Allocation of Climate-Related Risks in Investor–State Mining Contracts

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Key Messages

- Domestic laws are the ideal legal instrument to regulate the mining sector, including in relation to its climate impacts. However, considering that mining contracts often serve as a stop-gap measure in the absence of relevant laws, risk allocation provisions in investor–state mining contracts and model mine development agreements should be reframed from a climate change lens to clearly allocate the risks associated with climate change between states and mining companies. Because current risk allocation provisions within mining contracts fail to appropriately allocate climate change–related risks, states and the communities surrounding the mine may be at a greater risk of facing losses due to the effects of climate change than mining companies.

- Mining activities, which are inherently hazardous, introduce risks and impacts that can be exacerbated by climate change. For instance, mining activities can compete with communities for water in an area where water stress risk is increasing because of climate change. They can also exacerbate risks and impacts of climate-related events. For instance, mining activities can contribute to deforestation, which exacerbates soil erosion, landslides, and flooding in the rainy season. We summarize this situation by the phrase "climate-related impacts of mining operations."

- Given the growing foreseeability of climate-related events, force majeure clauses should not cover them. Instead, force majeure clauses should be centered on the foreseeability and reasonableness of *preventing the impacts of events*, and not on the foreseeability and ability to *prevent the event from occurring*. Investors should not be able to invoke force majeure to attempt to escape contractual performance, arguing that they "could not reasonably be expected to prevent or control" climate-related events.

- Mining contracts should affirm the liability of the mining company and its parent company for climate-related impacts of mining operations, and impose on them the obligation to indemnify the state and affected third parties, explicitly mentioning individuals and communities, for damages resulting from climate-related impacts of mining operations.

- Companies should be contractually required to purchase insurance policies from brokers who have specific tools to analyze the global risks associated with climate change. They should also be required to purchase additional insurance for any site-specific risks. The company should have to compensate the state if it fails to purchase adequate insurance and, instead, the state purchases the policy.

- Stabilization clauses should not be included in mining contracts. If included, they should explicitly apply to changes in fiscal policy only; specifically reaffirm the state's sovereign right to pass climate legislation, even if it relates to fiscal policy (e.g., carbon taxes); and indicate an expiration date.

- Companies and states should contractually agree that they will come together every three to five years for good-faith discussions about whether any provisions need to be modified. These renegotiations should give special consideration to the company's climate-related obligations and the clauses on insurance policies and force majeure in light of scientific findings about potential climate impacts. Additionally, the contract could include a non-exhaustive list of events (e.g., updated local climate forecasts) that would trigger renegotiations.

- Where feasible, climate concerns should be added to standard environmental warranties. Contracts could restate environmental and climate-related requirements as forward-looking warranties made by the company to remove any ambiguity about its obligations and the consequences of failing to meet them.

- Step-in provisions should be included in mining contracts to allow the state to step in and perform the contractual obligations of the company during climate emergencies. The provision should expressly provide that the state inherits no liability and must be compensated if its stepping-in was caused by a real or anticipated breach by the company.

- Dispute settlement clauses in mining contracts should require that disputes be heard before domestic courts. Arbitration clauses should be avoided due to concerns that arbitration lacks transparency, opportunities for public participation, and appeals processes, and fails to appropriately apply local law. Arbitration also often involves high costs, encroaches on state sovereignty, limits regulatory space, works against the rule of law, and overrides public-interest determinations of domestic regulatory and administrative agencies.

1 Introduction

As the effects of climate change continue to worsen, mining projects, the communities surrounding them, and their host states are increasingly at risk of being affected by environmental disasters, with devastating social and economic consequences. Risk allocation provisions included in investor–state mining contracts, often considered boilerplate and replicated in agreements without careful consideration or negotiation, could potentially help the parties assign responsibilities between themselves and limit their losses in those cases. However, traditional risk allocation clauses within existing mining contracts, formulated before the world acknowledged the severity of climate change, do not adequately allocate climate-related risks and impacts between states and companies.

The United Nations Human Rights Council recognizes the "right to a clean, healthy and sustainable environment as a human right,"[1] and international guidelines like the United Nations Guiding Principles on Business and Human Rights (UNGPs)[2] encourage companies to make their best effort to combat climate change through mitigation as well as adaptation measures. The highest court in the Netherlands has recently interpreted them to apply to all companies regardless of their home nation or their willingness to voluntarily adhere to the principles.[3] While the UNGPs do not address climate change specifically, the Office of the United Nations High Commissioner for Human Rights (OHCHR) has explained the inseparable link between climate change and human rights due diligence:[4]

> States would be expected to take a range of effective measures to protect against business-related climate change within their territory and/or jurisdiction. Similarly, **business enterprises may not be able to discharge their responsibility to respect all internationally recognized human rights unless they integrate climate change considerations into their human rights due diligence processes** [emphasis added].

