conventiontext/>

²⁰⁷ European Landscape Convention <https://rm.coe.int/1680080621>

²⁰⁸ UN Convention on Access to Information <http://www.unece.org/index.php?id=25695>

²⁰⁹ The Aarhus Convention <https://aarhus.osce.org/about/aarhus-convention>

public's access to justice in environmental decision-making, which is one of the major requirements of the Convention. (See: *Case Law of the Aarhus Convention Compliance Committee, 2004-2014*)²¹⁰.

According to findings and recommendations of the Compliance Committee of the Aarhus Convention with regard to communication ACCC/C/2009/43 concerning compliance by Armenia in respect with decision-making on Teghut mining, "...the Party concerned failed to inform the public early in the environmental decision-making process and in a timely manner, as required by article 6, paragraph 2, of the Convention." In particular, in relation to Article 6, paragraph 4, the Aarhus Convention Compliance Committee states, "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.

The 3rd Meeting of Parties to the Aarhus Convention (Supreme body of the Convention) held on 29 June–1 July 2011 in Chisinau affirmed the decision of the Compliance Committee, which states that the Armenian Government failed to comply with: •Article 3, paragraph 1, of the Convention, which requires to maintain a clear, transparent and consistent framework for implementation of the public participation provisions, and •Article 6, paragraphs 2, 4 and 9, of the Convention, which requires public participation in the decision-making process.

The impact of the planned activity of the Teghut mining extends further across the RA border, which is regulated by the **“Convention on Environmental Impact Assessment in a Transboundary Context (Espoo**

Convention)”.²¹¹ 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 such decisions.

In addition to all above mentioned cases of violations, in January 2012, a written declaration was issued, signed by 44 members of the Council of Europe Parliamentary Assembly ("PACE"), referred to the Teghut mining project as a “man-made ecological disaster” and asserted that the Armenian Government violated its international obligations and Armenian legislation by forcefully taking the lands of the community against their will for mining purposes. (See: “Condemnation of the man-made ecological disaster project of Teghut” PACE Written declaration No. 503, 25 January, 2012)²¹².

2.5. The Environmental Impact Assessment (EIA) Report Analysis of the Teghut copper-molybdenum mine project

Let us first to be mentioned, that according to Armenian law, any company wishing to erect structures or alter the natural landscape must first conduct an environmental impact assessment, or EIA.²¹³

An EIA essentially requires the developer to determine the possible environmental impacts of construction and to provide solutions and cost analyses for mitigating these impacts. The developer is also required to forecast long term damages to flora, fauna, water sources and so on.

The Environmental Impact Assessment (EIA) of the Teghut copper-molybdenum mine project was

²¹⁰ CASE LAW OF THE AARHUS CONVENTION COMPLIANCE COMMITTEE, 2004-2014

https://www.unece.org/fileadmin/DAM/env/pp/compliance/CC_Publication/ACCC_Case_Law_3rd_edition_eng.pdf

²¹¹ *Environmental Impact Assessment Convention (“Espoo Convention”)*

https://treaties.un.org/doc/Treaties/1991/02/19910225%2008-29%20PM/Ch_XXVII_04p.pdf

²¹² *Condemnation of the man-made ecological disaster project of Teghut” PACE Written declaration No. 503, 25 January 2012*
<http://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?fileid=12928&lang=en>

²¹³ <http://www.irtek.am/views/act.aspx?aid=67114>

conducted in 2004 by Lernametalurgiai Institut CJSC (LMI)²¹⁴, which is owned by Vallex Group²¹⁵. The environmental impact assessment (EIA) of the project, conducted by ACP and approved by the Government of Armenia in 2006, has failed to fully consider the threats and consequences as per numerous experts and professionals. The EIA did not do a serious analysis of the loss of ecosystems 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 based on 1984 prices (in rubles) disregarding the requirements of the national legislation and its respective methodologies for calculation of costs of damage on air, water and soil caused by economic activities. Environmental damage was considered only for the first 8 years of the 50-70 year project. As a result, the costs of mining were underestimated against the benefits and the project was presented to the public as having critical importance to the national economy.

Governmental authorities in charge of the review of the EIA ignored the miscalculations and false data provided by ACP. Risks for trans-boundary impacts and emergency situations as well as adherence to Armenia's international obligations were disregarded completely. The call of NGOs and civil society initiatives (CSI) to arrange for an independent and impartial environmental impact assessment by international experts was rejected by the Armenian government. (*See: Urgent appeal on the Issue of Teghut copper-molybdenum mining project, July 2012*)²¹⁶.

The EIA of Teghut Mine project consists of 149 pages. In order to study it, an ad hoc committee of the National Assembly was set up in 2012, which presented its conclusions on EIA report.²¹⁷

²¹⁴ *The Environmental Impact Assessment (EIA) of the Teghut copper-molybdenum mine project* <http://vallexgroup.am/wp-content/uploads/2019/03/Teghut-2017-full.pdf>

²¹⁵ <http://teghut-old.vallexgroup.am/en/Sustainable-Development-Environmental-Impact-Assessment>

²¹⁶ *Urgent appeal on the Issue of Teghut copper-molybdenum mining project, July 2012*

http://ecoright.am/wp-content/uploads/2018/02/Teghut_Armenia_Appeal_UN_HRC.pdf

²¹⁷ *The decision of the RA National Assembly to establish an ad hoc commission to conduct a study on the legality of the Teghut copper-molybdenum mine operation permit, 27.11.2012-S2-011/0*

<http://www.parliament.am/drafts.php?sel=showdraft&DraftID=5860&Reading=0&lang=arm&enc=utf8>

According to the committee's conclusion, the Teghut Mine Environmental Impact Assessment (EIA) and the Labor Project were drawn up in violation of Armenian law, and the project is incomplete.

Some of them are listed below:

- . The assessment of the damage to the economy of the Republic of Armenia in the EIA and the Project was made with very reduced calculations. For example, 1 square meter of forest area allocated for tailings is estimated at 22.4 drams (\$ 0.056).

- . 1 square meter of space allocated for an open mine is estimated at 2.8 drams (\$ 0.007) in case that forested area, after exploiting the mine, will become a cavity more than 600 meters deep .

- . According to the EIA text, 127,000 trees will be cut down, while the calculations in the tables of the same document show that there are 170883 trees. 43883 trees to be cut down was concealed, as a result of which no economic damage has been reported in either the EIA or the Project.

- . No economic damage has been estimated for hundreds of thousands of fruit and other shrubs, as well as edible and medicinal plants.

- . The damage caused to the fauna of the areas to be destroyed as a result of mining is presented for only 175 thousand drams (\$ 437), and only for fish caught during one year. and the damage to other animals is neglected.

- . According to the draft, the area allocated for open pit (240 ha), tailing dump (214 ha) and landfills (107.4 ha) is 561.4 hectares. These areas are forested and will be completely cut down. The forested areas allocated for production enterprises, roads and other structures will also be cut. There is also a serious reason to say that, for example, there will be more space under the tailings ponds and landfills than is shown in the Project and the Government's decision.

The positive conclusion by the Government of Armenia in 2006 is disputed by a wide variety of NGOs, scientists and other activists . Wide ranging opposition sprung up as a result of the government findings. For its part, Vallex followed the rules outlined in the laws, holding public hearings and conducting its environmental studies. The issue here is with how the studies were conducted and the conclusions reached. Opponents are quick to point out the numerous erroneous conclusions and shoddy scientific methods employed in conducting

the EIA. (See: **Kirk Wallace**, *Teghut The Field*, February, 2012)²¹⁸.

2.6. Public resistance

The history of efforts by citizens and civil society organizations to get public authorities to perform their governance functions, particularly in the case of Teghut, has a decade-long history.

The story is densely packed with complaints filed with state agencies, lawsuits in courts with some cases ending up in the Republic's Constitutional Court and some in international courts, as well as appeals to international bodies such as the Aarhus Compliance Committee in Geneva. (See: **Hayk Alamyran**, "Analysis of Courts Cases related to Mining and Environmental Issues", Dec. 2016)²¹⁹.

There has been increasing opposition to the Teghut mining operation forming in Armenia as well as in the Armenian Diaspora in the U.S., and particularly in Washington, D.C.; Boston, MA, and in Southern California. Protests and rallies, as well as panels and social media, have been utilized to promote opposition and to garner both local and international support.

Some of these actions resulted in incremental progress but mostly there has been no outcome, with the Teghut mine remaining outside of state (and public) purview. Along with some of the residents of the Teghut and the nearby Shnogh villages, many civil society organizations worked to enable greater openness, accountability, and protection of the rights of citizens and the environment. The civic groups included the Save Teghut Civic Initiative²²⁰, EcoDar NGO²²¹, Ecological Right NGO²²², Helsinki Citizens'

Assembly Vanadzor Office²²³ and Transparency International Anti-Corruption Center²²⁴.

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. Despite these concerns, ACP has been granted all the necessary permits and concurrences by the respective governmental agencies. Since the adoption of the ill-grounded November 2007 decision by the RA Government to launch the project, public opposition has intensified. The Save Teghut Civic Initiative, mobilizing NGOs and concerned individuals, has held numerous demonstrations²²⁵, petition drives²²⁶, rallies²²⁷, public hearings²²⁸ and press conferences²²⁹. Many of these were joined by the members of communities directly affected by the mine. Local residents in their turn organized campaigns to complain against the miserable compensation – about 10-20 cents per square meter of land– paid by ACP for their fertile lands and crops and eventual loss of their lands.

A number of local residents of Teghut and Shnogh villages directly affected by the mine have applied to the European Court of Human Rights to address the loss of their property and inadequate compensation. Those cases are still pending at the time of this appeal. (See: *European Court for Human Rights Started Examining Shnogh and Teghout Villagers' Complaint vs. Armenia*, August, 2014)²³⁰.

2.7. Political impacts

The problem of Teghut, as in case of Amulsar, also remains the most important test for the socio-

²¹⁸ Kirk Wallace, *Teghut The Field*, February, 2012

<https://www.armenia-environment.org/blog/2017/11/10/teghut-the-field>

²¹⁹ Hayk Alamyran, "Analysis of Courts Cases related to Mining and Environmental Issues", Dec. 2016

https://crm.aua.am/files/2019/05/Court_Case_Analysis_Eng.pdf

²²⁰ "SAVE TEGHUT" REDEFINES ENVIRONMENTAL ACTIVISM IN ARMENIA

<https://armenianweekly.com/2012/02/21/save-teghut-redefines-environmental-activism-in-armenia/>

²²¹ CIVIL SOCIETY REPRESENTATIVES SUBMITTED AN APPLICATION TO THE CONSTITUTIONAL COURT

<https://transparency.am/en/news/view/431>

²²² <http://ecoright.am/en/about/>

²²³ <https://hcav.am/en/>

²²⁴ <https://transparency.am/en>

²²⁵ Demonstration in defense of Teghut, May, 2008,

<https://www.azatutyun.am/a/1595108.html>

²²⁶ "SAVE TEGHUT" ACTIVISTS LAUNCH PETITION DRIVE, MAY, 2009 [HTTPS://HETQ.AM/EN/ARTICLE/37090](https://hetq.am/en/article/37090)

²²⁷ Rally without microphones, October, 2010, <https://www.ecolur.org/en/news/teghout/-/1583/>

²²⁸ Public hearing on environmental safety held in OSCE-supported Aarhus Centre in Vanadzor, Dec, 2006

<https://www.osce.org/yerevan/48015>

²²⁹ <https://www.ecolur.org/en/news/quotecolurquot-press-club/---/7485/>

²³⁰ European Court for Human Rights Started Examining Shnogh and Teghout Villagers' Complaint vs. Armenia, August, 2014

<http://www.ecolur.org/en/news/mining/european-court-for-human-rights-started-examining-shnogh-and-teghout-villagers-complaint-vs-armenia/6478/>

economic block of the new Government of Armenia.

It is a challenge, and, in all likelihood, a challenge that, as in the case of Amulsar, simply needs to be turned into an advantage based on public consensus on the new formula proposed by the new Government.

But right here, in this case, for some uncertain reason, the new Government began to omit and move away from its basic principles. Anyone who at least sometimes monitors the state of affairs in the mining industry, including from the point of view of ensuring their environmental safety, today asks why the revolutionary Prime Minister Pashinyan considers non-problematic the implementation of the project, which was suspended in 2017 precisely because of serious environmental challenges that have been confirmed by reputable international experts working in Teghut.

