CASE STUDY

POLITICS & SOCIETY

THE CASE OF THE PLANNED LLURIMAGUA COPPER MINE, ECUADOR

WHY ENVIRONMENTAL DUE DILIGENCE MATTERS IN MINERAL SUPPLY CHAINS

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PICTURES AT THE FRONT COVER
Atelopus longirostris (Credit: Carlos Zorrilla)
2006, paramilitaries hired by the Canadian Company Ascedent Copper, trying to gain access to the mining project (Credit: Elisabeth Weyth).

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Brief Summary

This study illustrates the case of a potential copper mining project LLurimagua in the zone Intag in Ecuador, located in a cloud forest characterised by high rainfall and high biodiversity. It lays out the history of mining companies in the region and based on different scientific studies the huge environmental impact an operation would have. Moreover, it shows that the government does not ensure that the interest of local population and the environment is adequately considered in the context of setting up the mine amongst other as itself steps in with its own company. Furthermore, it illustrates the conflicting economic and conservation interests at national and cantonal level.

All in all this case study shows why it is so important to include environmental due diligence into legal due diligence frameworks and what aspects have to be considered when putting it into practice. Furthermore, the author Carlos Zorilla outlines different environmental red lines as well as specific detailed criteria which should be evaluated in the context of environmental due diligence. This evaluation can also imply that specific regions have to be declared as “No-Go-Zones”.

Content

1 Preface:

In the past years there has been a vital debate concerning the concept of human rights due diligence which derives from the United Nations Guiding Principles on Business and Human Rights launched in 2011. The United Nations Guiding Principles on Business and Human Rights provide a framework for corporations to exercise due diligence throughout their global operations, including: i) identifying and assessing potential and actual human rights impacts; ii) integrating and implementing the results of the assessment; iii) tracking and monitoring the implementation of measures to prevent and mitigate impacts; and iv) communicating and reporting on measures to prevent and mitigate impacts.

Since, a couple of binding due diligence legislations have been passed obliging companies to assess and mitigate human rights risks in their supply chains. Many of them focus on specific issues such as child labour (Netherlands), slave labour (UK), or the EU Conflict Minerals Legislation on several minerals and risks like the worst forms of child labour, forced prostitution, financing of armed groups etc. To this date, there are few legislations worldwide focusing on all human rights with exceptions like the Loi de vigilance (France) that address all sectors (horizontal human rights due diligence legislation). This legislation is even more extensive as it also covers environmental due diligence which to date in most legislations is still neglected. In 2011 the OECD Guidance on Multinational Enterprises and again in 2018 the OECD-Guidance on Responsible Business Conduct highlighted the responsibility of corporations also in regard to the environment. Still until now, as mentioned before, environmental due diligence has hardly been integrated into legislations and it is not yet as concrete as UN Guiding Principles on Business and Human Rights are in regard to human rights concerning responsibilities of corporations.

Human rights due diligence captures environmental destruction when it is directly linked to human rights violation like a toxic spillage, which directly causes death or health issues. But it is clear that without an environmental dimension to due diligence legislations the 1) destruction of biodiversity, climate and other environmental damage that not directly leads to human rights abuses and 2) destruction that cumulatively adds up and leads to human rights abuses by corporations in the long run will be very difficult to tackle.

There are several horizontal due diligence legislations being drafted at the moment amongst others by the European Union. This planned legislation is meant to be a human rights and environmental due diligence legislation. As this study will show, the inclusion of environmental due diligence is a crucial step in order to prevent environmental disaster and further loss of biodiversity. It shows how complex environmental protection becomes in cases where governmental institutions are weak and governments themselves are interested in the mining operation as such.

In the following the case of LLurimagua in the Intag region with its potential severe impact on the environment will be presented. It is an interesting case in this respect as the potential impact is well documented by an independent environmental impact assessment of the Japanese State. It shows the complexity of different legislations, the challenges in cases where the government has different interests than the cantonal and that huge environmental impacts occur during the initial stage of

mining operations which mostly is the time when supply contracts are not in place yet. This poses special challenges to environmental due diligence of sourcing companies and machinery producers delivering equipment to a mine .

After presenting the case, the author Carlos Zorilla[1] lays out different red lines and aspects to consider before starting to mine and before starting to buy minerals from a mine. Carlos Zorilla has been part of the resistance against mining projects in the Intag region since 25 years. He works with the NGO Decoin and has been involved in the fight against mining operations in Intag to protect the unique nature in the area for the past 26 years. He also contributed to the launching of initiative and businesses that provide alternative economic incomes to mining and gathered a lot of knowledge about processes around the start of mines and its impact on the environment with which he contributes to this paper. Not at least he travelled to Germany in 2019 to ask an automotive producer to put pressure on a mining company currently wanting to mine in Intag to withdraw from its operation in the region[2].

To conclude the paper we will link the case study to the debate on environmental due diligence. By this we want to contribute to the discussion on environmental due diligence, show how important it is and map relevant elements that we should continue to think about when further conceptualising environmental due diligence.

[1] Amongst others because of the difficulties with judicial measures, in the long history of the mining project in the region, different NGOs together with community members, have implemented dozens of additional measures to stop mining in their area. Among the most effective are seen to be: The involvement of human rights organisations to monitor the situation and train the communities on their human and collective rights vis-à-vis the companies; The production of a handbook for the communities with ideas on how to confront the companies in a peaceful way; The push by the citizens to create two Cantonal laws (Ordinances) to halt environmental degradation including halt mining; The generation of productive alternatives to mining (including ecotourism and organic coffee production);The taking of resistance measures by community members, including physically hindering company employees' access to mining concessions, closing roads; Constant denouncing abroad regarding the actions of companies and environmental risks.

[2] All in all it has to be said that copper mining is destructive whilst at the same time current technological developments towards renewable energies, e-mobility and an increasing digitalisation demand for more copper. Reduction, Reuse and high quality recycling have to be put in the core of this technological transition in order to decrease the need of copper, amongst others, as much as possible.

2 Quick facts about the project

Background information and state of the operations	The current mining project Llurimagua constitutes the third attempt to set up mining activities in the region. Strong resistance of the local population forced a Japanese and a Canadian mining company to leave the area. In 2011, the current mining project was developed by a joint venture of the Ecuadorian national mining company ENAMI (51%) and the national mining company of Chile CODELCO (49%). The initial explorations have been finalised. The approval of the environmental impact study to amplify the exploration is still pending. Some US$250 million is due to be spent on the project over the next four years to bring it to a construction decision, which could see Llurimagua potentially produce 210,000 tonnes of copper per year for 27 years.
Characteristics of the region	The Intag region, where the mining project is located, is part of the Tropical Andes, the most important Hotspot of the 36 Hotspots of Biodiversity on the planet.[3] There are 279 animal species in danger of extinction,[4] which are on the Red List of the UICN y and are threatened by the Llurimagua project. The region is characterised by high rainfall and superabundance of underground water.
Expected consequences of the copper extraction	The 4,839 hectares of the Llurimagua concession are characterised by an enormous diversity in species. If the Llurimagua project goes ahead to the exploitation phase, it would mean the deforestation of thousands of hectares of primary forests which are home to endemic species and species in danger of extinction; it would pollute pristine rivers with heavy metals; destroy pre-Incan archaeological vestiges; and it would require the relocation of between four and six communities[5]. Moreover the region is characterised by high rainfall and superabundance of underground water which increases the risk for acid mine drainage.
Ruling against the mining project based on the rights of nature	In a trial on cantonal level regarding the legality of the project,[6] a judge recently ruled in favour of the rights of nature above the corporate interest, giving the defendants – the Ministry of the Environment and the Attorney General – three months to remedy the illegalities and irregularities detected in the first stage of the exploration. This process will be supervised by groups of civil society, including universities. The Ministry of the Environment immediately appealed against the ruling.

[3] Mittermeier, R.A., Gil, P.R., Hoffman, M., Pilgrim, J., Brooks, T., Mittermeier, C.G., et al. (2000): „Hotspots Revisited: Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions. Conservation International". Washington D.C.