Yet, the current risk allocation regime in contracts would allow for many of the costs associated with climate risks and impacts to be passed on to states or communities, therefore giving mining investors little incentive to adopt best practices in preparing for and adapting to climate change realities. The potential losses as a result of climate change could be catastrophic, especially so for impoverished communities near mining areas. Accordingly, host states, mining investors, and lawyers advising them should revisit risk allocation clauses in investor–state mining contracts and reframe them from a climate change lens.

An earlier publication by the Columbia Center on Sustainable Investment (CCSI) explores whether governments are using, and how they can use, climate-specific investor obligations in model mine development agreements and investor–state mining contracts to advance climate goals. The paper synthesizes findings and recommendations for six categories of provisions: integrating renewable energy into mining operations; reducing deforestation; requiring a climate risk assessment and community vulnerability assessment; regulating water use; requiring tailings dam design justifications; and integrating climate risks into closure plans.[5]

As the abovementioned publication acknowledges, "laws are the ideal legal instrument to regulate the mining sector's contribution to climate mitigation and adaptation,"[6] and therefore "climate change considerations should be incorporated into the climate, environmental, water, forestry, energy, or mining laws of mineral-rich countries."[7] Even so, considering that legislative processes are often slow, "governments may still consider updating model mining development agreements (MMDAs), or negotiating climate-related contractual provisions, as a stop-gap measure in the absence of relevant laws,"[8] in order to "compel the mining sector to shift to climate-sensitive practices."[9] Where laws and regulations exist, contractual provisions should refer to and strengthen existing statutory provisions.

In this paper, in turn, we expand the analysis of that earlier CCSI publication by examining risk allocation provisions that are commonly used or could be used in mining contracts[10] and discussing how they should be drafted—in investor–state contracts and contract templates—to clearly allocate the risks and impacts associated with the ever-worsening effects of climate change between states and mining companies. Covered in this paper are risk allocation clauses on force majeure; liability and indemnification or compensation for climate-related risks; insurance requirements; change-in-law or stabilization; periodic review; warranties and representation; step-in rights; and termination; as well as dispute settlement mechanisms (investor–state arbitration in particular).[11]

2 Risk Allocation Clauses in Mining Contracts

2.1 Force Majeure

Force majeure clauses—typically included in investor–state mining contracts—excuse a contracting party from liability if a reasonably unforeseeable event beyond the party's control prevents it from performing its contractual obligations. For example, the MMDA defines force majeure as:[12]

> any event or circumstance which a Party could not reasonably be expected to prevent or control, including among other things, wars, insurrections, civil disturbances, blockades, embargoes, strikes and other labour conflicts, riots, epidemics, earthquakes, storms, floods, or other adverse weather conditions, explosions, fire, lightning, acts of terrorism, or the unavailability or breakdown of materials or equipment.

Absent a requirement of a climate risk assessment based on downscaled climate data, mining investors facing events attributable to climate change could, in theory, invoke force majeure clauses to attempt to escape contractual performance, arguing that they "could not reasonably be expected to prevent or control" these events.

However, as climate data becomes more accurate and robust, and as extreme weather events become more frequent or intense (or both), climate-related events are becoming more foreseeable.[13] For instance, according to McKinsey, 50% of global production of iron ore and 40% of global production of zinc are exposed to extremely high flood risk, and "by 2040, 5% of current gold production will likely shift from low–medium water stress to medium–high, 7% of zinc production could move from medium–high to high water stress, and 6% of copper production could shift from high to extremely high water stress."[14] In addition, even if mining investors are unable to prevent or control the occurrence of the events, they can prepare for, prevent, and control the impacts of the events on their mining investment as well as on surrounding communities.[15] For instance, in water-stressed areas, companies can minimize the water intensity of their operations whereas in areas prone to flooding, companies "companies can adopt flood-proof mine designs that improve drainage and pumping techniques."[16]

Recommendations

Force majeure clauses should:

- Expressly provide that the definition of force majeure does not cover climate-related events.
- Not include climate-related events (such as mentions to landslides, droughts, storms, floods, and other adverse weather conditions) in lists of events covered by force majeure.
- Focus on the foreseeability and reasonableness of preventing the physical *impacts* of events on mining operations and mining communities rather than focusing on the foreseeability and ability to prevent the *event* from occurring.
- Require investors to mitigate impacts to the extent possible and to continue to perform under the contract to the extent economically practicable.[17]

- Specify the legal consequences of force majeure, indicating which contractual obligations are suspended (for example, payment or performance) and which are not (for example, environmental obligations and the management of tailings).[18]
- Require the parties to provide prompt notice of the event and regular updates on the status of event and response efforts, and provide for the possibility of termination or good-faith renegotiation if performance cannot be resumed after a given period of time.

2.2 Liability and Compensation or Indemnification

Contracts may establish liability and require one party to indemnify or compensate the other in given circumstances. Indemnification clauses can be broadly worded, such as in the MMDA language:[19]

> The Company shall at all times indemnify and hold harmless the State and its officers and agents from all claims and liabilities for death or injury to persons or damage to property from any cause whatsoever arising out of Mining Operations to the extent that the same arises from its failure to comply with any Applicable Law to which it is subject or the terms of this Agreement.

These clauses can also be very detailed and refer to specific breaches that would result in indemnification. For example, a contract from Liberia specifically requires the state to compensate the company for any claims brought against the company stemming from harmful environmental conditions at the mining site prior to the company operating the mine. The contract reads:[20]

> The Government shall indemnify and hold harmless the Company from any losses and liability incurred by it resulting from any claims made against the Company by third parties which have arisen in connection with Previous Negative Environmental Impact in respect of Land owned by the Government which it has made available to the Company for the purposes of Operations…

Other clauses already require compensation when the company harms the environment, which implicitly covers climate considerations. An example listed within the MMDA provides:[21]

> …COMPANY shall defend, indemnify and hold harmless THE STATE…against all Losses…relating to, resulting from, arising out of or otherwise by virtue of…Environmental Conditions to the extent such conditions result from or are adversely affected by COMPANY's activities…

As noted, climate-related events are increasingly foreseeable. Furthermore, mining activities, which are inherently hazardous, introduce risks and impacts that can be exacerbated by climate change. For instance, mining activities can compete with communities for water in an area where water stress risk is increasing because of climate change. They can also exacerbate risks and impacts of climate-related events. For instance, mining activities can contribute to deforestation, which exacerbates soil erosion, landslides, and flooding in the rainy season. At the same time, mining companies have the capacity to prepare for, prevent, and control those risks and impacts. Accordingly, mining companies should take on responsibility for climate-related risks and impacts they create or exacerbate.

Investor–state mining contracts should explicitly affirm the liability of the mining company—and, in the case of special-purpose vehicles, the parent company—to the state as well as third parties, explicitly including individuals and communities, for any damages caused by climate-related risks and events that result from or are exacerbated by mining operations.

Liability and indemnification clauses could also list contractual breaches that would result in the company's obligation to indemnify. For example, the EMP, based on the climate risk assessment,

addresses how the company will mitigate the risks identified in that assessment. The contract could deem a failure by the company to comply with environmental and climate change–related obligations contained in the EMP as a material breach of the contract, and accordingly require the company to compensate the state and any affected individuals and communities.

Recommendations

Mining contracts should:

- Affirm that the mining company and its parent company are liable for climate-related impacts of mining operations.
- Impose on the mining company and its parent company the obligation to indemnify the state and affected third parties, explicitly mentioning individuals and communities, for any damage resulting from climate-related impacts of mining operations.

2.3 Insurance

It is becoming more expensive to insure mining projects,[22] and climate change is partly to blame. Insurance companies are still figuring out how to address climate change in their policies, but some have developed tools to better analyze the risks posed by climate change.[23] States should contractually require companies to purchase insurance from insurers who are using these kinds of tools.[24]

The language of the MMDA makes the company responsible for purchasing insurance for the mining project. If the company is unable to purchase the necessary insurance, the state can purchase it and must be reimbursed by the company for the cost of the policy.[25]

The risks and impacts of climate change will vary depending on the location of the mining site, so the mining contract should specify that the insurance policy needs to cover the possible climate events in that area,[26] and that, when the state purchases the insurance in lieu of the company, the latter continues to be liable for any damage resulting from climate-related impacts of mining operations. As floods and landslides may become more frequent due to climate change, special consideration should be taken to insuring possible damage arising from tailings dam failures.[27]