The deplorable situation in Armenia's mining industry after the revolution has come to the attention of the authorities and the public. However, "new rules of the game" have not been established in that sphere since the "Velvet Revolution". Back in June 2018, the newly elected Prime Minister Nikol Pashinyan announced that the government does not intend to close or suspend the operation of the mineral ores, but will follow their activities with all severity.²³¹ The fact that the mines were operated under the former regime in a "barbaric" way has no doubt. Now a scandal is amplifying over the integrity and stability of the Teghut tailing dump. The Armenian government is facing a difficult choice. The "toxic legacy" of the former authorities of Armenia continues to poison the lives of new ones. The rating of the new government, jobs and investments are endangered. The "golden mean" has not been found yet. (*See: "Toxic Heritage" to the government. mining industry is waiting for "rules of the game", Sputnik Armenia, August, 2019*)²³².

²³¹ Speech delivered by Prime Minister Nikol Pashinyan while introducing the Government Program to the National Assembly of the Republic of Armenia

<https://www.primeminister.am/en/statements-and-messages/item/2018/06/07/Nikol-Pashinyan-Speech-National-Assembly/>

²³² Toxic Heritage" to the government. mining industry is waiting for "rules of the game", Sputnik Armenia, August, 2019

<https://armeniasputnik.am/society/20190807/19978064/Toqsik-jarangutyun-ishxanutyan-y-hanqardyunaberutyuny-spasum-e-xaqhi-kanonnerin.html>

According to Pashinyan, "the VTB Bank loaned 380 million dollars to the Teghut mine and Vallex Group not without political interference", and he is affirming that the government will assist in solving this issue as soon as possible.²³³

By taking a look at the fundamental issues regarding mining, steps taken by the new Government toward anti-corruption can seem suspicious at least in this sector. Yes, the same mining sector that was inherited by the former regime. However, not one serious step has been taken to eradicate corruption schemes, or at least curb them. Moreover, today it has become evidently clear that the new Government is continuing to support the illegal permits and extremely flawed, clearly groundless expert conclusions given by the former regime. By not legally assessing exposed violations of the law adequately, the new Government is, in fact, taking on the legal and political responsibility of all future consequences. A testament to this is the efforts to restart the hazardous Teghut Mine without conducting any serious investigation.

The main tool to limit the corrupt behavior of officials responsible for regulating the mining sector is transparency. However, there is no way to find information on who the real owners or other affiliated entities are that might have connections to the current administration and influence their decisions.

Offshore factor

It's interesting to note that all mining companies are more or less linked to free economic zones, also known as offshores. It may seem not a problem because tax control in Armenia extends to companies in all spheres of the economy. However, in reality, tools are employed through offshore networks keeping the identity of those with connections to Armenia's Government (real owners or other shadow beneficiaries) secret and at the same time also supervising the whole mining system in the shadows. Moreover, state bodies do not have the effective tools to bring these shadow players out into the open and hold them legally responsible.

²³³ PM reveals bizarre story surrounding VTB Bank – Vallex Group dispute over copper mine

<https://armenpress.am/eng/news/964094.html>

(See: Artur Grigoryan, "Corruption Risks in Armenia's Mining Sector", August, 2019)²³⁴.

Who has been hidden behind the wings of Teghout? According to the journalistic investigation conducted in early 2014 by the Armenian journalists **Kristine Aghalaryan** and **Edik Baghdasaryan** from Hetq News agency, it turns out that behind the Teghout mine operation project were standing Cypriot, Lichtenstein offshore companies, Russian and Artsakh businesses.

Teghout CJSC was registered in Armenia in 2006. At the time, the Armenian Copper Programme CJSC (ACP, a member of the Vallex Group of companies) was the 100% shareholder of Teghout CJSC. In 2008, Vallex Group signed a UD\$283 million loan contract with VTB Bank in order to operate the Teghout mine. In the 2008 ACP's consolidated financial report it is noted that 100% of the shares of Teghout CJSC, as a signatory to the loan contract with VTB Bank, had been transferred to Teghout Investments Ltd registered in Cyprus. According to the Cypriot State Registry, Teghout Investments²³⁵ has two shareholders – Armenian Copper Programme (50.05%) and Nairi Infrastructure Capital Limited (49.95%). The latter is also registered in Cyprus.

Teghout CJSC is one of the Vallex Group of companies, whose founders and/or shareholders include companies registered offshore. Valeri Mejlumyan is the linchpin that holds them all together. Until 2011, the ACP had two shareholders – 80.7% belonged to Vallex F.M. Establishment (registered in Lichtenstein) and 19.3% was owned by Valeri Mejlumyan. However, Vallex F.M. Establishment plays a pivotal role in this network. It links Mejlumyan's business in Armenia with that in Russia. Vallex also operates in Artsakh. Base Metals CJSC operates the Drmbon copper-gold and Kashen copper-molybdenum mines. The Vallex Garden Hotel is now being built in Stepanakert, the capital of Artsakh. (See: *Kristine Aghalaryan, Edik Baghdasaryan "Teghout's Offshore Labyrinth and*

*Valeri Mejlumyan's Business Empire", Hetq, April, 2014)*²³⁶.

2.8. Interviews

Hakob Sanasaryan. The Teghut tailing dump "swallows" the forest.

Interview with Hakob Sanasaryan, President of the Green Union of Armenia, around the current state of the Teghut tailing dump.

-Mr. Sanasaryan, how would you assess the current state of the Teghut tailing dump?

- The operating company, Vallex, said it would build a tailings pond and another tailings facility, the floor of which will be isolated and the danger from the tailing dump to the environment will be reduced to zero. It is not true. The wall is built incorrectly. They cut down the forest, and now the tail pours on the cut trees and vegetation, "swallows"... that is, zero isolation. A dam was to be erected in the middle of the valley, but it was placed at the end, not far from Shnogh.

The height of the tailing dump should be more than 260 meters.

Currently, the tailings are being poured into the Shnogh River, which is a tributary of the Debed.

"There were eight types of fish in Shnogh, now there are none, there are not even insects and frogs, the gardens of the people of Shnogh have dried up after irrigating with that water.

Seyran Minasyan. The water pollution in Shnogh river reached the 5th degree.

Interview with Seyran Minasyan, Candidate of Chemical Sciences, Senior Researcher, expert at the Institute of Chemical Physics of the National Academy of Sciences of the Republic of Armenia, on the current situation of water pollution in the rivers of Armenia and the impact of the Teghut mine exploitation on them.

Seyran Minasyan has been studying the composition and water quality of Armenia's rivers for a long time.

²³⁴ Artur Grigoryan, "Corruption Risks in Armenia's Mining Sector", August, 2019

<https://www.evnreport.com/opinion/corruption-risks-in-armenia-s-mining-sector>

²³⁵ https://hetq.am/static/content/pdf/teghout_investment_limited.pdf

²³⁶ Kristine Aghalaryan, Edik Baghdasaryan "Teghout's Offshore Labyrinth and Valeri Mejlumyan's Business Empire", Hetq, April, 2014 <https://hetq.am/en/article/54322>

Answering to our question regarding the current state of the rivers of the Republic of Armenia and whether there is a reason to worry, Seyran Minasyan responded:

- Yes, there is a reason for concern and the reason is as follows: 5-6 years ago we had a pretty good picture in terms of water quality in our rivers. The risk zones of contamination were up to 20%. In 2017, 35% of our river basin was polluted. More than 20% of Armenia's rivers already have the 5th (highest, worst) degree of water pollution, which means that the waters of these rivers are no longer suitable for fish farming or irrigation, which is even more dangerous to use for practical purposes. About 15 percent of rivers have 4th degree risk pollution, which means the deterioration of our water is steadily continuing. If we compare with the situation in 2010-2011, then, as of 2017, we already had about 1.5 times more polluted rivers and water zones. This is the overall picture.

- What are the major factors in catastrophic extent of contamination of rivers in Armenia?

- These are mining, communal and everyday uncleaned wastewaters, which freely flow into the rivers, and just littering rivers. The worst thing is that the part of pollution impacted by mining is increasing. The main reason of river pollution is mining, which is the most dangerous, because it is more difficult to neutralize, restore and manage the pollution of the mining industry. If the nature is capable to clean the pollution with communal and domestic wastewater in a relatively short period of time due to its self-clean ability, then pollution from mining can be irreversible, that means it will not be possible to restore the previous, before mining state of river water. It is associated with heavy, toxic metals. Heavy metals remain in the river's ecosystem for a long time, in the bottom sediments, and in that sense, the impact of the mining industry is much more dangerous, but we have a serious problem today due to irresponsible mining and poor water management. The consequences of irresponsible mining in Armenia are reflected especially in the Debed Basin (Akhtala factory, Alaverdi factory, Teghut factory), in Syunik region there are the consequences of the Kajaran, Kapan and Agarak factories. Only this much is enough...

-How would you assess the impact of the Teghut mine exploitation on water?

- For example, in connection with the influence of the Teghut mine on the Shnogh River, we were talking about it when the project was just launching. Since 2009, we have done research there. Until 2012, there was clean, 2nd class, good quality water in the Shnogh estuary. Gradually it started to get worse, In 2015, the pollution reached the 4th degree mainly due to molybdenum, also depending on the hanging particles, In 2016, 2017, there was already water of the 5th degree of pollution with molybdenum and hanging particles. Shnogh was a wonderful mountain river, which had clean, very high quality water, while now we have water of the 5th degree of pollution there. In case of violations, so-called symbolic fines for miners are envisaged, which, to put it mildly, is a disgrace. But the problem cannot be solved only by a fine. When we look at the whole chain of what happened, the picture becomes clear. There was so much struggle for Teghut, we warned about the consequences, but in the end they allowed it and started exploiting it. As I have already said, in 2012 there was clean, good quality water in the Shnogh estuary, in 2014, when the mine was just opened, the water quality began to deteriorate, after the exploitation, the water pollution reached the 5th degree. I am speaking on the basis of state information. A government circle clarified this information and presented, but the other part of the system that had to track it, make appropriate conclusions, take measures, did nothing.

2.9. Conclusions

2.9.1. Teghut mine exploitation - an environmental threat to the region

During this study we came to the following conclusions:

. The Teghut mining project will lead to the creation of a poisonous environment with mining waste in the north of Armenia, in Kajaran, Kapan and Agarak in the south. Lori and Tavush regions already have numerous licenses for exploration and exploitation of metal mines. This is a matter of national security in the economic, environmental, health, social and demographic sense and undermining the foundations of the state.

. The environmental impact assessment (EIA) of the Teghut mine project has failed to fully consider the hazards and consequences.

. The operation of the Teghut mine violates 10 national laws and 8 international agreements.

. Researchers examining the materials pertaining to Teghut mine will easily be convinced, that both the drafters of the project and those who gave a positive conclusion to it, as well as the government decision-makers, ignored the interests of nature, the people, the state.

. The concerns of NGO community and civil society actors still remain unresponded by the state.

. in this case, for some uncertain reason, the new Government omits and moves away from its basic principles.

. Summing up, it can be said that if the damage to the Republic of Armenia will be calculated in detail and impartially, with all possible components, and methods and tariffs reflecting reality, then it can be assumed that the losses will exceed billions of times than the profit as a result of the exploitation of Teghut copper-molibdenum mine.

2.10. Armenian legislation for environmental liability.

Legislative gaps in environmental offsetting schemes

Compensation specifically for the supply of ecosystem services has proven to be appropriate for companies whose activities are harmful to the environment. The best practices in the mining industry provide some compensation for the damage caused to some ecosystem services. Compensation is part of a tool to prevent environmental damage. Environmental Compensation Protection: these measures are aimed at compensating for the damage caused by adverse environmental impacts. There are three main economic levers of (biodiversity) compensation in the mining industry: regulation, financial and business risk management. Compensation legislation applies in about 30 countries. The legal acts regulating the field of subsoil exploitation cover a very wide range of the legal system. This is due to the great impact of mining on the nature and the human habitat. Subsoil use,

especially the exploitation of metal mines, is drastically changing the human environment, inter alia, social and cultural environment, it also has an impact on the organization of the country's tax and customs policy. It pertains to economic and working relations, it affects human health and safety.

The legal framework governing Armenia's mining relations is made up of at least 16 laws and the recently adopted Code on Subsoil.