[4] Roy, B. A., Zorrilla, M., Endara, L., Thomas, D. C., Vandegrift, R., Rubenstein, J. M., et al. (2018): "New Mining Concessions Could Severely Decrease Biodiversity and Ecosystem Services in Ecuador". Tropical Conservation Science, 11, pp. 1-20. https://doi.org/10.1177/1940082918780427

[5] Information based on the Environmental Impact Study financed by the Japan International Cooperation Agency, and other environmental impact studies and research. See also https://www.decoin.org/2020/02/codelco-cerca-de-financiar-catastrofica-mina-en-ecuador

[6] The judge conceded a protection action of the rights guaranteed in the Ecuadorian Constitution. See for example Rainforest Action Group (26 September 2020): "Major legal victory for endemic species in Ecuador Rights of Nature case". https://rainforestactiongroup.org/major-legal-victory-for-endemic-species-in-ecuador-rights-of-nature-case

3 Background

Two attempts to mine copper by international corporations

Junín is a community located in Intag, a 1,500 km^2 expanse of cloud forests and farms in north-western Ecuador (Cotacachi County, Imbabura Province). In the 1980s the government of Belgium supported Ecuador in identifying areas with mining potential. The canton of Junín in the province of Imbabura is among these areas where the presence of copper was identified. In the 1990's the Ecuadorian government requested assistance from the Japanese government to explore the area to determine its potential. Bishimetals, a subsidiary of Mitsubishi Corporation, received financing from the Japanese International Cooperation Agency (JICA) to explore for minerals in Junín. The Japanese confirmed the presence of a copper and molybdenum deposit in the area of the Junín-Cuellaje project, located in the exceptional biodiversity of the Toisán mountain range, but they were not able to complete the exploration due to the opposition of the local communities and government, and the exploration was terminated in 1997. Among the reasons for protests were the results of an Environmental Impact Study financed by the *Japan International Cooperation Agency.* The study identified the serious impacts that a mine would cause in this area.

In 2004, the Canadian company Ascendant Copper acquired the concession and attempted to reactivate the exploration, but the opposition of the communities did not allow the company to even enter the mining concession to continue explorations and to assess the economic viability of the deposit. In 2009 Ascendant Copper (now "Copper Mesa Mining Corporation") was forced to abandon Intag due to the strong resistance of the population, after which the company sued the state for compensation. As a consequence, in 2018 the Ecuadorian government had to pay 20 million dollars to the company to put an end to the legal dispute at an arbitration court.[7]

Third and current attempt: The Ecuadorian national mining company ENAMI and the Chilean national mining company CODELCO enter the region

In 2011, the Ecuadorian government signed an agreement with Chile authorizing the Chilean state company, CODELCO, together with the recently created state-owned Empresa Nacional de Minería del Ecuador, ENAMI, to develop several mining projects, among these the "Llurimagua" project. This was the name given to the same project that, for decades, was known as Junín, to separate it from the previous failure of the two transnational companies to develop the project. In 2014, the Ministry of the Environment approved the new Environmental Impact Study for the geological exploitation of the mining project (developed by the ENTRIX company and contracted by ENAMI itself). Protected by hundreds of police officers, the companies gained access to the mining concession to begin advanced exploration, affecting an area rich in archaeological remains, primary forests and pristine

[7] UNCTAD. Investment Dispute Settlement Navigator: „Coper Mesa v. Ecuador, Copper Mesa Mining Corporation v. Republic of Ecuador (PCA No. 2012-2)". https://investmentpolicy.unctad.org/investment-dispute-settlement/cases/436/copper-mesa-v-ecuador

rivers. The project is still in the pre-feasibility phase; [8] in other words, the phase to assess the profitability of the copper mine. CODELCO has already invested some $60 million in the project since 2012, drilling 98 holes. The capacity of the mine is estimated at 3.8 billion tonnes of ore grading 0.44% containing 16.9Mt of copper.[9]

The first phase of advanced exploration ended in 2018, and in January 2019 an expansion of advanced exploration was proposed with 160 new drillings in an area rich in primary and secondary forests. As of October 2020, however, companies have not been able to restart exploration for various reasons: impacts of the Pandemic, dissents on the best way to create a new company and on the value of the deposit; the non-approval of the Environmental Impact study for the exploration amplification. A report from the comptroller general, a controlling body of the government, confirmed that there were many irregularities and violations of the law in the exploration phase.[10]

Picture: Carlos Zorilla

[8] El Oriente/Mining Journal (13.01.2020): "Llurimagua, una decisión posible en 202". https://www.eloriente.com/index.php/articulo/llurimagua-una-decision-posible-en-2023/13716

[9] Mining Journal (13.02.2020): "New ENAMI boss with Llurimagua headache to sort out". https://www.mining-journal.com/copper-news/news/1380966/new-enami-boss-with-llurimagua-headache-to-sort-out (accessed 31.10.2020)

[10] Contraloría General del Estado. (2019): „DNA6 – Dirección Nacional de Auditoría de Recursos Naturales". https://www.contraloria.gob.ec/WFDescarga.aspx?id=57938&tipo=inf

4 Characteristics of the region – and the environmental impacts that will be caused by copper extraction

Several scientific studies and different environmental impact studies have contributed greatly to the knowledge of the characteristics of the area and the possible impacts of a copper extraction. It should be noted in this context that the first environmental impact study in 1996 financed by the Japan International Cooperation Agency[11] is important, on the one hand because it brought a lot of information about the possible impact of mining exploitation, and on the other because it was prepared by an independent institution. The following aspects could imply serious environmental impacts in the case of mining extraction.

High rainfall and high risk for acid mine drainage

Annual rainfall in Intag varies between 1,000 and 3,000mm on average. In the rainy season or under the influence of the phenomenon El Niño, the rainfalls are still higher.[12] Heavy rainfall, together with abundant underground aquifers like those present in Intag, along with heavy metals in the ore, make for a deadly mix.[13] This not only increases the risks of man-made disasters, such as landslides[14], but is also prone to generate acid mine drainage. In sites like where the Junin mine is being proposed, there is a superabundance of underground water (according to Japanese EIA). For the creation of large pits to dig out the ore, streams and aquifers must be diverted or dried up so the mine-pit does not fill up with water. If the water is pumped out from inside the pit, as will be inevitable given the high rainfall and seepage, the water will likely be contaminated with heavy metals as a result of acid mine drainage. This chemical phenomenon is very difficult to control, particularly when sulphur compounds in mining ore and waste rock come into contact with air and water. The sulphur acidifies the water, which then leaches heavy metals from tailings, plus the equally contaminated subsoil lying between the ground level and the ore. Once started, it may take thousands of years for the acidity to be neutralised. There are a dozen rivers within the concession area. The Japanese environmental impact assessment found them to be at high risk for heavy metal contamination, predicting concentration levels up to 100-fold higher than from what is normally found in the ground.

[11] See Japan International Cooperation Agency (1996): "Informe final sobre la exploracion mineral de cooperacion tecnica en las areas de junin y cuellaje, Republica del Ecuador". https://openjicareport.jica.go.jp/661/661/661_706_11282761.html

[12] Kocian, M., Batker, D., & Harrison-Cox, J. (2011): "An Ecological Study of Ecuador's Intag Region: The Environmental Impacts and Potential Rewards of Mining". Earth Economics, Tacoma, WA.

[13] See Japan International Cooperation Agency (1996): "Informe final sobre la exploracion mineral de cooperacion tecnica en las areas de junin y cuellaje, Republica del Ecuador". https://openjicareport.jica.go.jp/661/661/661_706_11282761.html

[14] Landslides or Baker dam bursts, as happened in January 2019 in Brumadinho, Brazil, when at least 237 people died in a dam burst at an iron ore mine. See Philipp, D. (2020): „Brazil prosecutors charge 16 people with murder in dam collapse that killed 270". The Guardian. https://www.theguardian.com/world/2020/jan/21/brazil-dam-collapse-mining-disaster-charges

Geographical and Geological conditions

The area where the copper has been detected is exceptionally steep and mountainous, making mining much more difficult and expensive than in most other mines. This was highlighted in the latest environmental impact assessment for the expansion of exploratory activities, which was made public on January 2019. The Japanese environmental impact assessment 1996 also includes clear indications that Junín's copper is very deep, making mining much more environmentally destructive and economically risky. The Toisan Range, and the northern Andes in general, have many geological faults, posing significant earthquake risks. In fact, the 2019 EIA classifies the area as being located in a region that is substantially at risk of a major seismic event every 10 years.