If a step-in clause is included in the agreement (see section 2.7), the contract should require that the project remains insured during instances when the state or a third party nominated by the state steps in on behalf of the company. In addition, both the state and the company should purchase insurance to cover any losses associated with stepping in. This additional insurance is most important for the company, which will typically be liable for all losses if the step-in resulted from a breach by the company.[28]

Recommendations

- When possible, states should require corporations to purchase insurance policies from brokers who have specific tools to analyze risks associated with climate change. The analysis needs to focus on local risks and not just global predictions of climate trends.
- When the state purchases the insurance in lieu of the company, the contract should indicate that the company continues to be liable for any damage resulting from climate-related impacts of mining operations.
- Given that climate change increases the risk of floods, droughts, and landslides that often cause tailings dams failures, the contract should require the mining company to purchase insurance against damage arising from tailings dams failures, as well as against damage from any site-specific risks identified in the climate risk assessment.
- The contract should require that the company compensate the state for failing to purchase adequate insurance coverage and for any costs the state incurs if it purchases insurance coverage instead.

- Contractually required insurance policies should ensure total coverage for all parties if the state exercises its step-in rights (see section 2.7).

2.4 Stabilization or Change-in-Law Clauses

Mining contracts regularly include change-in-law clauses to prevent new or modified laws from affecting mining companies.[29] These clauses can freeze the regulatory landscape (i.e., no new or amended laws would apply to the company), known as freezing clauses, or require that the state compensate the company for the financial impacts of the new or modified legislation, known as economic equilibrium clauses. Hybrid clauses (a combination of the freezing and economic equilibrium clauses) allow parties to define specifically which changes in the law should apply to the company and when the company should be compensated for a change in the law.[30] Change-in-law clauses can apply to purely fiscal issues (taxes, royalties, rents, tariffs, etc.), non-fiscal areas (the environment, labor, and health and safety), or both.[31]

Change-in-law clauses should be avoided because their contractual repercussions can discourage states from passing positive legislation.[32] A uranium contract from Malawi provides an example. The contract contains an economic equilibrium clause with a ten-year stability period and no carve-outs.[33] If Malawi were to pass climate legislation, the mining company could claim that the state is required to compensate it for any losses or compliance costs resulting from that legislation. This example highlights why states should avoid change-in-law clauses.

If a change-in-law clause is included in a mining agreement, it should be limited to fiscal areas only, and it should not cover non-fiscal regulatory areas. See the first part of Principle VII of the OECD Guiding Principles for Durable Extractive Contracts:[34]

> Durable extractive contracts are consistent with applicable laws, applicable international and regional treaties, and anticipate that **host governments may introduce *bona fide*, non-arbitrary, and nondiscriminatory changes in law and applicable regulations, covering non-fiscal regulatory areas to pursue legitimate public interest objectives**. **The costs attributable to compliance** with such changes in law and regulations, and wholly, necessarily and exclusively related to project specific operations, **should be treated as any other project costs** for purposes of tax deductibility, and cost recovery in production sharing contracts [emphasis added].

Any change-in-law clause eventually included should also be a hybrid clause containing an exhaustive list of changes in fiscal terms of the law that would result in compensation for the company. For enhanced clarity, it could explicitly specify that nothing in the clause can prevent the state from enacting climate legislation, even if the climate legislation would touch fiscal areas, like in the case of a carbon tax. In addition to being limited in scope, it should also be limited in time, allowing states to pass climate laws and ensure compliance with them without fear of endangering existing mining contracts or awarding companies huge compensation packages for changing their law. See also the commentary to Principle VIII:[35]

> Where governments decide they are necessary, fiscal stabilisation provisions can be designed to minimise the general tax policy impact, by limiting its scope to specific key fiscal terms (not all fiscal terms), such as agreed rates, for a specific period of time (not indefinitely), and possibly by applying a stability premium on tax rates.