The main legal acts regulating the relations of subsoil use of the Republic of Armenia are:

RA Constitution²³⁷
 RA Subsoil Code²³⁸
 RA Land Code²³⁹
 RA Forest Code²⁴⁰
 RA Water Code²⁴¹
 RA Law on Environmental Impact Assessment and Expertise (EIA) ²⁴²
 RA Law on nature protection and nature utilization payments²⁴³
 RA Law on nature protection payment rates²⁴⁴
 RA Law on Lake Sevan²⁴⁵
 RA Law on Flora²⁴⁶
 RA Law on Fauna²⁴⁷
 RA Law on Specially Protected Areas²⁴⁸
 RA Law on Waste²⁴⁹
 RA Law on Ensuring Sanitary and Epidemiological Safety of the Population²⁵⁰
 RA Law on Environmental Control²⁵¹

²³⁷ <https://www.president.am/en/constitution-2005/>

²³⁸ <http://extwprlegs1.fao.org/docs/pdf/arm185554.pdf>

²³⁹ <https://www.arlis.am/DocumentView.aspx?docid=74667>

²⁴⁰ <http://www.nature-ic.am/wp-content/uploads/2013/10/Forest-Code-of-RA.pdf>

²⁴¹ <http://extwprlegs1.fao.org/docs/pdf/arm34344.pdf>

²⁴² <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC179251/>

²⁴³ https://www.petekamutner.am/Shared/Documents/_ts/_tl/Required_Fees_And_Duties/Ecological_And_Natural_Resource_Use_Fees/or_1998_ho_270.pdf

²⁴⁴ https://www.petekamutner.am/Shared/Documents/_ts/_tl/Required_Fees_And_Duties/Ecological_And_Natural_Resource_Use_Fees/or_2006_ho245n.pdf

²⁴⁵ http://www.cawater-info.net/library/eng/am_lak_sev.pdf

²⁴⁶ <https://cis-legislation.com/document.fwx?rgn=7449>

²⁴⁷ <https://cis-legislation.com/document.fwx?rgn=7454>

²⁴⁸ <https://www.ecolex.org/details/legislation/law-on-specially-protected-natural-areas-lex-faoc076484/>

²⁴⁹ https://procurement-notices.undp.org/view_file.cfm?doc_id=160529

²⁵⁰ <https://www.arlis.am/DocumentView.aspx?docID=29774>

²⁵¹ <https://www.arlis.am/DocumentView.aspx?docid=72899>

RA Law on Organizing and Conducting Audits in the Republic of Armenia²⁵²

RA Government Decision #1325- N, 19.11. 2014 "On the procedure for public hearings"²⁵³ RA Government Decision #399-N, 09.04.2015 "On approval of the procedure for the implementation of the Environmental Impact Assessment of the fundamental document and planned activities".²⁵⁴

The principal document with the supreme legal power in the field of mining is the **Constitution of the Republic of Armenia**, according to the Article 10 and 33.2, the state ensures the protection and restoration of the environment, reasonable use of natural resources, ensuring the human right to live in a healthy and prosperous environment.²⁵⁵

The components of these provisions are regulated by the current legislation, specifically, by two main legal acts: RA Code about Subsoil and RA Law on Environmental Impact Assessment and Expertise (EIA).

According to the **RA Law on Environmental Impact Assessment and Expertise (EIA)**, prior to operating in a number of areas, including mining and metallurgy, an environmental impact assessment (EIA) should be conducted. After providing the relevant documents by the economic entity, the Government of the Republic of Armenia, as a responsible body, provides a conclusion on it. The government is responsible for the validity of the conclusion, the maintenance of the principles, regulations, norms and terms, providing the necessary documentation and materials, ensuring the transparency and the necessary working conditions. (See: *RA Law on Environmental Impact Assessment and Expertise (EIA)*)²⁵⁶.

The main body coordinating the sphere is the RA Ministry of Energy and Natural Resources with its subdivisions. The Ministry of Nature Protection of the Republic of Armenia participates in the management of the sector in the context of environmental impact assessment. Following the wording of the new **EIA Code**, the Ministry of Health of the Republic of Armenia should be fully

involved in the evaluation and examination process, as a specialized structure that assesses the impact on the human social environment, public health and safety, and provide expert conclusions for mining projects.

During this study we have observed several gaps and shortcomings in the legislation of the Republic of Armenia that coordinates the mining sector.

One of the most key gaps in the new **EIA Law** is the inclusion of 1-10 megawatt hydroelectric power plants (so-called small hydropower plants) in the list of activities to be evaluated by category "G", without taking into account their construction, operation compliance with existing standards, and the resulting risks (See: *Chapter 3, Article 14*).

The new **Code on Subsoil** provides a number of provisions for sustainable development. For example, it strictly prohibits subsoil use before Positive conclusion of the state examination on environmental, geological and technological security. Moreover, according to the Code, an integral part of the contract with the mining company is the environmental management program, the mine closure program, and the implementation schedule and the social program containing special events. The Code establishes permanent monitoring requirements, the responsibility of state and local self-government bodies to protect the environment from mining activities.

One of the main gaps in the RA Subsoil Code is waste management.

According to Article 3 of the mentioned Code, they are defined as "industrial waste dump," "man-made mines", however, the problem here is that mining waste can be given the legal status of a "man-made mine" only if "it has received a geological-economic assessment in the prescribed manner" for which no procedure or deadlines have been set in the Code. (See: *RA Subsoil Code, Article 2*)²⁵⁷. Until then, the status of existing tailing dumps remains unclear. As for their use, there has never been a precedent in Armenia for tailing dumps to be recycled.

According to Armenian legislation, the mining wastes are not taxed. The taxation of the mining wastes can have a preventive meaning that will

²⁵² <http://www.parliament.am/legislation.php?sel=show&ID=1364&lang=eng>

²⁵³ <https://www.arlis.am/DocumentView.aspx?docid=94183>

²⁵⁴ <https://www.arlis.am/DocumentView.aspx?docID=97315>

²⁵⁵ RA Constitution <https://www.president.am/en/constitution-2005/>

²⁵⁶ RA Law on Environmental Impact Assessment and Expertise (EIA) <http://www.fao.org/faolex/results/details/en/c/LEX-FAOC179251/>

²⁵⁷ RA Subsoil Code <http://extwprlegs1.fao.org/docs/pdf/arm185554.pdf>

lessen the size of exploitation of natural resources. (See: *RA Law on Waste, article 2*)²⁵⁸.

According to the official interpretation, mining wastes are left under the control of the state, as there are still many minerals there, which the state can re-provide for operation. This interpretation is extremely vulnerable. With this legal regulation, the risk of avoiding liability for negative socio-economic consequences of mining waste generated by miners is practically increased. It is not justified transferring them to the state ownership and exempting the companies from the obligation to pay environmental fees.

Another problem is the shortcomings in the application of the provisions of the Code on Subsoil, which, to a lesser extent, relate to the entire legal framework governing the sector. In particular, many mining projects ignore the prohibitions set forth in Article 26, according to which the use of certain sections of the subsoil is prohibited in case if there are monuments of nature, history and culture on the requested subsoil area, plants or animal habitats registered in the Red Book of the Republic of Armenia, as well as if animal migration routes are crossing that area.

The legislation mainly regulates the process of environmental exploitation permits and environmental risk assessment, as well as the framework of the state bodies responsible for it. However, there are incomplete socio-economic and purely environmental regulations in the legislative field, which do not allow for an adequate economic assessment of the usefulness of mining projects in terms of the social welfare of the public and the economic development of the state. There's no economic assessment of environmental damage and compensation, tangible liability for the consequences of mining waste, norms for compensation for damage or destruction of biodiversity.

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.). (See: *RA Code about Subsoil, Article 6, (3) Payments for the utilization of environmental and natural resources*)²⁵⁹.

The **Law 'On targeted use of environmental payments by companies'** of 15 May 2001²⁶⁰, stipulates that mining companies must pay environmental fees. Environmental fees paid by companies for pollution or fees are no taxes, they are fixed fees, which are calculated according to the unit of pollution, which is then multiplied by the amount of pollution generated, emitted or installed. Payments are made to the state budget. Some of them are then allocated to the administrative and fund budgets of the communities as a subsidy by a separate budget line. The law provides the financing of environmental and health measures by mining companies in the communities directly affected by the mining activities. However, in the absence of clear rules for implementation, the funding control, transparency, and evaluation may suffer.

The law doesn't limit the exploiting size of non renewable 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. (*RA Code about Subsoil, Article 53-54*).

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). (See: *RA Code about Subsoil, Law on "Environmental Impact Assessment"*).

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.

The tailings are out of private ownership and they consider being national properties. The exploiting

²⁵⁸ *RA Law on Waste* https://procurement-notices.undp.org/view_file.cfm?doc_id=160529

²⁵⁹ *RA Code about Subsoil*
<http://extwprlegs1.fao.org/docs/pdf/arm185554.pdf>

²⁶⁰ *Law 'On targeted use of environmental payments by companies'*
<https://www.artis.am/DocumentView.aspx?DocID=55110>

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.

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.

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.

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.

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.

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.

Let us be mentioned, that recently, in May 5, 2020, during the sitting in the Parliament of the Republic of Armenia the Deputy Minister of Territorial Administration and Infrastructure stated that the mining and other companies in Armenia will pay environment taxes. Let us be reminded, that the mining companies were exempted from this compensation liability before. These deductions will be determined by the authorities in the environmental domain, and they will be reflected in the budgets of the communities in whose territory the activities of these companies have a detrimental effect. (*See: Armenia mining companies to pay environment tax, News.am, May, 2020*)²⁶¹.

3. International experience in the mining industry

3.1. Mining in the international agenda. Criteria and mainstreams

The current development of the world economy is taking place in difficult political, ecological and social conditions. Contradictions between public and state (including interstate) interests have a frequent manner, specifically on issues related to environmental quality assurance, sustainable use of natural resource potential, ensuring public welfare and health quality and ecological security.

One of the main reasons for this situation is the imperfection of environmental and nature exploitation policies, management and control mechanisms, slow trends in the formation and updating of the ecological services market, other legislative and methodological omissions.

In the face of these global economic challenges, mining has a stable place in the world economy. Minerals and metals play a central role in the global economy. Despite enormous efforts to decouple economies from resource use, the extraction of mineral resources has increased markedly in recent decades and, over the last decade, at a faster rate than economic growth. Worldwide transitions towards clean energy and electric vehicles will also accelerate the trend, as renewable energy sources

²⁶¹ *Armenia mining companies to pay environment tax, News.am, May, 2020*) <https://news.am/eng/news/576580.html>

require larger amounts of metals than energy production from fossil fuels. But the extraction of these much-needed metals and minerals comes at a high price, among those damage to wildlife and ecosystems. (See: *How minerals and metals companies can help achieve 2030 Agenda for Sustainable Development, Feb, 2020*)²⁶².

In its latest report, launched in February 2020, titled *Mineral Resource Governance in the 21st Century: Gearing Extractive Industries Towards Sustainable Development*, the International Resource Panel²⁶³ provides suggestions on how to improve the economic performance of the extractive sector while ensuring that it complies with the highest social and environmental standards at national and international levels. The report provides guidance on how the extractive sector can establish a modern governance structure which addresses resource security and efficiency—an area of particular interest to developed nations—and satisfies the demand for continuous structural transformation, economic development and diversification in resource-exporting, developing countries.

In particular, the report suggests to replace the concept of “social license to operate”—which was used by mining companies to build public trust and prevent social conflict—with a new governance model, which the authors call the “sustainable development license to operate”. Unlike the social license to operate, the sustainable development license to operate is a more holistic, integrated and inclusive governance approach, through which companies can achieve positive economic, social and environmental results. The sustainable development license to operate advocates for fairer deals, equal share of benefits among stakeholders and a holistic consideration of existing regulations in the mining sector that were often not inclusive enough. It is designed to look at all the extractive industry as a whole, minimize its negative effects on environment, society and the economy, and identify opportunities for contributing to sustainable development.