Biodiversity

The north-western part of Ecuador, where the mining project is located, is part of the Tropical Andes, and among the most important 36 Biodiversity Hotspots on the planet.[15] In 2018, researchers identified 279 species of endangered animals[16] that appear on the IUCN Red List within or near the forests now threatened by the Llurimagua project. Hundreds of other species could be added to Ecuador's red lists, many of them critically endangered. However, this does not yet include the two recently found endemic frog species that exist within the mining concession and nowhere else in the world. At the beginning of 2018, biologists preparing the new Environmental Impact Study for ENAMI[17] company, identified three species in critical danger of extinction; including a spider monkey. The Llurimagua project would raise their risk of extinction dramatically.

Moreover set in a bigger picture, the copper mine and other planned mining projects in the region would have a massive impact on regional climatic conditions, triggered by massive deforestation and manipulation of the hydrological system according to the Japanese Impact Assessment .[18] This would have serious consequences not only for agriculture and the ecotourism potential of the region, but also for the integrity of the large-scale Andean ecosystem. [19] The Intag region is an essential corridor for the Cotacachi Conservation Area. Due to the large number of mining concessions, Cotacachi is in danger of becoming an island surrounded by mines. Due to increased

[15] Mittermeier, R.A., Gil, P.R., Hoffman, M., Pilgrim, J., Brooks, T., Mittermeier, C.G., et al. (2000): „Hotspots Revisited: Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions. Conservation International". Washington D.C.

[16] Roy, B. A., Zorrilla, M., Endara, L., Thomas, D. C., Vandegrift, R., Rubenstein, J. M., et al. (2018): "New Mining Concessions Could Severely Decrease Biodiversity and Ecosystem Services in Ecuador". Tropical Conservation Science, 11, pp. 1-20. https://doi.org/10.1177/1940082918780427

[17] EntrixINC (2014): "Estudio de Impacto y Plan de Manejo Ambiental para la Fase de Exploración Avanzada para minerales metálicos de la concesión minera N° 403001 Llurimagua".

[18] See Japan International Cooperation Agency (1996): "Informe final sobre la exploracion mineral de cooperacion tecnica en las areas de junin y cuellaje, Republica del Ecuador". https://openjicareport.jica.go.jp/661/661/661_706_11282761.html

[19] Impacts identified in the 1996 Environmental Impact Study, drafted by Japanese technicians. See Japan International Cooperation Agency (1996): "Informe final sobre la exploracion mineral de cooperacion tecnica en las areas de junin y cuellaje, Republica del Ecuador". https://openjicareport.jica.go.jp/661/661/661_706_11282761.html For water polution see also Sacher, W & Chopard, A. (2017): "Megaminería y agua en Íntag: una evaluación independiente. Análisis preliminar de los potenciales impactos en el agua por la explotación de cobre a cielo abierto en Junín, zona de Intag, Ecuador".https://www.researchgate.net/publication/319234942_Megamineria_y_agua_en_Intag_una_evaluacion_independiente_Analisis_preliminar_de_los_potenciales_impactos_en_el_agua_por_la_explotacion_de_cobre_a_cielo_abierto_en_Junin_zona_de_Intag_Ecuador

isolation and edge effects such as forest drying, islands are losing biodiversity. In addition, the corridors provide an important link between the lower regions and the higher Andean elevations, an important migration route for many species to adapt to the changing conditions of climate change.[20] Additionally, due to the physical conditions and topography, an expert US geologist predicted that a major environmental disaster would inevitably occur due to the location and management of the tailings.[21]

5 Precautionary measures and monitoring

Current precautionary measures by the company

During the exploration phase, the two companies responsible took different measures to mitigate the negative impacts on the environment. While the concession holder, in this case ENAMI, was the main entity responsible for the measures, the two companies were active within the joint venture. Degraded areas were reforested with native species, streams were not obstructed with debris; biodegradable substances were used in the boreholes, the seize of most of the trails in the forest was minimised, machinery and materials were used that were transported by people or mules, and hazardous material and general waste were transported outside the mining area. Employees were trained in the prohibition of hunting and gathering of plants and animals.

At the same time, the companies set up and financed an environmental monitoring group made up of people from the communities within the direct and indirect impact area, which mainly monitors water quality. Some members of the group are also employees of the company. Every six month, they conduct environmental monitoring assessments which are required by the Environmental Impact Study. Before conducting the monitoring they were asked to follow a training by the company. They report the results mainly to the one community.

It is critiqued by community members that samples are taken at places which are not impacted and that the company can decide itself how to conduct and design the monitoring. There is no independent control to verify if the monitoring is done well. Until now the Ministry of the Environment has not deemed it necessary to verify the effective and faithful compliance with the measures implemented by the company, for example through periodic inspections. This is also critiqued by the Comptroller Generals report.[22]

[20] Báez, S., Jaramillo, L., Cuesta, F., & Donoso, D. A. (2016): "Effects of climate change on Andean biodiversity: a synthesis of studies published until 2015". Neotropical Biodiversity, 2(1), pp. 181-194. https://www.tandfonline.com/doi/full/10.1080/23766808.2016.1248710

[21] The inconceivable geophysical and environmental challenges of the mining area, which caused the North American geologist Steven Emerman of the Malach Consulting to conclude, in 2020, that Llurimagua is the most dangerous project he has ever evaluated, are added to the rest of the problems and uncertainties related to the mining project. See http://codelcoecuador.com/2019/11/11/codelco-fuera-de-intag/.

[22] Contraloría General del Estado (2019): „DNA6 – Dirección Nacional de Auditoría de Recursos Naturales". https://www.contraloria.gob.ec/WFDescarga.aspx?id=57938&tipo=inf

Monitoring by the community

In order to guarantee independent monitoring of the exploration actions, possible damages or acquired compliance, a community monitoring group was formed as an independent alternative to the monitoring group organized by the company. The selection criteria for this group were similar to that of the monitoring group created by the company, that is, willingness to dedicate time to the work and to conduct a training by a PhD in atmospheric sciences with extensive knowledge in geology. The group mainly monitors the water quality, and patrols the mining area during any mining activities. The results of the monitoring are public and have been used in legal proceedings against the mining project. They demonstrate the occurrence of water pollution; despite the company's commitment to water recycling and treatment. The community monitoring group found and documented, how water from exploration wells was discharged into the rivers without any treatment. However, a major problem with this group is that the work of its participants is rarely paid. The group receives funding from NGOs, and has worked with the Cantonal government, but lacks a stable source of funding.

In order to carry out their monitoring work, the community monitoring group needs to obtain free access to the entire mining concession without any hindrance from the company to carry out the monitoring. In the case of Llurimagua, access is not totally free, since it is controlled by the company. However, thanks to social pressure, it has been possible to access the mining concession on most occasions[23].

6 Irregularities and human rights violations during the exploration phase of the mining corporation ENAMI

During the advanced exploration phase, different rights of the local population were violated.

According to a report from the Comptroller General[24] the right to prior consultation was the first right to be violated, since the communities, to date, have not been consulted in a formal consultation process. The right to prior consultation is stipulated both in the United Nations Declaration on the Rights of Indigenous Peoples and in the Constitution of the Republic of Ecuador. [25] While the

[23] Observation Carlos Zorilla

[24] Contraloría General del Estado (2019): „DNA6 – Dirección Nacional de Auditoría de Recursos Naturales". https://www.contraloria.gob.ec/WFDescarga.aspx?id=57938&tipo=inf

[25] In the Constitution of the Republic of Ecuador of 2008, article 57, number 7, recognises that communes, communities, villages and indigenous nations have the collective right to prior, free and informed consultation within a reasonable timeframe about plans and programs of prospecting, exploitation and commercialisation of non-renewable resources that are found in their land and that may affect them environmentally or culturally; to participate in the benefits that these projects bring with them and receive indemnity for the social, environmental and cultural damages caused to them. The United Nations Declaration on the rights of indigenous peoples stipulates in article 32(2) that „States shall consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free and informed consent prior to the approval of any project affecting their lands or territories and

Declaration refers to the right of indigenous people the constitution forsees the right of all communities to an environmental consultation.[26] The execution of the consultations is the task of the State, so before starting the exploration, the competent state authorities would have had to invite the affected communities and local governments to discuss the project, identify important economic, social, cultural, and environmental issues to avoid impacting them, to document their objections and criticisms as well as their proposals to prevent or mitigate these risks and then act on them and the actions of the companies. This was not done. The government argued that there were no Indigenous People and there they did not consult although the constitution of Ecuador forsees an environmental consultation for all communities[27]. Furthermore, despite its importance, neither the local community nor the sub-national governments took part in identifying the elements that should be included in the Baseline and Environmental Impact Studies, or similar studies, in order to prevent negative impacts on the community and its environment. In the case of Llurimagua, the state entities did not comply with their legal obligations.