Recommendations

States should not include change-in-law provisions in mining contracts because these clauses can discourage states from passing positive legislation. As an alternative to including a change-in-law clause, states and investors can agree to a clause on

mandatory negotiation if a change in law makes it difficult or impossible for the company to meet its contractual obligations (see section 2.5).[36] However, if a stabilization or change-in-law clause is included in a mining contract, it should:

- Apply to changes in fiscal policy only and to specific fiscal terms only (i.e., royalties, corporate income tax, customs tariffs, etc.), and not to non-fiscal issues (i.e., regulations governing the environment, labor, and health and safety), so that states can still regulate the environment and enact emissions standards without fear of contractual repercussions.
- Specifically reaffirm that the state has a sovereign right to pass climate legislation, even if it relates to fiscal policy (e.g., taxes on carbon), without having to compensate the company, to explicitly allow the state to enact or change climate legislation that may have a fiscal impact on companies.
- Be bound in time so that the change-in-law clause expires and does not have a chilling effect for the entire term of the mining agreement.

2.5 Periodic Review

Periodic review mechanisms in contracts allow for parties to come together and discuss in good faith whether the contract needs to be modified. Contracts can allow for the review to occur at regular intervals at the request of one or both of the parties. Usually, for one party to be able to call for periodic review, there needs to be some trigger event—either a profound change in circumstances or an impact on the parties' rights and obligations. Trigger events can be vaguely or explicitly defined within the agreement. Whether a trigger event occurred is "a crucial element of the Periodic Review Mechanisms" because it determines whether there is a need for the contract to be modified.[37] Accordingly, periodic review meetings that happen at regular intervals often discuss whether a trigger event has occurred, and disputes can arise when the parties disagree about the occurrence of a trigger event.

One possible trigger event is the occurrence of a change in law that results in the mining company's "inability to perform its material obligations under the contract" or in a "material adverse change that undermines the economic viability of the mining project"; in such cases, in line with the second part of Principle VII of the OECD Guiding Principles for Durable Extractive Contracts, the contract should "require the parties to engage in good faith discussions which might eventually lead the parties to agree to renegotiate the terms of the contract."[38]

To ensure that climate considerations are regularly included and updated in mining contracts, a general periodic review provision should be included that requires parties to come together every three to five years and engage in a good-faith discussion to determine if any modifications need to be made to the mining agreement. Specific contractual provisions should be given special consideration when determining if any modifications are required. Force majeure clauses, the company's environmental and climate-related obligations, and insurance provisions should be given special attention as the likelihood of certain climate-related environmental disasters may have changed over the years. The contract should contain a non-exhaustive list of climate-related trigger events, including updates to local and global scientific forecasts of climate patterns and extreme weather events.

Parties should consider including a "ratchet mechanism" in mining contracts to prevent parties from removing or reducing a party's climate-related obligations, as well as a best-efforts obligation on parties to increase their level of ambition in any renegotiation opportunity. Ratchet mechanisms can be modeled after the approach of the Paris Agreement on Climate Change, which prevents states from adopting emissions reduction targets that are less ambitious than their previous goals.[39] What specifically is protected with a ratchet mechanism will be site-specific and should be negotiated by the parties. Additionally, parties can agree to let the ratchet mechanism expire should climate forecasts drastically change for the better.

Recommendations

Mining contracts should include:

- A general periodic review provision requiring the parties to come together every three to five years and engage in good-faith discussions about whether any provisions need to be modified. The provision could also require the parties to give special consideration during these discussions to the need to strengthen the company's environmental and climate-related obligations or revise clauses on insurance policies and force majeure in light of scientific findings about potential climate impacts.
- A non-exhaustive list of events that would trigger the obligation to renegotiate in good faith, including updated climate forecasts (especially local ones) and environmental disasters.
- A ratchet mechanism to prevent parties from rolling back climate-related contractual obligations.
- A best-efforts obligation on parties to increase their level of ambition in any renegotiation opportunity.

2.6 Warranties and Representation

Warranties and representations are included in contracts as assertions relating to some fact that is true at the time when the warranty or representation is made. Warranties are more important for our purposes of allocating risks between parties as a warranty is not only an assertion but also "a promise of indemnity if the assertion is false."[40] However, because representations and warranties are usually temporally focused on the present, and the effects of climate change will be felt in the future, these clauses can only be of so much use to stop parties from seeking to avoiding liability during climate emergencies. Currently, environment-related warranties are usually general declarations that the company has not violated, and is not currently violating, any environmental law in the jurisdiction of the mine or any other jurisdiction. The state sometimes makes warranties about the presence of hazardous waste or other pollutants on the project site or its surroundings.[41]

Sometimes, however, warranties can be forward-looking. For example, a mining contract from the Democratic Republic of Congo warrants that the company will operate the mine in compliance with environmental laws and warrants to take measures to protect the environment and public infrastructure, mitigate environmental damage, comply with environmental laws, restore used mining sites, and begin treating water in and around the mining site:[42]