²⁶² How minerals and metals companies can help achieve 2030 Agenda for Sustainable Development, Feb, 2020
<https://www.unenvironment.org/news-and-stories/story/how-minerals-and-metals-companies-can-help-achieve-2030-agenda-sustainable>

²⁶³ <https://www.resourcepanel.org/reports/mineral-resource-governance-21st-century>

It is undeniable that social mobilisations against mining are a global phenomenon for nowadays. Within any country where extractive industries emerge, the growth of a mining economy “changes the opportunity structure for a wide range of livelihoods, with some seeing opportunities where others see dispossession” (See: *Bebbington et al., 2008b, p. 2891*). The debates around mining have focused on what some have termed the “resource curse” or “Dutch disease” arguing that mineral rich countries “consistently underperform” their mineral-poor counterparts on a variety of economic and political indicators including economic performance, good governance, income inequality and democracy (See: *Weinthal, E. and Luong, P.J. (2006): Combating the resource curse: An alternative solution to managing mineral wealth. Perspectives on Politics.*)²⁶⁴. Indeed, studies consistently demonstrate that reliance on mineral rents feeds patronage, clientalism and graft (See: *Richard M. Auty, Ecological Economics, Auty et al., 2000*)²⁶⁵ and that mining has a “dismal track record to date in poverty reduction” (See: *Scott Pegg, 2006, p. 376, Mining and Poverty Reduction: Transforming Rhetoric into Reality*)²⁶⁶.

Mining’s supporters across the globe also argue that opposition to mining is an “anti-development” stance, which they perceive as “selfish and insincere” (See: *Michael L. Dougherty, 2011, p. 415, The Global Gold Mining Industry, Junior Firms, and Civil Society Resistance*)²⁶⁷. In Armenia, such supporters even accuse activists of “working for foreign powers”.

Of course, one cannot simply compare countries to one another, there are many differentiating factors and circumstances. However, it is useful to examine and consider international experience vis a vis mining because it can provide important insights and lessons. Innumerable studies of mineral-rich

²⁶⁴ *Weinthal, E. and Luong, P.J. (2006): Combating the resource curse: An alternative solution to managing mineral wealth. Perspectives on Politics*

http://earthresources.sakura.ne.jp/er/ZR1_SN_10.html

²⁶⁵ Richard M. Auty, *Ecological Economics*, Auty et al., 2000
<https://www.sciencedirect.com/science/article/abs/pii/S0921800906004551>

²⁶⁶ *Scott Pegg, 2006, Mining and Poverty Reduction: Transforming Rhetoric into Reality*
https://www.researchgate.net/publication/222519432_Mining_and_Poverty_Reduction_Transforming_Rhetoric_into_Reality

²⁶⁷ *Michael L. Dougherty, 2011, The Global Gold Mining Industry, Junior Firms, and Civil Society Resistance*,
<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1470-9856.2011.00529.x>

countries in the developing world show that, since the 1970s, these countries are more prone to corruption, income inequality, and authoritarian regimes (See: Erika Weinthal, Pauline Jones Luong, *Rethinking the Resource, Curse: Ownership Structure, Institutional Capacity, and Domestic Constraints*, 2006,²⁶⁸). This is what some have called the “paradox of mineral wealth”.

3.2. Mining as a global environmental debate and the role of politics there

Minerals and metals underpin national economies, provide crucial raw materials for industrial activities, and are inputs to almost every sector of the global economy. Demand for extractive resources will continue to grow on the back of emerging economies with expanding and increasingly affluent and urban populations and a global transition towards low-carbon but metal-intensive energy production technologies. This is despite efforts to decouple economies from resource use and towards greater recycling.

The frequently severe and enduring environmental impacts of mining highlight the need to carefully balance such activities with stewardship of other valuable natural resources and the environment including ecosystems and biodiversity, and the rights of local people and communities. Decision-making in the extractive sector is shaped by a complex array of governance frameworks and initiatives operating along highly globalized mineral value chains. There is an urgent need to coordinate and reform this governance landscape to address enduring challenges such as commodity price volatility, lack of linkages between mining and other economic sectors, inadequate management of environmental impact, and socio- and geo-political risks of mining. (See: *Mineral Resource Governance in the 21st Century, Gearing Extractive Industries Towards*

²⁶⁸ Erika Weinthal, Pauline Jones Luong, *Rethinking the Resource, Curse: Ownership Structure, Institutional Capacity, and Domestic Constraints*, 2006
<https://www.annualreviews.org/doi/abs/10.1146/annurev.polisci.9.062404.170436>

Sustainable Development, the report of International Resource Panel, 2019)²⁶⁹.

Mining has a substantial influence on several parts of society, in part by providing economic and social development, but also through negative environmental and social-cultural impacts connected to its operation. This combination of both positive and negative effects induces a complex planning and permitting process concerning large and differentiated values, long time spans and large numbers of actors.

The mining industry, particularly in emerging markets, is arguably the most susceptible sector to political risks due to its importance to host economies. Mining projects can represent significant percentages of GDP (Gross Domestic Product) and, as a result, projects can become flash points for nationalist debate. This has the potential to trigger changes in government policy, which can lead to expropriations, license cancellations and contract “reviews.” Given the continuing demand for minerals and metals, there are vast opportunities for investors in this sector. However, there are real and inherent risks, not least because of their location in parts of the world that have precarious political or socioeconomic environments.

National governments are no longer the only source of political risks in mining projects. Such risks also stem from local governments, local and international NGOs, community groups, local competitors and other groups. (See: “*The Political Risks of Mining*” Morgan O’Rourke, April, 2012)²⁷⁰.

Here is an excerpt from Willis’ spring 2012 mining market report.²⁷¹ The following represent some country-specific examples of how these risks have played out in different locations:

Mongolia

Following high copper and gold prices in 2006, the Mongolian government hastily passed a windfall profits tax. This was designed to allow the state to benefit from high prices, but instead set the stage

²⁶⁹ *Mineral Resource Governance in the 21st Century, Gearing Extractive Industries Towards Sustainable Development*
<https://www.resourcepanel.org/reports/mineral-resource-governance-21st-century>

²⁷⁰ “*The Political Risks of Mining*” Morgan O’Rourke, April, 2012
<http://www.rmmagazine.com/2012/04/01/the-political-risks-of-mining/>

²⁷¹ Willis’ Mining Market Report, spring 2012
http://www.willis.com/documents/publications/industries/mining_and_metals/mining_market_review_2012.pdf

for acrimonious negotiations with the Oyu Tolgoi mine project developer, Ivanhoe Mines Ltd. of Canada. Fears that the Mongolian state would lose out on the benefits from the \$4 billion project led the government to pass a law requiring the state take a 34% stake in any mine explored without government funding, and a 50% stake in any mine explored with government funding. Subsequent debates threw investors into a state of uncertainty, and led to the freezing of projects during the peak of the commodity boom.

Zambia

In Zambia, tax issues have arisen. In the face of opposition from mining companies that argued that such a tax would prohibit further foreign direct investment, the Zambian government promised not to reintroduce the windfall tax. However, Zambians still feel that they are not benefiting from their “birth rights” and changes to the tax regime could still occur. The election of Michael Sata as the nation’s president in September 2011 reintroduced an element of instability, especially concerning mining, Chinese investment and foreign ownership of companies.

Zimbabwe

Zimbabwe has passed a law requiring foreign companies operating in the country to divest to a level where 51% of shares are held by indigenous nationals or Zimbabwean companies. This has caused confusion for traders, especially in the tobacco industry, where there has been dispute over whether Chinese holdings in foreign companies count as indigenous stakes or not. This is another example of a perceived grievance against old colonial or Western companies.

Chile

Over the last few years, Chilean mining companies have been hit by a series of strikes resulting in lengthy disputes and financial losses. The strikes were called because the workers did not feel that they were sharing in the high profits made by the companies on the back of record copper prices.

Tanzania

In April 2010, the Tanzanian parliament passed a mining law increasing the rate of royalties paid on metals and minerals from 3% to 4%. Furthermore, the law requires the government to own a stake in future mining projects. The government has said

the reforms are aimed at ensuring the country benefits from a better share of its resources. However, mining companies have rejected the law, saying that it would further erode investor confidence.

Kyrgyzstan

Expropriation of Oxus Gold’s stake in the Jorooy Gold Mine resulted in the forced sale of their shareholding of Kazakh Gold

As per independent biodiversity expert **Andrey Ralev**, it is obvious that all around the world mines are important part of environmental and political debate. “They give a lot of jobs, but create also environmental and health problems to many people. So politicians have a difficult time to decide what to do - approve or not a mine, close it or not... In situation like this it is easier to promote mining in more autocratic, less democratic states. Armenia is a good example - corruption (especially during the previous regime, but also looks like there are some problems now in part of the Pashinyan government) has helped open many unsustainable mines with huge problems for the population. Finland is an exception, democratic state, but very liberal to opening new mines”. (*See the whole interview with Andrey Ralev in the “Experts views” section of this Chapter*).

3.3. European Experience

3.3.1. Germany

The European mining industry has long complained that it is not operating on a level playing field when it comes to international competition. “The existing extractive industry, in as far as it is exposed to international competition that does not operate to the same standards, needs to be safeguarded against aggressive industrial and economic policies,” says Corina Hebestreit from the Brussels-based industry association Euromines. There are also concerns that many of the important raw materials Europe imports come from parts of the world lacking political and economic stability – a situation that could be rectified by mining those same materials in Europe. EU policymakers have suggested capitalising on what European mines do well –

efficiency. The bloc's environmental and safety standards, far more strict than in the developing world, may have driven up costs but they have also spurred efficiency and productivity improvements. EU companies are now at the forefront of innovation in raw-materials supply. (See: *Europe looks home for new mining opportunities*, Dave Keating, January, 2020)²⁷²

Historically, Europe was the breeding ground for mineral exploration, discoveries, and subsequent mining of primary resources. Presently, public acceptance of the sector is low, and Europe is highly dependent on raw materials that are predominantly sourced overseas.

Europe is using 23% of the world's mine production for metals and minerals but only produces 2-3 % itself. Similarly, only around 9% of the global production of critical raw materials (CRM) is provided by European countries. Hence, Europe is vulnerable to scarcity and supply shortage and there is a need and political will for increased exploration activity and the development of mining operations and processing capabilities. Hereby, a reliable and conducive legislative framework is indispensable.

Furthermore, the positive impact that exploration, mining and processing have on economy and their critical role in a sustainable circular society have to be clearly communicated. Social opposition to mining remains one of the biggest hurdles to investment and development in the raw materials sector. Critical public framings have to be addressed in an open and transparent dialogue to build credibility and eventually trust on local, national and international levels to achieve a Social License to Operate. (See: *Lighthouse Sustainable Discovery and Supply, Position Paper, September 2019*)²⁷³.

The development of "Responsible", "Green Mining" or, more generally, sustainable mineral raw materials extractive activities, is a core objective of national (mineral) raw materials strategies developed and published by several EU governments since 2010, see for example Germany, Finland, Greece, the Netherlands, Portugal, Sweden and the United

Kingdom. (See: *EU Responsible mining demonstrations: best practice and capacity building, 2016 to -2018*)²⁷⁴.

During this study, we have observed the German experience in this field.

Germany has benefited hugely from its mineral resources. Ever since the Middle Ages, different types of salt, ore, coal, stone and earth have been mined here. Germany still mines more lignite than any other country in the world. This will have to end sooner or later for reasons of climate change mitigation, however, as no other energy source generates more greenhouse gases than lignite. On the other hand, Germany – being an industrialised country – is one of the major importers of mineral resources. (See: *"The Future of Mining"*, July, 2017)²⁷⁵.

In nowadays, Germany is one of the biggest commodity consumers worldwide, particularly in terms of mineral resources. While generally regarded as a resource-poor country, it has relatively large deposits of lignite, potash and rock salt as well as rocks and soils for the construction industry. Oil and gas are extracted, mainly in North Germany and the North Sea. Lignite is mainly extracted in North-Rhine Westphalia and Brandenburg.

Germany is a federal country and much of the information on licencing is on state level. Non-tax revenues (such as royalties) are paid on the state-level, while the trade tax is paid on municipality level. (See: *EITI report for Germany on the mining sector, January 2020*)²⁷⁶.

in Germany there is no involvement of the state in the mining business e.g. no government stakes in mining companies. Germany does not use bidding to obtain mining projects. Getting a mining permit is first and foremost an administrative procedure. To carry out extraction the company needs to present an operating plan, which the government administration checks against the legal requirements (including social and environmental). The operating plan is revised regularly. Public inspection of the mining authorisation books and mining maps, which record the authorities' allocations of permits, are

²⁷² *Europe looks home for new mining opportunities*, Dave Keating, January, 2020
<https://www.euractiv.com/section/economy-jobs/news/europe-looks-home-for-new-mining-opportunities/>

²⁷³ *Lighthouse Sustainable Discovery and Supply, Position Paper, September 2019*
<https://eitrawmaterials.eu/lighthouses/sustainable-discovery-and-supply-lighthouse/>

²⁷⁴ *EU Responsible mining demonstrations: best practice and capacity building, 2016 to -2018*

https://ec.europa.eu/growth/content/eu-responsible-mining-demonstrations-best-practice-and-capacity-building_en

²⁷⁵ *The Future of Mining*, July, 2017 <https://www.research-in-germany.org/en/infoservice/newsletter/newsletter-2017/july-2017-the-future-of-mining.html>

²⁷⁶ *EITI report for Germany on the mining sector, January 2020*, <https://eiti.org/germany>

available from the regional authorities. (See: *EITI report for Germany on the mining sector, January 2020*).