What was carried out instead between 2012 and 2019, by representatives of the state company ENAMI, holder of the concession, were meetings (not consultations[28]) with the communities within the area of indirect influence, and some within the area of indirect influence, in order to better-known "socialise" the project. In these processes, ENAMI explained to the residents the activities and goals of the exploration phases. However, these processes have been deficient since the information about the project was presented in a biased rather than objective manner. Only the positive aspects of the exploration (and the benefits of the future mine) were presented, especially the employment opportunities for people looking for work[29], while no people or organisations that could report on the possible negative impacts of the operations were invited[30].

other resources, particularly in connection with the development, utilization or exploit.“ See also Defensoría del Pueblo de Ecuador: “Consentimiento libre, previo e informado en el Ecuador: Aportes al Mecanismo de Expertos sobre los Derechos de los Pueblos Indígenas”. https://www.ohchr.org/Documents/Issues/IPeoples/EMRIP/FPIC/Ecuador_NHRI.pdf

[26] Defensoría del Pueblo de Ecuador: “Consentimiento libre, previo e informado en el Ecuador: Aportes al Mecanismo de Expertos sobre los Derechos de los Pueblos Indígenas”. https://www.ohchr.org/Documents/Issues/IPeoples/EMRIP/FPIC/Ecuador_NHRI.pdf p.9

[27] See Comptroller General Report footnote 24

[28] Prior consultation presupposes that the consulting entity, be it the state or a company, a) invites the community members and local productive and environmental organisations in advance; b) ensures that there is diversity of opinions and gender in the consultations c) encourages communities and subnational governments to invite experts on the subject and independent human rights entities (Ombudsman's Office and NGOs). Consultations must be carried out in in good faith; in other words, without the intention of deceiving or pressuring the populations with the sole purpose of obtaining the “approval” or social license. The purpose of the consultations is not to obtain the approval of those consulted, but to understand and respect the wishes of the communities to determine their own vision of the way of life and type of development they desire. And this is achieved only when the actors consulted fully understand what the social, cultural and environmental impacts of the proposed activity(s) would be in the short, medium and long term. It also implies that community representatives participate in identifying natural, cultural and/or spiritual elements that should not be affected by extraction activities. It is essential to ensure that company-community pacts or agreements, if they are to be carried out, have to be approved in public and participatory assemblies, with representation from the entire community, and not only by the individuals, usually men, who would be most benefited by the proposed activities. In the Constitution of the Republic of Ecuador of 2008, article 57, number 7, recognises and guarantees the communes, communities, peoples and indigenous nations the collective right to prior consultation. See also note no.25 in this document for more details.

[29] Observatorio Latinoamericano de Conflictos Ambientales (26.11.2014): “Aprueban estudio de impacto ambiental para explotación minera en Íntag”. http://olca.cl/articulo/nota.php?id=104987

[30] Carlos Zorilla participated in a meeting like this and observed the mentioned.

For example, when the companies socialised the Environmental Impact Study with the communities, they avoided mentioning the presence of endangered species and the high likelihood of water contamination, aspects that were highlighted in the study. Other aspects remained very vague; for example, the representatives of the companies said that they will recycle the water, it will be reforested with native species, and that the garbage will be moved outside the mining area, but they did not detail how these activities would be carried out. While the companies have collaborated with the community by delivering other enabling documents without major obstacles, the Environmental Impact Study was presented only without its annexes[31.32].

In the 2019 socialisation process, the companies as well as the Ministry of the Environment even created the impression that they were trying to prevent the participation and eventual criticism of the local population in the socialisation process. A Complementary Environmental Impact Study and Environmental Management Plan were presented in order to legitimise the expansion of exploration of the Llurimagua project. The 1,500-page study, packed with technical terms and extremely complex information, was presented in different offices for just three days and only in digital form, when very few people in the communities have computers in their homes. In addition, the Ministry of the Environment allowed only 15 days to receive comments from the public, when legally they should have allowed 30.[33]

Parts of the population rejected the presence of the companies, criticising the process and claiming that many of the presidents of the communities in the sector are employees of the company, or await their return to work when exploration work will resume, which is why they tried to mobilize dozens of people to visit the information centers and sign in support of the expansion, without having read the study.[34]

Other rights violated during the exploration phase of the Llurimagua project include the right to free movement and freedom. The residents' right to free movement was affected for two months throughout the Intag area by the illegal occupation of about 400 police officers and military personnel in May 2014, justified as a security measure to protect employees of the company and enter the mining concession while conducting the environmental impact assessment.[35]

Last but not least, the case of Javier Ramírez attracted international attention. The right to freedom of the activist in defence of environmental rights was affected when, in 2014, he was prosecuted for attacking Enami personnel and property (an action in which he did not participate), arbitrarily arrested and imprisoned for 10 months without a sentence. After national and international protests, he was not acquitted, but sentenced in a political process to a ten-month sentence for "rebellion."[36]

[31] Observed by Carlos Zorilla.
[32] Carlos Zorilla followed the process.
[33] Comisión Ecuménica de DDHH: “Comuneros rechazan socialización para ampliar minería en Intag”. https://www.cedhu.org/noticias/13-noticias-cedhu/101-mineria-intag
[34] Comisión Ecuménica de DDHH: “Comuneros rechazan socialización para ampliar minería en Intag”. https://www.cedhu.org/noticias/13-noticias-cedhu/101-mineria-intag
[35] Defensoria del Pueblo (2019): “Resolucion No. 003-DPE-DNDCNA-2019”. Quito. pp. 48ff. Moreover: Letter from National Policy to the Ecuadorian Military from 14 of June 2016
[36] See frontline defenders : „Historia del caso: Darwin Javier Ramirez Piedra“. https://www.frontlinedefenders.org/es/case/historia-del-caso-darwin-javier-ramirez-piedra See also Business & Human

7 Legal dispute between national and cantonal governments – the rights of nature

In addition to recognising and respecting the results of prior consultations on mining projects, the Ecuadorian Constitution obliges state bodies to take into account and assess the development plans and opinions of subnational governments and communities before granting mining concessions. The Cantonal government of Cotacachi has two environmental conservation laws that prohibit mining. At the same time, the Constitution recognizes the right of "land use" to Cantonal governments, and to plan development within their jurisdictions. Obviously, mining involves impacts on the soil, water, air, biodiversity, and local development, issues that are the responsibility of sub-national governments. The main legal tool available to subnational (Cantonal) governments that could be implemented against the mining project is therefore to deny permits for land use change.

However, the national government, through the national mining company ENAMI and the Ministry of the Environment, does not respect these laws, or says that they are not applicable, since it considers that, according to the powers granted to the national government in the constitution, sub-national governments have no jurisdiction over mineral resources. It is based on an article of the constitution which grants exclusivity to the national government of the management and administration of the subsoil resource.

In the past, the cantonal government presented several constitutional measures to try to stop the mining project. The last of these measures was presented in august 2020 based on violations of the Rights of Nature (see box) with the support of the local NGO “Decoin” [37], which obtained a favourable ruling in the first instance on the 24th of September. The court ruled in favour of the Rights of Nature on the economic rights of mining companies, giving the defendants - the Ministry of the Environment and the attorney general - three months to remedy the illegalities and irregularities detected in the first stage of exploration. This process will be overseen by a number of civil society groups, including universities. The sentence has been appealed immediately by the Ministry of the Environment.

Another legal process that has been initiated is based on the lack of consultation and the Rights of Nature, which would affect a protected forest (protected area). It is more than likely that in the future other constitutional actions will be presented based on the possible violation of the Rights of Nature, given the serious and permanent impacts produced by mining. Environmental due diligence could strengthen the implementation of the Right of Nature by putting more pressure on sourcing

Rights Resource Centre (03.03.2009): „Copper Mesa Mining lawsuit (re Ecuador)“. https://www.business-humanrights.org/en/latest-news/copper-mesa-mining-lawsuit-re-ecuador/ Moreover Rettet den Regenwald e.V. (25.02.2015): „Erfolg: Ecuador: Javier Ramírez ist frei“. https://www.regenwald.org/erfolge/6390/ecuador-javier-ramirez-ist-frei And El Comcercio (19.02.2015): „La sentencia de Javier Ramírez sentó un precedente en el valle de Íntag“. https://www.elcomercio.com/actualidad/intag-javier-ramirez-mineria-detencion.html See also Defensoria del Pueblo Footnote before.

[37] Zorilla, C. (2020): “Major legal victory for endemic species in Ecuador and the Rights of Nature”. https://www.decoin.org/ For more information see also London Mining Network (2020): “Right of Nature an effective tool for mining resistance”. https://londonminingnetwork.org/2020/12/rights-of-nature-an-effective-tool-in-mining-resistance/

companies to source minerals that are sourced in compliance with environmental regulations (more detailed in conclusion)[38]

Excursus: Rights of Nature in the Context of Extractivism

The rights of Nature are a concept that has gained acceptance worldwide (including Europe[39]). In general terms, it is the recognition that all the components of Nature are subject to rights. Ecuador was the first country in the world to incorporate them into its Constitution (Art. 71-74), but the courts of several other countries have ruled in favour of respecting the rights of, for example, rivers and mountains[40]. Article 71 of the Ecuadorian Constitution recognises that nature "has the right to have its existence fully respected and to the maintenance and regeneration of its vital cycles, structure, functions and evolutionary processes." If a mining project threatens to inhibit or interrupt the life cycles of certain species, for example, "[a]ny person, community, people or nationality may demand that the public authority comply with the rights of nature." Despite this, in Ecuador this right has been violated many times and there was a lot of criminalisation of activists who fought for the environment. However, in the present case the right of nature was recently the basis for a ruling against mining. In September 2020, a Cotacachi court judge ruled that if the government cannot demonstrate that it can adequately protect threatened species from extinction, mining permits will be revoked.[41]

[38] See minimal requirement in regard to environmental due diligence legislation: Krebs, D., Klinger, R., Galihofer, P., Scherf, S.C. (2020): „Von der menschenrechtlichen zur umweltbezogenen Sorgfaltspflicht. Aspekte zur Integration von Umweltbelangen in ein Gesetz für globale Wertschöpfungsketten". Umweltbundesamt. P. 49. https://www.umweltbundesamt.de/publikationen/umweltbezogene-sorgfaltspflichten.(p 38)

[39] See for example Schoukens, H. (2020): "Rights of Nature in the European Union: Contemplating the Operationalization of an Eco-Centric Concept in an Anthropocentric Environment?", pp. 205-234. In: Pereira J., & Saramago A. (eds) Non-Human Nature in World Politics. Frontiers in International Relations. Springer, Cham. http://doi-org-443.webvpn.fjmu.edu.cn/10.1007/978-3-030-49496-4_11

[40] See for example Knauβ, S. (2018): "Conceptualizing Human Stewardship in the Anthropocene: The Rights of Nature in Ecuador, New Zealand and India". Journal of Agricultural and Environmental Ethics, 31(6), pp. 703–722. Or also O'Donnell, E. L., & J. Talbot-Jones (2018). "Creating legal rights for rivers: lessons from Australia, New Zealand, and India", Ecology and Society, 23(1), pp. 7.

[41] Rainforest Action Group (26 September 2020): "Major Legal Victory for Endemic Species in Ecuador: Rights of Nature Case". https://rainforestactiongroup.org/es/major-legal-victory-for-endemic-species-in-ecuador-rights-of-nature-case/

8 (Legal) Defence from local actors

Before the above mentioned legal cases in the context of exploration of ENAMI and Codelco other legal disputes have taken place taking reference to legislation outside of Ecuador. This was when the Canadian company wanted to start explorations in the early 20nds. Here local actors of Intag among these Decoin presented a lawsuit against the Stock Exchange in Canada for human rights violations (which set a legal precedent). The main argument was that the Toronto Stock Exchange - despite being warned that the Copper Mesa Mining company was committing acts of violence through financing obtained at the same stock exchange - allowed the mining company to violate human rights in Ecuador. The Ontario courts rejected this approach, stipulating that neither the exchange nor the Copper Mesa directors had a legal obligation to consider possible damages to the plaintiffs during the conduct of their business operations in Ecuador. On the other hand, during the limited trajectory of the lawsuit, Copper Mesa lost its listing on the Toronto Stock Exchange and its main mining concessions in Ecuador were cancelled.[42] Consequently one can say that even if not officially , the lawsuit had some effect.

Although in the case of Intag, those affected had access to the law both nationally and internationally, the use of legal measures is linked to various difficulties and obstacles. First, it is a very expensive tool for communities in terms of time and attorney expenses; and success depends on the independence of the courts. It is obvious that rural communities, which are the most affected, find it difficult to obtain the resources to face a mining company. Second, the lack of independence of the Ecuadorian judicial system means, for example, that judges may fear retaliation for ruling against extractive (= state) interests for fear of losing their position. The third problem is the corruption that proliferates in many countries and that allows, for example, companies to buy the sentence that suits them by paying the judges. Compulsory human and environmental due diligence legislations in the home country of the mining companies (Chile, Canada) as well as of the sourcing companies could be another useful tool to prevent human rights abuses and environmental damage and to make it easier for local actors to access to remedy for local actors.

In the following box Carlos Zorilla has sketched out important aspects steaming from its experi-ence and work on mining in Intag. They refer to site related criteria that should be taken into account when acquiring minerals. Moreover, they refer to procedural standards. These aspects provide important insights for the debate around environmental due diligence which will be taken up in the conclusion.

[42] Mining Watch Canada (07.06.2011): “En búsqueda de justicia: víctimas de abusos de mineras recurren a los tribunales de Canadá”. https://miningwatch.ca/blog/2011/6/6/courting-justice-victims-mining-abuses-sue-canada

Red lines and requirements to consider in an environmental risk assessment from civil society perspective:

Carlos Zorilla

To protect the environment as well as our global climate future, and also to prevent human rights violations that often arise from environmental damage, there must be red lines beyond which the extraction and purchase of minerals, as well as investment in such projects, is banned (so-called "No-Go-Zones"). More specifically, the company must resist from acquiring minerals

- when the minerals come from **protected areas** at the national or sub-national level, or from any other area where extractive activities are prohibited by the constitution and laws of the country;
- when the minerals come from areas **designated by the UNESCO** as Natural Heritage of Humanity, Cultural Heritage of Humanity, Geoparks, or Biosphere Reserves;
- when the country of the potential mine site has not signed **regional or international agreements** to protect nature and mitigate the climate crisis, such as the *Paris Agreement*, the *United Nations Convention on Biological Diversity*, the *Initiative for Transparency Extractive Industry (EITI)*, and at the regional level, the *Escazú Agreement*.[43]
- when the sites can be defined as **highly biodiverse sites**; due to their extraordinary biological importance, including a) the 36 "Biodiversity Hotspots"[44], b) those sites designated by national or sub-national governments as priority areas for conservation, c) sites containing endemic or critically endangered species of animals or plants, according to the IUCN red lists, and d) sites where there are remnants of representative native vegetation (e.g. Hambach Forest);
- when the proposed or ongoing activities impact **cultural assets** designated by national or sub-national governments
- in countries that are not signatories of **regional or international conventions** that guarantee transparency, the protection of human rights and those of indigenous peoples, or labour rights, such as the *United Nations Guiding Principles on Business and Human Rights*, the *United Nations Declaration on the Rights of Indigenous Peoples*, the EITI *Extractive Industry Transparency Initiative*, and ILO Convention 169;
- when the partner company does not have a **clean record** regarding respect for human rights, compliance with labour or environmental laws, or when it has incurred in acts of corruption, tax evasion, and other actions or omissions that pose social or environmental risks.[45]

In the following cases, the company must carry out thorough **investigations before making the decision to acquire minerals** from these areas. This is the case:

- when the minerals come from **fragile ecosystems** as determined by national legislation or, better, or an independent organisation. These are places where an extractive operation causes foreseeable and irrevocable impacts, such as massive deforestation, effects on the climate (including decreased rainfall); high risks related to the construction of the necessary

[43] This Regional Agreement on Access to Information, Public Participation and Access to Justice in Environmental Matters in Latin America and the Caribbean is an international treaty for the protection of the environment in Latin America and the Caribbean. After being signed by 24 countries in 2018, it currently has eleven ratifications.