Dr. Gudrun Franken, the Head of the unit Mining and Sustainability, FB 1.2 Geology of Mineral Resources of the Federal Institute for Geosciences and Natural Resources (BGR) relayed us an interesting information with regard to the situation in Germany:

“The role of politics is setting a frame for responsible mining, monitoring it and also making decisions as well as relevant information available and transparent to the public. Also in Germany the local authorities have the role to organize the public hearing on projects to come (in the framework of the so-called “Planfeststellungsverfahren”) and to inform on these projects. According to internationally developed standards, such as the OECD Guidance (OECD - The Organisation for Economic Co-operation and Development) on meaningful stakeholder participation in the mining sector, also companies should engage actively in a dialogue with stakeholders.

Financial transparency is seen as an important tool to combat potential rent seeking or corruption related to mining revenues. Germany has joined Extractive Industries Transparency Initiative (EITI) and handed in its second report in December 2019²⁷⁷. Although the mining sector in Germany is relatively small, this is understood as a sign to support this international initiative and its global implementation. Also it serves most importantly as a multistakeholder platform for the discussion between government, companies and civil society on issues of the sector.

The federal authorities inform on licenses and license holders, partly through online platforms (e.g. for Lower Saxony at). The Mining authority of Lower Saxony has set up a portal for companies and interested people on the regulation and licensing process²⁷⁸.

Also, a complaint mechanism needs to be set up for dealing with stakeholder and company issues. (See *the whole interview with Dr. Gudrun Franken in the “Experts views” section of this Chapter*).

Michael Reckordt, who is working on Resource Policy for PowerShift - Verein für eine ökologisch-solidarische Energie- & Weltwirtschaft e.V. (Berlin,

Germany), while talking with us during the interview about the issue of mining as an environmental debate and the role of politics in it, he stressed that, unfortunately, the environmental debate is dominated by climate policies and the climate crisis. That has good reasons, because it is threatening our lives on this planet. Same time, 10 % of GHG (greenhouse gas) emissions come from mining and smelting / refining. Loss of biodiversity is an issue, beside agriculture, mining is also a reason of it. And while we discuss energy, mobility and other transitions, we forget about the metals and minerals we need for this. This brings in new player, like DeepGreen pushing to mine the last untouched areas, the deep sea, to mine there.

While talking about political and institutional prerequisites for successful mining establishment and development and, specifically, German Federal Government’s approach, Mr. Reckordt brought the example of Alternative Minerals Management Bill (AMMB - written by Philippine NGOs) – as a good blue print, how mining could find acceptance by local communities and good be managed. It includes local participation, clear rules, clear communication on risks and limited room to manoeuvre for the companies. “ Sadly, the German Federal Government - we are importing nearly 99,7% of all our primary mining products, metals and minerals - is focusing on the security of the supply for the industry. They are supporting programmes like international EITI, CONNEX and geological services, but as NGOs we say, we need a more more direct transition” (See *the whole interview with Michael Reckordt in the “Experts views” section of this Chapter*).

In the Powershift’s Policy Paper Working Group on Raw Materials we found interesting recommendations and critical review on German Federal Government’s approach upon raw materials policy²⁷⁹.

Here we read “The Federal Republic of Germany depends on the import of metallic, mineral and fossil fuel resources. The extraction of these raw materials takes place at the expense of the environment and leads to human rights violations. The German Federal Government does not take

²⁷⁷ <https://d-eiti.de/wp-content/uploads/2019/12/2.-D-EITI-Bericht.pdf>

²⁷⁸ <https://bergpass.lbeg.de/Wilma.aspx?pgId=165>

²⁷⁹ *Policy Paper Working Group on Raw Materials: Towards a Democratic and Globally Just Resource Policy* <https://power-shift.de/wp-content/uploads/2017/05/policy-paper-working-group-resources.pdf>

these consequences adequately into account. Instead, it supports the industry because of concerns around security of supply. Today's global challenges call for a different, a democratic and globally just raw-materials-policy. The goals must be to: - reduce raw material consumption - effectively protect human rights - protect and strengthen civil society".

The NGOs that have joined forces in the Working Group on Raw Materials (AK Rohstoffe) explain and clarify their demands to the Federal Government, inter alia:

renunciation of deep sea mining, create economic incentives for reduced consumption, a binding EU regulation on the responsible procurement of raw materials from high-risk and conflict areas for upstream and downstream companies, introduction of corporate liability in criminal law, EU trade policy must be reformed fundamentally, Audits within the framework of human rights due diligence must be documented transparently and be publicly accessible, protect and strengthen indigenous Peoples' rights, transparency and fair negotiation processes in resource policy, instead of privileged access for the industry.

(See: *Policy Paper Working Group on Raw Materials: Towards a Democratic and Globally Just Resource Policy, May, 2017, Powershift e.V.*).

Germany's National Sustainability Strategy, which was adopted in 2002, sets out quantified goals for 21 key areas related to sustainable development. Reliably measurable indicators and concrete years for target achievement have been stipulated for them. The German government and the Federal Statistical Office regularly review to what extent these targets have been achieved and where further action is needed.

The following goals of the National Sustainability Strategy are particularly important for environmental policy:

- To double raw material productivity between 1994 and 2020.
- To double energy productivity between 1990 and 2020.
- To reduce primary energy consumption by 20% by 2020 compared to 2008, and by 50% by 2050.
- To reduce greenhouse gas emissions by 21 percent (compared to 1990 levels) by

2010/2012. This goal was already achieved in 2008. To reduce the emissions of climate gases by 40 percent by 2020 and by 80 to 95 percent by 2050 (compared to 1990).

- To raise the share of renewable energies in final energy consumption to 18% by 2020 and to 60% by 2050.
- To increase the share of electricity from renewable sources in total electricity consumption to at least 35% by 2020 and at least 80% by 2050.
- To limit, by 2020, the use of undeveloped land in Germany to 30 hectares per day. In comparison: for the period between 1993-1996 it was 140 hectares per day; in 2012 74 hectares.
- To increase biological diversity in Germany to an index value of 100 by 2015. Over the past 10 years of observation (2001 - 2011) the indicator value deteriorated to only 63 percent (2011) of the target value.

(See: *"Policy of the Federal Government, Sustainable Development" Federal Ministry for the Environment, Nature Conservation and Nuclear Safety*)²⁸⁰.

3.4. Success stories and challenges

No modern economy can achieve sustainable growth without an adequate and secure access to mineral resources, even in the presence of very effective reuse and recycling practices. The recent macroeconomic evolution of raw materials demonstrates that there is an increased need to diversify the supply of key-commodities through broadening the sources (therefore reducing the dramatic dependence of hegemonic producers) and making the markets more transparent. As a consequence, in recent decades, many large economies have developed mineral and metal strategies or approaches to avoid supply shortages/disruptions, mitigate challenges to their industrial sectors, and maximise economic opportunities. Equally relevant is the importance of environmental

²⁸⁰ *Policy of the Federal Government, Sustainable Development" Federal Ministry for the Environment, Nature Conservation and Nuclear Safety* <https://www.bmu.de/en/topics/sustainability-international/sustainability/what-is-sustainable-development/#c12448>

performance and the need to attain a social license to operate in order to successfully develop natural resources in a responsible way. The main difficulty resides in access (and conflicts with other land uses), political will and market dynamics. (See: *“Challenges and opportunities for a successful mining industry in the future”*, António Manuel Mateus, March 2019).²⁸¹

In his research, **António Manuel Mateus**, brings forward the concept of a modern models of sustainable economic growth that are metal-intensive and will not be successful in the future unless a continuous supply of mineral-derived products is ensured. At the same time he emphasizes that despite of this concept being logical, there is still a significant reluctance regarding mineral exploration and mining activities, often reflected in: unfavourable public opinions and absence of political measures or continuity of agendas that actually appreciate the way minerals are produced and the players directly or indirectly involved in this production. To succeed, the mining industry will have to (re)define its strategy and find innovative approaches to old problems and clearly demonstrate that mineral products can be efficiently delivered to support global development and assist suitable paths to welfare and quality of life, thus also providing real value to all concerned. In his study he gives a concise review of the main challenges posed to the mining industry, and also indicates the most relevant opportunities and advance some proposals to constructively face the identified weaknesses and threats. The fundamental outcome is that the long-term balance between supply and demand of mineral products requires concerted actions on different fronts aiming: 1. the safeguarding of known resources; 2. high-quality (scientifically and technologically driven) exploration surveys; 3. improvements in mining and mineral transformation/ beneficiation; 4. advances in consistent combinations of primary and secondary sources of raw materials, along with higher concerns on their judicious use; 5. effective and stable mining policies; and 6. new insights on the

role played by the mining industry through fruitful dialogues with society in general.

Germany

During the interview with us, **Dr Gudrun Franken**, Head of the unit Mining and Sustainability, FB 1.2 Geology of Mineral Resources of the Federal Institute for Geosciences and Natural Resources (BGR), emphasized the role of competent and independent mining authorities that is a prerequisite for successful mining establishment and development. “There needs to be an effective process in place to communicate between the relevant authorities (e.g. mining, environment etc.) and solve potential different views between ministries. Also, it is important that local authorities have capacity and a role in decisions on mining projects. In Germany the consultation and information process in the planning process of new projects is managed by the level of the local community (in Germany “Gemeinde” or “Region”, whoever has the planning authority). Disputes on operating projects are managed by the federal licensing authorities together with relevant stakeholders.

Managing expectations is a major issue also for governmental institutions, as mining is a sector with very high upfront investment it needs to make sure that investors can rely on a stable framework. Mining projects have, unlike other businesses a natural end by the end of the exploitation of a deposit. Huge legacies from mining operations without proper closure and post-closure development have contributed to local population’s opposition against mining. Perspectives on post-mining development have to be developed already from the beginning of a mining project and processes to secure funds for closure and post-mining development have to be implemented by politics and institutions. In Germany there is a legal requirement for financial provisions by companies, but also funds by the state to ensure rehabilitation of legacies as well as post-mining transition e.g. in the Ruhr Area and also in eastern Germany (e.g. at former lignite mining areas). In the Ruhr Area a foundation (RAG Stiftung²⁸²) is successfully managing post-mining transition.

Germany is not a major mining country, mining is dominated by projects for construction materials

²⁸¹ *Challenges and opportunities for a successful mining industry in the future*, António Manuel Mateus, March 2019 https://www.researchgate.net/publication/332584218_Challenges_and_opportunities_for_a_successful_mining_industry_in_the_future

²⁸² <https://www.rag-stiftung.de/>

and some industrial minerals. In the coal sector, which is the major mining sector, an exit strategy has been agreed upon. A lot of protest in recent times were opposing coal projects, however, as this was more related to climate change debate than to the mining issues, this might be not representative for public resistance against mining. Most current mining projects were approved quite a long time ago.

A successful example for the dialogue between society and public actors in Germany is the process of coal mine closure in the Ruhr Area. The process of phasing out mining included an intensive dialogue of politics especially with trade unions and communities to organize a socially compatible shut down of the industry. An important role of politics was to support the transition by support programs e.g. for training for new job qualifications of former employees of the mining industry.

An example, where participation of the state in mining projects resulted in major benefits also for the country is e.g. the diamond sector in Botswana. However, intransparent processes of licensing and rent seeking by elites are a problem especially in countries where corruption is a major issue.

Transparency on licensing as well as revenues from the mining sector is seen as one of the major instruments to combat these. EITI, the Extractives Industries Transparency Initiative, has also taken up the transparency of contracts into its standards, that relate to financial transparency". (See the whole interview with Dr. Gudrun Franken at the "Experts views" section of this Chapter).