[44] See Hotspot de Biodiversidad Andes Tropicales. http://andestropicales.net/importancia/

[45] In the case of Llurimagua, for example, there are multiple irregularities and illegalities detected by the Comptroller General of the State in 2019, see La Hora (30.03.2019): "Contraloría detecta 12 irregularidades en el proyecto minero Llurimagua, en Íntag". https://www.lahora.com.ec/noticia/1102232695/contraloria-detecta-12-irregularidades-en-el-proyecto-minero-llurimagua-en-intag

infrastructure (including tailings pools; known sites of high seismic activity, with very rugged topography, or high rainfall). In this case, the company must verify, with independent organizations, how non-impact to these ecosystems can be accomplished.

- when activities negatively affect national and sub-national **climate change mitigation** strategies (for example, if the capacity of sinks to store CO2 is reduced);
- when metal extraction and processing is at high risk of causing serious pollution of **water resources** - especially due to **acid mine drainage**, or when activities related to the extraction or processing of materials threaten to pollute, or currently pollute, the quality or quantity of water (surface or underground) for human use (whether in households or agriculture). Protecting water is one of the most pressing problems on the planet, so it must be evaluated whether, with the use of the best available technique, the benefits are worth the risks. Mining projects that negatively affect the quality or quantity of water not only imply ecological damage and violations of the rights of nature but, in the medium or long term, also of human rights.
- when the activities threaten to violate the **rights of Nature**. When it is suspected that the extractive activity may violate the rights of Nature, an independent entity specialized in the matter has to be involved to further investigate the impact.

In additional to the above, before acquiring materials in supply chains, **international companies should verify** that processes are organised in the right way:

- that the approval of **sub-national governments** has been obtained, and whether the proposed activities are foreseen in the development plans of these governments (if not, the exploitation may interrupt regional development plans and affect areas destined for the conservation);
- that there is **transparency** on the part of the company; this means that all the information necessary to evaluate the company's compliance with its social and environmental obligations must be freely accessible;
- that there is an independent mechanism for the community **to monitor** the company's activities. It is considered important that companies allow the total free access to members of the community or people or institutions selected by the communities, including any community groups that oppose mining, to any part of the mining concession and areas of operation to monitor the compliance acquired.
- that there be **audits** (monthly or semi-annual meetings - according to the community vote - with the communities, local governments and organisations) for the continuous dialogue with representatives of the community as a whole to discuss the results of the community monitoring and to verify that the activity respects the company-community pacts or agreements and the red lines agreed in them; it is suggested that the communities have the support of the Ombudsman's Office or a similar entity;
- that there is a direct and transparent communication channel for **complaints or claims** from the communities towards the companies acquiring materials, in order to report any problems (including obstacles in accessing the mining areas);
- that an **independent cost-benefit analysis** of the proposed or ongoing project has been conducted, which has given a favourable result for the exploitation of minerals, in areas of potential use for environmentally sustainable activities such as nature tourism.

If these elements and mechanisms do not exist, the company must demand their execution or implementation by the responsible entities, and desist from acquiring minerals until they have been put into place.

9 Conclusion: What this means for due diligence legislations and corporations

In cases such as in the case of LLurimagua in the region of Intag, it becomes evident that mining operations can have severe impacts on the environment and human rights. At the same time it becomes evident on the basis of the comptroller Generals Report that several entities of the Ecuadorian state themselves have not prevented that national law is violated by the joint venture of its own company ENAMI and the Chilean national corporation Codelco. Moreover, the government itself has not lived up to its duties deriving from its own legislation (Comptroller General Report). However, in times of global supply chains, there is growing consensus that also sourcing corporations have a responsibility to prevent damages. Since 2011, the UN Guiding Principles for Business and Human Rights clearly define these for the case of Human Rights violations. In 2011 the OECD Guidelines for Multinational Enterprises additionally formulated the responsibility for corporations in regard to the environment referring to the Rio Declaration, the Aarhus convention and Agenda 21.[46] This responsibility was specified in more detail in the OECD Due Diligence Guidance for Responsible Business Conduct in 2018 which provides recommendations on how to implement the above mentioned OECD Guidelines from 2011. Yet the framework of the OECD regarding environmental due diligence is by far not as specified as the UN Guiding Principles for Business and Human Rights are in the matter of human rights and has rarely been integrated into due diligence legislations.[47] To this date, corporations can in most cases source from projects (like Llurimagua if it was executed) even if they know that the extraction caused severe environmental damage with hardly any (legal) consequences apart from potential reputational risks. This can lead to the situation that extracting corporations face no or hardly any pressure from their customers and abuse the situation of lacking law enforcement concerning the environment with severe consequences for the environment and the local population. This is especially relevant in cases where the state itself and corresponding state owned companies show high interest in the revenues from the mine. As this case shows local actors have had some legal success even within Ecuador referring to the constitutional Right of Nature at the cantonal level. Still the case is not won at national level and there is high pressure on the courts to decide in favour of business interest and against the Rights of Nature. As Krebs et al (2020) point out environmental due diligence could at least enhance the implementation of national environmental legislations at the site of extraction. [48] Consequently, we will look more closely into the concept of environmental due diligence.

[46] Organization for Economic Co-operation and Development (OECD) (2011): „OECD Guidelines for Multinational Enterprises“. Paris: OECD. https://www.oecd.org/daf/inv/mne/oecdguidelinesformultinationalenterprises.htm

[47] Organization for Economic Co-operation and Development (OECD) (2018): „OECD Due Diligence Guidance for Responsible Business Conduct“. Paris: OECD. https://www.oecd.org/investment/due-diligence-guidance-for-responsible-business-conduct.htm

[48] Krebs, D., Klinger, R., Galihofer, P., Scherf, S.C. (2020): „Von der menschenrechtlichen zur umweltbezogenen Sorgfaltspflicht. Aspekte zur Integration von Umweltbelangen in ein Gesetz für globale Wertschöpfungsketten“. Umweltbundesamt. P. 49. https://www.umweltbundesamt.de/publikationen/umweltbezogene-sorgfaltspflichten.(p 38)

>>Human rights due diligence is not enough: Explicit environmental due diligence needed

The United Nations Guiding Principles on Business and Human Rights (UNGPs) provide a framework for international companies to exercise due diligence throughout their global operations in regard to Human Rights. It has been the basis for due diligence legislations in different countries. But this case specifically shows that human rights due diligence according to the UNGPs has to be accompanied by environmental due diligence. It shows that it is not sufficient when environmental destruction is covered only in instances where it is directly causing human rights abuses as it would be in the case with the UNGPs alone but that it is necessary to oblige corporations to conduct additional environmental due diligence. Consequently, there would be a need for environmental due diligence amongst others in order to prevent severe global loss of biodiversity, something governments committed to through the United Nations Convention on Biological Diversity. According to scientific studies and independent environmental impact assessments, the project would cause massive deforestation, severe loss of biodiversity endangering two species and predicted change of local climate, amongst others.[49][50] The loss of biodiversity is not directly linked to human rights abuses and is therefore not covered by human rights due diligence. Nevertheless, the continuing loss of biodiversity poses not only enormous economic risks for the corporation but will in the not-so-long term undermine our ability to fight poverty, food and water security, human health and consequently has to be prevented.[51] There are different conventions or agreements on environmental aspects like the Convention on Biodiversity or the Paris Agreement that prescribe the protection of our environment or climate and the OECD Guidelines for Multinational Enterprises (2011) and the OECD Due Diligence Guidance for Responsible Business Conduct (2018) that point to the responsibility of corporations in this regard. However, environmental due diligence and responsibilities for corporations in this matter need to be more clearly defined.

>>What should be taken into account when drafting environmental due diligence

Next to demonstrating the need to integrate separate environmental due diligence into due diligence legislation and to further consice it, this case study also provides some insights into aspects that should be considered when further developing the concept of an environmental due diligence.:

[49] Brondizio, E. S., Settele, J., Díaz, S., & Ngo, H. T. (2019): „Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services". IPBES secretariat, Bonn. See also Niranjan, A. (2019): „Der massive Verlust der Biodiversität ist für den Menschen so bedrohlich wie der Klimawandel". https://www.dw.com/de/der-massive-verlust-der-biodiversit%C3%A4t-ist-f%C3%BCr-den-menschen-so-bedrohlich-wie-der-klimawandel/a-48614763

[50] Moreover it shows that the geographical conditions with high rainfall and the superabundance of underground as well as water risk for eathquakes pose a high risk for acid minedrainage and the pollution of groundwaters, rivers and streams. This are issues which could be seen as red lines for mining operations

[51] The importance of biodiversity and the commitment to fight for it has been reaffirmed with Sustainable Development Goal (SDG) 15 dedicated to biodiversity.