Michael Reckordt, from PowerShift e.V. shared with us an information about success stories in international ground, when authorities avoided the public resistance and set dialogue between society and public actors. In Argentina, for example, glaciers were protected and mining was stopped. In the Philippines some local governments had ordinances to ban open pit mining (and stopped mining indirectly, e.g. in South cotabato), in Peru people blocked streets and stopped companies, in El Salvador the government banned mining in general (they had mainly gold), there are huge campaigns like Right-to-say-No-campaign, divestment-campaigns. Some governments like Indonesia stopped to export only the ore - so they created jobs inside the country (e.g. Vietnam, Indonesia), others had new mining rules for Artisanal Miners (Tansania) and taxes were increased (South Africa, DR Congo). Also regarding

human rights standards, EU regulation on conflict minerals, US Dodd Frank Act etc. were first steps in a good direction. Companies like Apple, BMW, etc. started to care and report much better on their websites. They are working to clean their supply chain. A company like Fairphone or Nager IT show it is possible. (See the whole interview with Michael Reckordt at the "Experts views" section of this Chapter).

Bulgaria

To our query whether there are success stories on international ground when the authorities find the best way to cooperate with the public around mine construction projects, **Andrey Ralev**, the environmental specialist, brought the example of Bulgaria, he specifically noted: "A relatively good example is the Ada Tepe gold mine near Krumovgrad, Bulgaria. After strong debate, campaign from NGOs and local people, they changed their technology. Decided not to use cyanide technology for heap leaching (same as Amulsar) and to use only one of four hills they had concession for". (See the whole interview with Andrey Ralev in the "Experts views" section of this Chapter).

Australia

Australia has provided impressive results in the successful mining sector. Community engagement and public participation have been a legal expectation of government agencies in Australia since the 1970's. Since then government agencies and their contractors have been working to meet the legal and social expectations of communities and the public. Most government agencies and local government organisations now have public participation or community and stakeholder engagement policies, engagement specialists and practices.

Australia is in the top 5 exporters in the world for, bauxite, alumina, iron ore, zinc, coal. There are currently over 260 producing mineral, oil and gas operations across Australia. The Australian resources sector has a strong history of innovation, and has developed many specialised technologies to increase productivity, achieve social objectives and generate value for the Australian economy. (See:

Better Practice Community Engagement Case Studies, Mining in Australia, COAG Energy Council)²⁸³.

Peru

The major municipalities in Peru improved the management of their investment resources, and as a result of this, more than 69 percent of the expenditures are aligned with the needs of the community. Also, 74 percent of investments were prioritized through the participatory budgeting process. Six municipalities adopted transparency practices that include regular accountability meetings and sharing information on municipal investment with local leaders and the population. Monitoring activities were conducted for 46 strategic projects covering development efforts in irrigation, water, education, and health. Over \$10 million of additional resources were leveraged from various sources to finance social infrastructure projects. Also, local leaders were able to enhance their capacity to participate in municipal investment decisions and to demand accountability. Stakeholder engagement involved an inclusive and continuous process of communication, dialogue, and collaboration with key authorities, local leaders, surveillance committees and the media. (See: IFC's *(International Finance Corporation) Sustainable Infrastructure (SI) Advisory Report*)²⁸⁴.

3.5. Experts views

In this section you can find interviews with international environmental experts and professionals who are sharing with us the experiences of their countries, specifically, success stories and challenges facing the contemporary mining industry at large.

Interview with Dr. Gudrun Franken, Head of the unit Mining and Sustainability, FB 1.2 Geology of Mineral Resources, Federal Institute for

²⁸³*Better Practice Community Engagement Case Studies, Mining in Australia, COAG Energy Council*
<http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Better%20Practice%20Community%20Engagement.pdf>

²⁸⁴IFC's *(International Finance Corporation) Sustainable Infrastructure (SI) Advisory Report*
<https://www.commdev.org/work/stakeholder-engagement/>

Geosciences and Natural Resources (BGR)²⁸⁵, Hannover, Germany, 02.04.2020

A.V. -Mining as an environmental debate and the role of politics there...(Political risk in the mining sector... Political impacts on mining programmes (its scales, patronage, steps to be elaborated by the authorities to reduce the political impact on mining sector etc.)...

G.F. - The role of politics, and especially the mining authorities, is to ensure that standards and regulations are adhered to by the mining sector i.e. the mining companies. In Germany there is no involvement of the state in the mining business e.g. no government stakes in mining companies. In other countries this is different, but not per se a problem. An example, where participation of the state in mining projects resulted in major benefits also for the country is e.g. the diamond sector in Botswana. However, intransparent processes of licensing and rent seeking by elites are a problem especially in countries where corruption is a major issue. Transparency on licensing as well as revenues from the mining sector is seen as one of the major instruments to combat these. EITI, the Extractives Industries Transparency Initiative, has also taken up the transparency of contracts into its standards, that relate to financial transparency.

In every case, also in the case of state owned enterprises, the independent and effective oversight of companies is highly relevant. This includes expert knowledge of authorities to evaluate company reports and proposals. If governmental expertise is limited, this may include independent expertise, especially for major issues and projects.

Also mine inspection should be conducted regularly and with competent experts. In many developing countries the mining law is quite up to date and mostly addresses the relevant issues of environmental and social standards of mining, but guidelines for inspections are inadequate or even not there. Also, where salaries of inspectors are low the risk of corruption is higher. In the framework of development cooperation therefore BGR support development of mine inspection regulation as well as training for inspectors in developing countries.

²⁸⁵*Federal Institute for Geosciences and Natural Resources (BGR)*
https://www.bgr.bund.de/EN/Home/homepage_node_en.html

Decisions on mining projects need to be informed decisions towards minimizing risks and maximizing benefits of mining projects. This needs qualified information (e.g. expert studies (most important the Environmental and Social Impact Assessment) and also open and early dialogues with communities. Building trust is a major issue, otherwise information e.g. on risk mitigation measures or on potential environmental impact, even if correct, may not be trusted e.g. by the local communities. Therefore stakeholder participation as early as possible is recommended (e.g. by the International Council on Mining and Metals, ICMM). Some progressive companies introduce mechanisms of local participation e.g. by local monitoring of water quality, which might be a good way to develop trust and capacity in the communities.

The role of politics is setting a frame for responsible mining, monitoring it and also making decisions as well as relevant information available and transparent to the public. Also in Germany the local authorities have the role to organize the public hearing on projects to come (in the framework of the so-called “Planfeststellungsverfahren”) and to inform on these projects. According to internationally developed standards (such as the OECD Guidance on meaningful stakeholder participation in the mining sector²⁸⁶; also companies should engage actively in a dialogue with stakeholders.

Financial transparency is seen as an important tool to combat potential rent seeking or corruption related to mining revenues. Germany has joined EITI and handed in its second report in December 2019²⁸⁷. Although the mining sector in Germany is relatively small, this is understood as a sign to support this international initiative and its global implementation. Also it serves most importantly as a multistakeholder platform for the discussion between government, companies and civil society on issues of the sector.

The federal authorities inform on licenses and license holders, partly through online platforms (e.g. for Lower Saxony at <https://nibis.lbeg.de>).

²⁸⁶ <https://www.oecd.org/publications/oecd-due-diligence-guidance-for-meaningful-stakeholder-engagement-in-the-extractive-sector-9789264252462-en.htm>

²⁸⁷ <https://d-eiti.de/wp-content/uploads/2019/12/2.-D-EITI-Bericht.pdf>

A.V. - Political and institutional prerequisites for successful mining establishment and development. German federal government's approach...

G.F. - As said above, an important issue, apart from a comprehensive legislative framework, are competent national or federal (e.g. in the case of Germany) authorities, that manage the approval and licensing process and also the monitoring of the mining operations. It is important that regulations and processes are set up clearly and transparent for all operators and decision makers as well as stakeholders who have an interest in the issue. For example, the Mining authority of Lower Saxony has set up a portal for companies and interested people on the regulation and licensing process²⁸⁸.

Also, a complaint mechanism needs to be set up for dealing with stakeholder and company issues.

Having competent and independent mining authorities is a prerequisite for successful mining establishment and development. There needs to be an effective process in place to communicate between the relevant authorities (e.g. mining, environment etc.) and solve potential different views between ministries. Also, it is important that local authorities have capacity and a role in decisions on mining projects. In Germany the consultation and information process in the planning process of new projects is managed by the level of the local community (in Germany “Gemeinde” or “Region”, whoever has the planning authority). Disputes on operating projects are managed by the federal licensing authorities together with relevant stakeholders.

Managing expectations is a major issue also for governmental institutions, as mining is a sector with very high upfront investment it needs to make sure that investors can rely on a stable framework. Mining projects have, unlike other businesses a natural end by the end of the exploitation of a deposit. Huge legacies from mining operations without proper closure and post-closure development have contributed to local population's opposition against mining. Perspectives on post-mining development have to be developed already from the beginning of a mining project and processes to secure funds for closure and post-mining development have to be implemented by politics and institutions. In Germany there is a legal

²⁸⁸ <https://bergpass.lbeg.de/Wilma.aspx?pgld=165>

requirement for financial provisions by companies, but also funds by the state to ensure rehabilitation of legacies as well as post-mining transition e.g. in the Ruhr Area and also in eastern Germany (e.g. at former lignite mining areas). In the Ruhr Area a foundation (RAG Stiftung)²⁸⁹ is successfully managing post-mining transition.

A.V. - Mining in the international agenda. Criteria and mainstreams...challenges. Are there success stories in international ground, (preferably in Germany), when authorities avoided the public resistance and set dialogue between society and public actors? If yes, could you, please, specify the ways they carried out to make feasible this dialogue?

G.F. - Germany is not a major mining country, mining is dominated by projects for construction materials and some industrial minerals. In the coal sector, which is the major mining sector, an exit strategy has been agreed upon. A lot of protest in recent times were opposing coal projects, however, as this was more related to climate change debate than to the mining issues, this might be not representative for public resistance against mining. Most current mining projects were approved quite a long time ago.

A successful example for the dialogue between society and public actors in Germany is the process of coal mine closure in the Ruhr Area. The process of phasing out mining included an intensive dialogue of politics especially with trade unions and communities to organize a socially compatible shut down of the industry. An important role of politics was to support the transition by support programs e.g. for training for new job qualifications of former employees of the mining industry.

A.V. - Are there geographical peculiarities for exploiting gold and copper mines? (because I've heard many times from international experts, that for such a small country like Armenia, the mine exploitations in such scales is an abundance).

G.F.- Geologically the location of Armenia has a favourable position in the region with respect to mineral deposits. Located at the edge of the Eurasian plate the region was (and is) subject to plate tectonics and can be compared to other resource-rich regions e.g. in South America, where

also copper-rich porphyries associated with molybdenum can be found. The geology is very diverse as a result of several phases of collision and extension of the land mass, which enabled e.g. the formation of polymetallic deposits from former oceanic crust. These deposits are often rich in copper, lead, zinc and gold.

In relation to the size of the country the value of mine production in Armenia is quite high and comparable to other countries with similar geological setting such as Chile and Peru. In comparison however, mining projects in Armenia are rather of medium size or small. For copper, mine production of the largest mine in Chile for example is 500.000 t/a, whereas the largest mine Kajaran in Armenia has about medium size with around 40.000 t/a of production. Armenia is rank 60 out of 180 countries evaluated for the total value of mine production. Armenian copper production (with copper being 2/3 of Armenias mine production by value) was around 0.7% of the world copper production in 2017.²⁹⁰

Interview with Michael Reckordt , who is working on Resource Policy for PowerShift - Verein für eine ökologisch-solidarische Energie- & Weltwirtschaft e.V. ²⁹¹, Berlin, Germany, 12.05.2020

This organization applies their expertise in international trade, raw materials and climate policy: Through comprehensive research, Powershift examines political processes, identifies the problems of an unjust economic system and develops policy alternatives. One of the organisation's main areas of focus is the critical monitoring of Germany's raw-materials policy and the associated ecological and social risks. PowerShift advocates for mandatory human-rights due diligence for companies and for the implementation of the EU Conflict Minerals Regulation.

A.V. - Mining as an environmental debate and the role of politics there... (Political risk in the mining sector... Political impacts of mining programmes (its scales, patronage, steps to be

²⁹⁰https://www.bgr.bund.de/DE/Themen/Min_rohstoffe/Downloads/studie_Laendervergleich_2020.html

²⁹¹ <https://power-shift.de/>

²⁸⁹ <https://www.rag-stiftung.de/>

elaborated by the authorities to reduce the political impact on mining sector etc.).

M.R. - Mining differs from country to country, from region to region. In some parts of the world, laws are good, environmental protection on the paper strong, but there is a lack of enforcement, of financial support for local officers, for the implementation of laws. Other countries have weak laws, sometimes in some areas nearly no laws. And there is an international level, where also standards are missing. This includes countries, where the metals and minerals go. The UN Guiding Principles on Business and Human Rights say that all countries are accountable. E.g. we push in Germany for a supply chain due diligence law that companies using e.g. metals and minerals, have to identify and mitigate human rights risk in their supply chain, have independent 3rd party audits and transparent reporting. An okay example is the EU regulation for conflict minerals, even if this regulation lacks raw materials (included are only tin, tungsten, tantalum and gold) and the downstream industry (from smelter / refiner to the final product).

Sadly, the environmental debate is dominated by climate policies and the climate crisis. That has good reasons, because it is threatening our lives on this planet. Same time, 10 % of GHG (greenhouse gas) emissions come from mining and smelting / refining. Loss of biodiversity is an issue, beside agriculture, mining is also a reason of it. And while we discuss energy, mobility and other transitions, we forget about the metals and minerals we need for this. This brings in new player, like DeepGreen pushing to mine the last untouched areas, the deep sea, to mine there.

A.V. - *Political and institutional prerequisites for successful mining establishment and development. German Federal Government's approach...*

M.R. - There is a great Alternative Minerals Management Bill (AMMB - written by Philippine NGOs) - I think this is a good blue print, how mining could find acceptance by local communities and good be managed. It includes local participation, clear rules, clear communication on risks and limited room to manoeuvre for the companies. Sadly, the German Federal Government - we are importing nearly 99,7% of all our primary mining products, metals and minerals - is focusing on the security of the supply for the industry. They are supporting programmes like international EITI,

CONNEX and geological services, but as NGOs we say, we need a more more direct transition. (You can find our positions here: <https://power-shift.de/policy-paper-working-group-on-raw-materials-towards-a-democratic-and-globally-just-resource-policy/>).

A.V. - *Mining in the international agenda. Criteria and mainstreams, challenges...*

M.R. - Lack of laws, lack of regulation (binding human rights regulation and enforcement), lack of transparency (especially trade flows, financial flows), lack of accountability (metal user companies don't fear any problems). A UN treaty might be a chance ,but is not realistic in the moment, because EU, US and Japan are blocking it.

A.V. - *Are there success stories on international ground, (preferably in Germany), when authorities avoided the public resistance and set dialogue between society and public actors? If yes, could you, please specify the tools they apply to make feasible this dialogue?*

M.R. - There are a lot. In Argentina, glaciers were protected and mining was stopped. In the Philippines some local governments had ordinances to ban open pit mining (and stopped mining indirectly, e.g. in South cotabato), in Peru people blocked streets and stopped companies, in El Salvador the government banned mining in general (they had mainly gold), there are huge campaigns like Right-to-say-No-campaign, divestment-campaigns. Some governments like Indonesia stopped to export only the ore - so they created jobs inside the country (e.g. Vietnam, Indonesia), others had new mining rules for Artisanal Miners (Tansania) and taxes were increased (South Africa, DR Congo). Also regarding human rights standards, EU regulation on conflict minerals, US Dodd Frank Act etc. were first steps in a good direction. Companies like Apple, BMW, etc. started to care and report much better on their websites. They are working to clean their supply chain. A company like Fairphone or Nager IT show it is possible.

A.V. - *What are the principal strategies that the domestic governments should adopt to reduce the environmental damage caused by ore mining industry?*

M.R. - I cannot speak on this for mining rich countries. There are different ways. You have to think, if mining is the right answer (and if not, what are opportunities / alternatives). Do you wanna use

the minerals in your own country, like Indonesia or are you saying: we don't have the water for more smelting and refinery and we want to export, but earn more money (like some people in Mongolia say). Do you fight for fair payment (like the striking miners in Marikana, South Africa) or do you want to stop a mining company (like indigenous peoples in the rain forest or in Peru).

We, as German NGOs say, we have to focus on the demand much stronger. There, we have to change. It affects our mobility - much less personal use cars - it affects or efforts for circular economy (we have to do much more on this), we have to ban throw-away-goods (cafe capsules), we have to renew our energy systems and in the same time think about, how to reduce our consumption. What kind of digitalisation do we want? And do we need? I think we need in the EU and globally a debate about raw materials, the consequences of our consumption and change in laws and policies.

Interview with Andrey Ralev - independent biodiversity expert, environmental specialist, Balkani Wildlife Society, Sofia, Romania. Andrey is also the founder of the "Perangua" global network for the environmental activists²⁹², which supports nature conservation campaigns around the world. "Perangua" is also supporting the campaign in Armenia to save Amulsar from a gold mine together with Ecolur.org, Green Armenia NGO, Bankwatch Network. 09.04.2020

A.V. - Mining as an environmental debate and the role of politics there...

A. R. - It is obvious that all around the world mines are important part of environmental and political debate. They give a lot of jobs, but create also environmental and health problems to many people. So politicians have a difficult time to decide what to do - approve or not a mine, close it or not... In situation like this it is easier to promote mining in more autocratic, less democratic states. Armenia is a good example - corruption (especially during the previous regime, but also looks like there are some problems now in part of the Pashinyan government) has helped open many unsustainable mines with huge problems for

the population. Finland is an exception, democratic state, but very liberal to opening new mines.

A.V. - Are there success stories on international ground when the authorities find the best way to cooperate with the public around mine construction projects? If yes, please, specify... And it is interesting, what tools they usually apply (or preferable to apply) to reach this goal?

A. R. - A relatively good example is the Ada Tepe gold mine near Krumovgrad, Bulgaria. After strong debate, campaign from NGOs and local people, they changed their technology. Decided no to use cyanide technology for heap leaching (same as Amulsar) and to use only one of four hills they had concession for.

A.V. - And some questions with regard to Armenia's case, specifically, to Amulsar crisis: How threatening is the Amulsar mine exploitation for Armenia's environment?

A. R. - I would say there are some proven negative impacts and too many uncertainties to approve it. What we do know: already we have pollution of Arpa River during construction and destruction of habitats in the open pits, Heap Leach Facility, transport conveyors, etc. Amulsar is a pretty special mountain - important source of water, huge importance for endemic flora, core habitat for many birds and mammals. And also has potential for tourism (trekking, birdwatching, skiing) and livestock breeding. It is also a pretty important biocorridor for big mammals between South and Central Armenia, Artsakh. My personal opinion is that Amulsar is one of the places that new mines shouldn't be allowed. Also too close to Gndevaz and the Arpa River Canyon (an amazing place for biodiversity).

A.V. - How will you assess the level of ecological awareness and eco-consciousness of Armenian people?

A. R. - When I first came in 2013 the situation was pretty bad with littering, air pollution, etc. Even worse in Artsakh. I see a slow improvement now. And especially among young people. I am happy it is not only in Yerevan - a great example is Jermuk and the Amulsar defenders.

Thanks to the Amulsar campaign there is a rising community of eco-conscious Armenians. Also I see in the birdwatching community many more people

²⁹² "Perangua" global network for the environmental activists
<https://perangua.com/>

are against poaching. But it is not enough, environmental problems are everywhere and very disappointing for me is the lack of will in the new Ministry of Environment to change that. For example the water management problems or the transforming of grasslands into arable land. When we talk about politics and environment a problem I see is the blind believe in Pashinyan among great part of the society. This doesn't allow to have an objective view of the situation and also stops people from doing things ("Pashinyan will solve our problems").

A.V. - Do you see a political patronage in mining sector in Armenia and specifically with regard to Amulsar project?

A.R. - Yes, for sure. Much more in the previous government, but also now. And also there is a lack of experience in the current government - so they are afraid to stop Amulsar.

3.6. International environmental conventions and treaties in relevance to mining industry

International policy conventions have a great potential for impacting national and subnational policy formulations by putting pressure on both governments and stakeholders with interest in mining. Despite this, very little seems to be written on the impact of international conventions on mineral development. EU-legislation has during the past years in an increasing amount focused on decentralized administrative processes where participation and democracy are the foundation. There has though been evidence of some development processes not following this intended approach. In a study of large scale wind power development off the coast of Germany Bruns & Gee (2009) has discovered that development has been heavily dominated by top-down implementation, largely lacking participation from all stakeholders but government authorities. (See: *Political and Institutional Prerequisites for Successful Mining Establishment and Development, A*

Synthesis of Social Science Research, Stefan Linde, Simon Matti, Sverker Jagers, 2012)²⁹³.

Consistent with rights enshrined in the **United Nations Charter**²⁹⁴, mineral exploration is a national responsibility and national legislation governs all activities within a national jurisdiction. International activity has been substantially driven by the interest of international minerals companies, locally regulated by domestic legislation, and with specific-interest non-government organizations vigorously applying their own standards to perceived transgressions of accepted practice. Exceptions relate to areas which are clearly recognized as being of international interest embodied in negotiated and ratified treaties, and to areas which fall outside defined national jurisdiction, the two major areas defined being the Deep Sea and Antarctica. Over the past two to three decades other issues important to the mining industry have been included in international treaties, conventions and declarations, and these include references to human rights, the environment and to "social contracts", all of which are relevant for companies operating beyond the borders of their country of origin.

The formation of the United Nations in 1945 established an organization committed to freedom of the individual and to the preservation of the rights of individual sovereign nations. Declarations of common interest to nations were identified as international treaties and accorded special significance under the Vienna Convention²⁹⁵. When ratified by signatory nations, treaties entered law, as customary international law, or as domestic law of individual countries in the manner decreed by that country's constitution. Two treaties include specific reference to mining activities, and then only in relation to areas of the world recognized as international in status, being outside the territorial boundaries of any sovereign state. Numerous other treaties which have acquired the force of law included references to activities which were an

²⁹³ *Political and Institutional Prerequisites for Successful Mining Establishment and Development, A Synthesis of Social Science Research, Stefan Linde, Simon Matti, Sverker Jagers, 2012*
<https://www.diva-portal.org/smash/get/diva2:995335/FULLTEXT01.pdf>

²⁹⁴ *United Nations Charter*
<https://treaties.un.org/doc/publication/ctc/uncharter.pdf>

²⁹⁵ *Vienna Convention*
<https://treaties.un.org/doc/Publication/UNTS/Volume%201155/volume-1155-I-18232-English.pdf>

integral component of mineral exploration. Notwithstanding, treaties between sovereign states and enforcement mechanisms were slow, cumbersome and, for mining related activities, rarely implemented. In recent years, the attention of the developed world has been drawn to the need to act responsibly in relation to the management of the earth's natural resources so as to ensure their continuing availability to future generations. The processes now known as sustainable development, have become general practice; accepted by mining companies and informally policed by non government organizations, private single interest groups, driven by altruistic motives, but largely forming the public conscience in relation to industry transgressions of "best practice". (See: *International Treaties governing mineral exploration, Eric L Garner AM*)²⁹⁶.

Laws regulating mining are increasing in scope and stringency, based on the new international paradigm of "sustainable development" - development that meets the needs of the present without compromising the ability of future generations to meet their own needs. For mining, this means focusing not only on traditional economic concerns, but also on new social, economic, and environmental concerns, particularly in developing nations with resource-based economies. International environmental law is becoming a significant part of this changing regulatory framework, eroding state sovereignty over resources with new treaties, judicial decisions, and the codes and practices of governmental and industry organizations. (See: *Mining, Environment and Development, a series of papers prepared for the United Nations Conference on Trade and Development(UNCTAD)*)²⁹⁷.

The **International Labour Organization (ILO)**²⁹⁸, which is an agency under the UN concerned with international labor issues that promotes the rights of workers, determined a convention was needed to protect the health and safety of mine workers. The convention that was eventually adopted for this

²⁹⁶ *International Treaties governing mineral exploration, Eric L Garner AM*, <https://www.eolss.net/Sample-Chapters/C09/E6-65-05-04.pdf>

²⁹⁷ *Mining, Environment and Development, a series of papers prepared for the United Nations Conference on Trade and Development(UNCTAD)*
<http://www2.udec.cl/alfat/intro/docs/pring.pdf>

²⁹⁸ *International Labour Organization (ILO)*
<https://www.ilo.org/global/lang-en/index.htm>

purpose was the **Safety and Health in Mines Convention of 1995**²⁹⁹.