- The case of Intag shows that certain geological and climatic conditions favouring events such as earth quakes and high rainfall e.g. can increase the risk of severe environmental destruction caused by mining and have to be taken very serious. Consequently, it is important to screen potential extraction areas in regard to geological and climatic conditions before initiating a mining project. The research project of the Environmental Agency developed an assessment methodology regarding site related environmental hazard potentials of mining "[52] that presents suggestions for a screening of sites in this regards. It could be a basis for an environmental due diligence specifically before a mining project starts.

- The different red lines and issues to be considered in the context of environmental due diligence listed above by Carlos Zorilla drafted on the basis of his experience in the context of his work for the NGO Decoin are moreover valuable to consider when drafting standards for environmental due diligence. Furthermore they provide insights into how community monitoring can contribute to environmental due diligence executed during the extraction phase. From this perspective environmental due diligence in severe cases could lead to the result, that certain economic activities would cross red lines in terms of environmental risks and should therefore not be executed.

- When evaluating the environmental impact of an operation it is of special relevance that the local population at the place of extraction is part of the process. Such meaningful consultation is demanded by the UNGP (Principle 18) in the context of a human rights risk assessment and at the same time many national legislations demand this in the context of an environmental impact study (so does Ecuador[53]). In this matter it is important that firstly the local population has access to the complete information regarding the impact of the operation on the ecosystem. According to this study, this was not the case in Intag and the possibility for the local population to react to the environmental impact assessment was diminished by providing very short time to answer on huge amounts of very complex data.

- Secondly, it is important that the information is independent and non-biased. Currently an environmental impact assessment is globally treated as the important cornerstone for an environmental assessment in the beginning of an operation. This case shows how important it is to make an independent assessment of the environmental impacts and to respect international best practice standards. The Japanese environmental impact assessment was more independent than environmental impact assessments usually are, as they are mostly commissioned by the corporations themselves[54], and provided useful information for the local population to see the potential impact of the operation. The access to independent scientific

[52] Dehoust; Günter; Manhart, Andreas; Dolega, Peter; Vogt, Regine; Kemper, Claudia et al.: (2020):"Environmental Criticality of Raw Materials. An assessment of environmental hazard potentials of raw materials from mining and recommendations for an ecological raw materials policy" (80) Umweltbundesamt. https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-06-17_texte_80-2020_oekoressii_environmentalcriticality-report_.pdf, zuletzt geprüft am 03.02.2021.

[53] Defensoría del Pueblo de Ecuador: "Consentimiento libre, previo e informado en el Ecuador: Aportes al Mecanismo de Expertos sobre los Derechos de los Pueblos Indígenas". https://www.ohchr.org/Documents/Issues/IPeoples/EMRIP/FPIC/Ecuador_NHRI.pdf p.9

[54] UN Environment (Hg.) (2018): "Assessing Environmental Impacts - A Global Review of Legislation". https://europa.eu/capacity4dev/unep/documents/assessing-environmental-impacts-global-review-legislation.

evaluations is important for local communities to be able to get an independent picture of what impact the operation will have on their zone. In this case independent information moreover enabled local actors to question misleading assessments made by the corporation ENAMI.

- It is crucial that communities are able to monitor the impact of the operation on the environment and to process their monitoring results into complain mechanisms of companies. Moreover, it is important that these complain mechanism are constituted in a way that complains, also in regard to environmental damage, are forwarded along the supply chain towards manufactures or other business partners and that they are followed up on.
- When defining environmental due diligence legislation it is essential that the local population from places of extraction is involved in order to prevent that requirements are formulated in a way that they are prone to exclude small-scale miners for example from the supply chain.

Current relevant policy processes and documents in the context of environmental due diligence

As the European Council recently agreed that Europe needs to work on a Human Rights and Environmental Due Diligence Law and also EU Commissioner for Justice, Didier Reynders, announced such a regulation to be presented in early 2021, there is now the time to further work on the concept of environmental due diligence. This is also supported by measure 15 of the German Raw Materials Strategy. Herewith, the German government commits itself to initiate the development of a guidance on environmental due diligence in raw material supply chains through an international process, "in analogy to the existing OECD Due Diligence Guidance for raw materials from conflict areas" with the argument that "there is no OECD guidance on environmental due diligence so far".[55] The aspects laid out above, should be taken into account. Moreover, a number of studies by the German Environment Agency[56], the Initiative Lieferkettengesetz[57], and a more conceptual paper from Germanwatch[58] provide valuable and relevant starting points. Further relevant aspects deriving from this case study in regard to the responsibility of corporations can be found in the following box.

[55] BMWI (2020): "Rohstoffstrategie der Bundesregierung. Sicherung einer nachhaltigen Rohstoffversorgung Deutschlands mit nicht-energetischen mineralischen Rohstoffen". p. 33. https://www.bmwi.de/Redaktion/DE/Downloads/P-R/rohstoffstrategie-der-bundesregierung.html

[56] Krebs, D., Klinger, R., Galihofer, P., Scherf, S.C. (2020): „Von der menschenrechtlichen zur umweltbezogenen Sorgfaltspflicht. Aspekte zur Integration von Umweltbelangen in ein Gesetz für globale Wertschöpfungsketten". Umweltbundesamt. P. 49. https://www.umweltbundesamt.de/publikationen/umweltbezogene-sorgfaltspflichten. Dehoust, G., Manhart, A., Schmidt, G., Vogt, R., Kämper, C., Giegrich, G. et al. (2017): „Erörterung ökologischer Grenzen der Primärrohstoffgewinnung und Entwicklung einer Methode zur Bewertung der ökologischen Rohstoffverfügbarkeit zur Weiterentwicklung des Kritikalitätskonzeptes (ÖkoRess I). Methode für einen standortbezogenen Ansatz". Umweltbundesamt. ttps://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2017-09-28_texte_87-2017_oekoress_standortbezogene_bewertung_1.pdf Dehoust, G., Manhart, A., Dolega, P., Vogt, R., Auberger, A., Kämper, C. et al. (2020): „Weiterentwicklung von Handlungsoptionen einer ökologischen Rohstoffpolitik (ÖkoRess II.)". Umweltbundesamt. https://www.umweltbundesamt.de/publikationen/oekoress-ii

[57] Henn, E. & John, J. (2020): „RECHTSGUTACHTEN ZUR AUSGESTALUNG EINER UMWELTBEZOGENEN SORGFALTSPFLICHT IN EINEM LIEFERKETTENGESETZ". BUND, Greenpeace, DUH. https://lieferkettengesetz.de/wp-content/uploads/2020/07/lieferkettengesetz_rechtsgutachten_umwelt.pdf

[58] Germanwatch (2021): „Über die Notwendigkeit und Wirkung umweltbezogener Sorgfaltspflichten: Ein Beitrag zur Diskussion im Rahmen eines deutschen und europäischen Lieferkettengesetzes". https://germanwatch.org/de/19841

What could environmental due diligence mean for European Industry

A: Sourcing corporations like smelters and manufacturers:

This case once again shows that huge environmental and social impacts of a mining project occur in the beginning of an operation when supply contracts with sourcing companies from Europe and elsewhere are not yet in place. This makes it difficult for companies buying raw materials to influence the process of construction of the mine directly. Having said this, it shows how important it is for corporations to asses where their raw materials come from and that they take the impacts from the starting and construction phase of a mine into account when choosing their raw materials. This should include a definition of red lines for example in relations to requisites on environmental impact studies (see moreover red lines by Carlos Zorilla in the box).[59] This is especially relevant for smelters, which buy concentrates and have direct supply relations with the mine site. Moreover, it is important that smelters disclose where their material comes from, so that companies further down the supply chain can make their own assessment. Co-operations between manufacturers like the German automotive sector and mines could moreover be an approach how manufacturers could try to exercise some influence on the impact of extraction.

B: Corporations delivering equipment to the operation:

German industry is an important producer of machinery for different economic activities like mining. The German Chamber of Commerce for example even explicitly advertises the economic potential of the Ecuadorian mining sector for German companies.[60] Part of corporations due diligence according to the UN Guiding Principles for Business and Human Rights is it to prevent that the use of its products will lead to the violation of human rights. Analog to this, producers of machinery should do the same for environmental concerns.

This case study showed again that environmental risks were assessed differently by the different environmental impact studies (depending on the client). Standards and regulations on the methodology and content of environmental impact assessments are not uniformly regulated internationally, which means that the studies are not comparable in terms of quality and significance.[61] This is where companies can start to exercise environmental due diligence by linking supply contracts to compliance with quality criteria and minimum requirements for environmental impact assessments as well as the resulting protective measures to be implemented. In addition, the affected population has to be informed about the environmental and social risks of the project to a comprehensive extent and in contextualized language. Moreover, they have to be involved in decision-making.

[59] Also the UNGPs foresee the definition of red lines.

[60] AHK Deutsch-Ecuadorianische Industrie- und Handelskammer: “Bergbau in Ecuador”. https://ecuador.ahk.de/kompetenzfelder/bergbau-in-ecuador

[61] UN Environment (2018): „Assessing Environmental Impacts- A Global Review of Legislation“. Nairobi, Kenya. https://europa.eu/capacity4dev/unep/documents/assessing-environmental-impacts-global-review-legislation

Environmental due diligence conducted by German machinery producers could have a major leverage effect for environmental (biodiversity and climate e.g.) protection in the global mining sector. This is because the technical realization of mining operations worldwide depends on German engineering technology on a large scale.[62] For its Chilean mines, Codelco has maintenance contracts worth millions with Siemens[63] and is supplied by the engineering company Herrenknecht.[64]

Further Information

The World Bank Extractive Industries Review
https://lawweb.colorado.edu/profiles/syllabi/banks/EIR%20vol1_eng.pdf

Guía de la OCDE de debida diligencia para una conducta empresarial responsable
http://mneguidelines.oecd.org/Guia-de-la-OCDE-de-debida-diligencia-para-una-conducta-empresarial-responsable.pdf

OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas
https://www.oecd.org/daf/inv/investment-policy/mining.htm

The WORLD BANK Environmental and Social Framework
http://documents1.worldbank.org/curated/en/383011492423734099/pdf/The-World-Bank-Environmental-and-Social-Framework.pdf

License to Drill
http://documents1.worldbank.org/curated/en/514571530085582916/pdf/License-to-drill-a-manual-on-integrity-due-diligence-for-licensing-in-extractive-sectors.pdf

Corruption in the extractive value chain: typology of risks, mitigation measures and incentives
https://www.oecd.org/dev/Corruption-in-the-extractive-value-chain.pdf

Findings from the World Bank Due Diligence Pilot on Private Sector TF and EFO Donors
http://documents1.worldbank.org/curated/en/920481468188353813/pdf/99059-BRI-IFC-SMART-LESSONS-Box393181B-PUBLIC-20150818T095935-2015-Due-Diligence-Pilot-D.pdf

[62] GENIOS (2017): Goldgräberstimmung im Bergbau – Deutsche Maschinen weltweit gefragt". http://www.genios.de/branchen/goldgr_berstimmung_im_bergbau_deutsche/s_mas_20070123.html

[63] Forum Vision Instandhaltung e.V. (2012): „Siemens erhält Instandhaltungsauftrag für chilenische Kupfermine. https://www.ipih.de/artikel/9373

[64] International Mining (2020): „DMC Mining invests in new Sandvik, Herrenknecht equipment for Chile Projects". https://im-mining.com/2020/04/15/dmc-mining-invests-new-sandvik-herrenknecht-equipment-chile-projects/ See also International Mining (2007): „Codelco goes for German mining technology". https://im-mining.com/2007/07/25/codelco-goes-for-german-mining-technology/

GERMANWATCH

Following the motto of *Observing. Analysing. Acting.* Germanwatch has been actively promoting global equity and livelihood preservation since 1991. We focus on the politics mand economics of the Global North and their worldwide consequences. The situation of marginalised people in the Global South is the starting point for our work. Together with our members and supporters, and with other actors in civil society, we strive to serve as a strong lobbying force for sustainable development. We aim at our goals by advocating for prevention of dangerous climate mchange and its negative impacts, for guaranteeing food security, and for corporate compliance with human rights standards.

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DECOIN

DECOIN (Defensa y Conservacion Ecologica de Intag) was founded in January 1995 as a grass-roots environmental organization to find ways to conserve the unique biodiver-sity in the Intag area of northwestern Ecuador. All of DE-COIN's members live permanently in the Intag area. The area is part of two of the world's most important biotic regions, the Tropical Andes, and the Chocó-Darien West-ern-Ecuadorian Biological Hotpots. It encompasses several life zones, including tropical rain forests, and cloud forests. One of the main reasons for the creation of DECOIN was to confront a large-scale mining project, which still threat-ens to destroy Intag's environment and communities, and the sustainable development example it is creating. The NGOs main areas of work are Direct Conservation, Support for Sustainable Development, Environmental Education, and Legal Remedies Against the Loss of Biodiversity.

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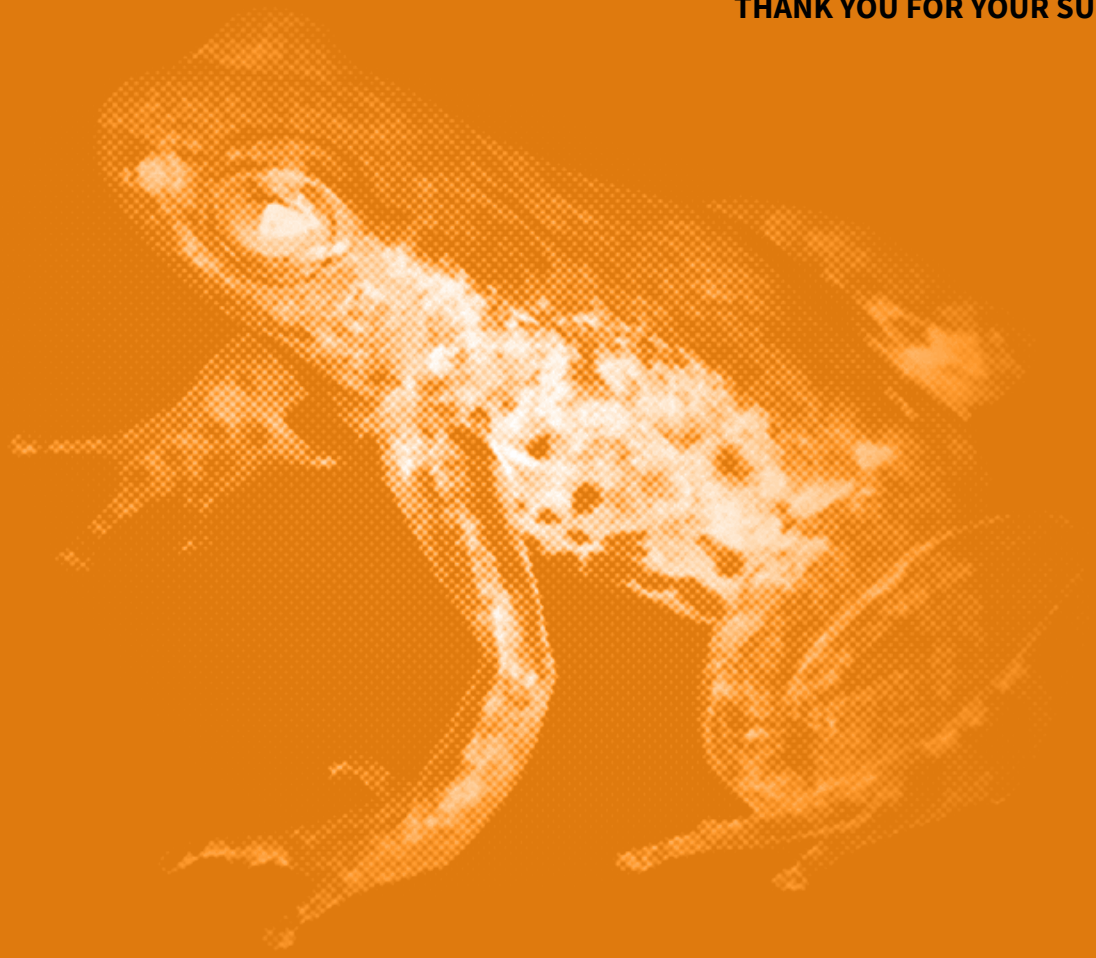

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