In the U.S., mine safety is regulated by the **Mine Safety and Health Administration**³⁰⁰, or MSHA, which is an agency of the U.S. Department of Labor³⁰¹. This agency is responsible for enforcing the regulations of the **Federal Mine Safety and Health Act of 1977**³⁰². Often just called the Mine Act, this law sets safety and health standards for miners and requires annual inspections of all U.S. mines by MSHA. It's an amended version of the **Coal Mine Safety and Health Act of 1969**³⁰³, usually just called the Coal Act, which was the most comprehensive and strict federal legislation for mining at that time.

The Mine Act made some significant improvements to the Coal Act. Not only did it consolidate federal regulations for the health and safety of all mining operations (coal and non-coal), but it also provided greater protection for miners, as well as expanded their rights.

In 2006 came even stronger federal legislation, in the form of the **MINER Act**, or the **Mine Improvement and New Emergency Response Act**³⁰⁴. Previously, an emergency response plan was developed after an accident occurred, which wasted both time and resources. One major change seen in the MINER Act was the requirement that mine-specific emergency response plans be developed ahead of time and are continuously updated as appropriate. The MINER Act also required emergency responders to be better trained and be more readily available to respond to mine accidents. (See: *Mining Laws, Regulations, and Treaties: Safety and Reclamation*)³⁰⁵.

The Convention on Environmental Impact Assessment (EIA) in a Transboundary Context

²⁹⁹ *Safety and Health in Mines Convention of 1995*
https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0:NO:P12100_ILO_CODE:C176

³⁰⁰ *Mine Safety and Health Administration* <https://www.msha.gov/>
³⁰¹ U.S. Department of Labor <https://www.dol.gov/>

³⁰² *Federal Mine Safety and Health Act of 1977*
<https://arlweb.msha.gov/REGS/ACT/ACTTC.HTM>

³⁰³ *Coal Mine Safety and Health Act of 1969*
<https://arlweb.msha.gov/solicitor/coalact/69act.htm>

³⁰⁴ *Mine Improvement and New Emergency Response Act*
<https://www.msha.gov/2006-%E2%80%93-mine-improvement-and-new-emergency-response-act-miner-act-passed>

³⁰⁵ *Mining Laws, Regulations, and Treaties: Safety and Reclamation* <https://study.com/academy/lesson/mining-laws-regulations-and-treaties-safety-and-reclamation.html>

(Espoo Convention)³⁰⁶ and its **Protocol on Strategic Environmental Assessment (SEA)**³⁰⁷ both include major mining activities in their scope, thus requiring impact assessment, effective opportunities for public participation, the consultation of relevant authorities and other elements of environmental assessment.

In 2014-2016, an SEA pilot exercise in Armenia (SEA of the National Strategic Development Plan, Road Map, and Long-Term Investment Plan for the Solid Waste Management Sector of Armenia – carried out with EU (EaP GREEN) funding) addressed mining waste to a certain extent. The draft SEA report recommended inter alia Armenia to “Address the contamination of soil and water due to leakages from tailing ponds. In many areas of the country the pollution associated with mining significantly exceeds the maximum allowable concentrations and is the main source of contamination. It is necessary to conduct rehabilitation of the tailings”. (See: *UNECE and responsible mining*, Dec. 2009)³⁰⁸.

The Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)³⁰⁹ and its **Protocol on Pollutant Release and Transfer Registers (PRTRs)**³¹⁰ provide solid frameworks for provision of access to information, public participation in decision-making and access to justice in environmental matters, which are essential for ensuring the protection of the rights of every person to live in a healthy environment. The objective is that the public can access timely and adequate information and participate in the decision-making regarding policies, plans or programmes, including, for mining activities. Effective access to information and public

participation are prerequisites for responsible mining as they contribute to the promotion of sustainable management of resources, which ultimately reduces the impact of related activities on the environment and on human health. In this regard, the Convention’s Parties are obliged to effectively provide information, identify and notify the public concerned about proposed activities and provide early public participation when all options, including the “no activity” option, are open. Such participation should embrace also marginalized groups, including women, indigenous peoples and the elderly.

The implementation of the **PRTRs Protocol** helps to raise awareness of potential risks emanating from releases to or transfers of pollutants through land, air or water and to take the required actions accordingly. Both treaties thereby help to recognize that if the public is able to participate in decision-making from the outset, it is likely that the final outcome of a mining activity will be more acceptable to them and less harmful to the environment. It also means that hidden or unexpected aspects of a proposed activity can be uncovered early, helping to avoid costly mistakes. To assist the implementation, intergovernmental and expert bodies under the Convention and its Protocol, are addressing a number of priority subjects identified by Parties.

3.7. Participation of the Republic of Armenia in the International Environmental Agreements³¹¹

Armenia has signed a number of international environmental agreements on mining management and activities. See the full list below:

³⁰⁶ *The Convention on Environmental Impact Assessment (EIA) in a Transboundary Context (Espoo Convention)*
https://treaties.un.org/doc/Treaties/1991/02/19910225%2008-29%20PM/Ch_XXVII_04p.pdf

³⁰⁷ *Protocol on Strategic Environmental Assessment (SEA)*
<https://www.unece.org/fileadmin/DAM/env/eia/documents/legaltexts/protocolenglish.pdf>

³⁰⁸ *UNECE and responsible mining*, Dec. 2009
<https://www.oecd.org/environment/outreach/UNECE%20and%20responsible%20mining%206.6.17%20rev.pdf>

³⁰⁹ *The Aarhus Convention*
<https://aarhus.osce.org/about/aarhus-convention>

³¹⁰ *Protocol on Pollutant Release and Transfer Registers (PRTRs)*
https://treaties.un.org/doc/Treaties/2003/05/20030521%2008-36%20AM/Ch_XXVII_13_ap.pdf

³¹¹ *Ministry of Environment of The Republic of Armenia*
<http://www.mnp.am/en/pages/53>

	<i>Name, Place and Date</i>	<i>Convention entered into the force</i>	<i>Signed by RA</i>	<i>Ratified by NA RoA</i>	<i>In force for RA</i>
	GLOBAL CONVENTIONS				
1	<i>Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 1971)</i>	21.12.1975		<i>Acceded as assignee by the request of MFA RA 1993</i>	1993
2	<i>Convention concerning the protection of the World Cultural and Natural Heritage (Paris 1972)</i>			<i>Acceded as assignee by the request of MFA RA 1993</i>	1993
3	<i>UN Convention on Biological Diversity (Rio-de-Janeiro, 1992)</i>	29.12.1993	1992	31.03.1993	14.05.1993
4	<i>UN Framework Convention on Climate Change (New York, 1992)</i>	21.03.1994	13.06.1992	14.05.1993	21.03.1994
	<i>- Kyoto Protocol (Kyoto, 1997)</i>	16.02.2005		26.12.2002	16.02.2005
	<i>- Doha Amendment of Kyoto Protocol</i>			31.03. 2017	
	<i>- Paris Agreement (Paris, 2016)</i>	4.11. 2016,	20.09.2016	23.03. 2017	22.04.2017
5	<i>UN Convention to Combat Desertification (Paris, 1994)</i>	20.09.1997	1994	23.06.1997	30.09.1997
6	<i>Convention for the Protection of the Ozone Layer (Vienna, 1985)</i>	22.09.1988		28.04.1999	01.10.1999
	<i>Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal, 16 September 1987)</i>	01.01.1989		28.04. 1999	01.10.1999
	<i>London amendment</i>			22.10.2003	26.11.2003
	<i>Copenhagen amendment</i>			22.10.2003	26.11.2003
	<i>Montreal amendment</i>			29.09.2008	18.03.2009
	<i>Beijing amendment</i>			29.09.2008	
7	<i>Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel, 1989)</i>	05.05.1992		26.03.1999	01.10.1999

8	<i>Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemical and Pesticides in International Trade (Rotterdam, 1998)</i>		1998	22.10.2003	26.11.2003
9	<i>Stockholm Convention on Persistent Organic Pollutants (Stockholm, 2001)</i>	17.05.2004	2001	22.10.2003	17.05.2004
10	<i>Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Washington, 1979)</i>	01.07.1975		10.04.2008	21.01.2009
11	<i>Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)</i>	01.11.1983		27.10.2010	01.03.2011
12	<i>Convention on Mercury (Minamata, 2013)</i>	16.08.2017	10. 10. 2013	13.12.2017	13.03.2018
	REGIONAL UNECE CONVENTIONS				
13	<i>UNECE Convention on Long-range Transboundary Air Pollution (Geneva, 1979)</i>	16.03.1983		14.05.1996	21.02.1997
	<i>Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe (EMEP)</i>	1988		20.10.2013	21.04.2014
14	<i>UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)</i>	10.09.1997		14.05.1996	10.09. 1997
	<i>- Protocol on Strategic Environmental Assessment (Kiev, 2003)</i>	11.07.2010		25.10.2010	24.04.2011
15	<i>UNECE Convention on Transboundary Effects of Industrial Accidents (Helsinki, 1992)</i>	2000		14.05.1996	21.02. 1997
16	<i>UNECE Convention on access to information, public participation in decision making and access to justice in environmental matters (Aarhus, 1998)</i>	30.10.2001	1998	14.05.2001	01.08.2001
17	<i>UNECE Convention on Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 1992)</i>	06.10.1996			
	<i>Protocol on Water and Health (London, 1999)</i>		1999	In the process of ratification	

18	<i>Convention on the Prohibition of Military or any Nostile use of Environmental Modification Techniques (Geneva, 1976)</i>	05.10.1978		04.12.2001	15.05.2002
19	<i>European Landscape Convention (Florence, 2000)</i>	01.03.2004	2003	23.03.2004	01.07.2004
20	<i>Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979)</i>	01.01.1982	2006	26.02.2008	01.08.2008

3.8. Conclusions

The overall observation of the international mining practices in this chapter leads to the conclusion that the adoption of the principle of proper implementation of business by political leaders, policy makers and decision makers is a guarantee of further public support for the development of the mining sector. In Germany there is no involvement of the state in the mining business e.g. no government stakes in mining companies. Germany does not use bidding to obtain mining projects. Getting a mining permit is first and foremost an administrative procedure. At the same time, several environmental movements in Germany raise their concerns about the extraction of raw materials that takes place at the expense of the environment and leads to human rights violations. As per their assertions, the German Federal Government does not take these consequences adequately into account. Instead, it supports the industry because of concerns around security of supply.

Here it is important to consider the role of international conventions and agreements.

Some of them are related to environmental management and human rights protection. While the issues related to the implementation of these conventions and agreements by the authorized bodies and internal bodies are not specifically controlled or declared in several countries, however, the existence of these conventions promotes being in line with international best practices.

Our study of international experience showed that mining laws and legal and technical capacity in many countries still need to be enhanced in order

to include new internationally recommended good mining practices. The good signs about this are that responsible mining companies tend to adopt everywhere good mining procedures according to the best international standards, although this might be far from being the general behavior yet. Some international initiatives, such as Extractive Industries Transparency Initiative (EITI), are important in this process. At the same time, the availability of legal remedies defines the responsibility and control of states and companies.

Armenia has signed about 20 international agreements on mining management and activities, unfortunately, many of them have been violated due to irresponsible mining operations, including the Amulsar-Teghut mining projects.

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social risks. Those recommendations could be a guideline for the Armenian Government and decision-makers to elaborate a responsible mining policy in our country in the future.

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Abbreviations & Acronyms

RA - Republic of Armenia

RA NA – National Assembly of the Republic of Armenia

IFC - International Finance Corporation

EBRD - European Bank for Reconstruction and Development

GDP - Gross Domestic Product

GHG - Greenhouse Gas

EIA - Environmental Impact Assessment

ESIA - Environmental and Social Impact Assessment

SC - Armenia's Statistical Committee

GARD - Global Acid Rock Drainage

ACP - Armenian Copper Programme

ICMM - International Council of Miners and Minerals

BGR - Bundesanstalt für Geowissenschaften und Rohstoffe (Federal Institute for Geosciences and Natural Resources)

EITI - Extractive Industries Transparency Initiative

OECD - The Organisation for Economic Co-operation and Development

ILO - International Labour Organization

AMMB - Alternative Minerals Management Bill

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