> The activities of T.F.M. will be carried on in compliance with environmental standards internationally accepted as good Mining practice. In addition, T.F.M. undertakes:
>
> to take adequate measures, for the duration of this Agreement,
>
> to protect the environment and the public infrastructures used beyond normal industrial use, in compliance with the rules and uses internationally accepted in the Mining industry, as far as these may be applied in the Democratic Republic of Congo, and with the laws in force on the date of the Original Convention;
>
> to mitigate, by adequate measures, the damage which could be caused to the environment and to the public infrastructure used beyond normal industrial use;
>
> to comply with the legislation in force on the date of the Original Convention concerning dangerous waste, damage to natural resources, and protection of the environment;
>
> to restore used sites and the excavated plots of land in compliance with the rules and uses internationally accepted in the Mining industry, as far as these may be applied in the Democratic Republic of Congo;

to comply with the provisions of the Forest Code, in particular those relating to the reclamation along banks, rivers, and slopes; and

to set up a system for the purification or treatment of used or residual water from the mines and plants, which are released from the areas foreseen in the works program.

The effects of forward-looking warranties are better achieved through other contractual provisions, like indemnification and termination provisions (see sections 2.2 and 2.8), which require the company to compensate the state or allow the state to terminate the contract if the company fails to perform any of its contractual obligations, respectively. However, a warranty like the one above could be useful in removing any trace of ambiguity about the obligations of the company.

Climate change–related obligations could be strengthened or incorporated into warranties by broadening declarations regarding good standing on environmental "and climate-related" laws. This change could be useful in ensuring companies comply with climate regulations, such as emissions reporting or reductions requirements as well as the requirements to adapt industrial activities to climate change and make them climate resilient.

Recommendations

- Where feasible, climate concerns should be added to standard environmental warranties.
- Contracts could restate the company's environmental and climate-related obligations as forward-looking warranties made by the company to remove any ambiguity about the company's obligations and the consequence for failing to meet them.

2.7 Step-in Rights

Step-in provisions within mining contracts allow for the state or a party it nominates to step in and perform the contractual obligations of the company when it is unable to do so or has committed a breach that allowed the state to step in.[43] Stepping in is also something done in emergencies, which are defined by a Cameroonian contract containing a step-in provision as an event that "is likely to create an immediate and serious threat to the health or safety of the public, any material property, [or] the Environment."[44]

The inclusion of a step-in clause itself does not create any liability or require the state to step in. However, once a state steps in, some liabilities may shift from the company to the state. Generally, if a state is stepping in due to a breach of contract by a company, the state inherits no liability from the company. If the state is stepping in due to an event partially caused by the company, liability is allocated according to the terms and step-in processes agreed to in the contract.[45] When the state steps in without the occurrence of a breach or event caused by the actions of the company, the state inherits complete liability.

Contracts should include step-in clauses to allow states to step in during environmental disasters when the company is unable to handle the event. When the state steps in due to an extreme weather event that prevents the company from performing its obligations, this situation usually falls under the force majeure clause, which prevents the state from holding the company liable for its failure to perform. However, the effects of climate change will result in extreme weather events happening more regularly (see section 2.1), so it is becoming increasingly inadequate to allow companies to avoid liability (or pass their liability on to the state) when an extreme weather event occurs. Therefore, if there is reason to believe that the company did not take reasonable precautions and it led to the state needing to step in during an extreme weather event, the company should remain liable for any damages, as it would if it had committed any other breach.

In the context of public–private partnerships, step-in clauses are much more common between lenders and private partners than in contracts signed

between the state and a private party.[46] Step-in clauses seem to be uncommon also in the mining context: in over 900 mining contracts published on ResourceContracts.org, only 2 mentioned step-in rights.[47] Only one of those two allowed the state to step in and take control of mining operations. The other simply allowed the state to find another company to operate the mine should the original investor fail to make payments to the state. The former type of clause is most relevant for the climate context, but it may be worth including the second as well to cover situations where a climate catastrophe creates extreme losses for the company and the mining project is no longer tenable.

The final consideration for step-in rights is the procedure for both stepping in and stepping out. The parties negotiate these procedures, which are therefore largely dependent on the wants of the parties. Notice and standard of care requirements are two common procedural points of discussion that are particularly relevant to exercising step-in rights during or in the aftermath of extreme weather events and other climate-related occurrences.

Some notice period should be required before a state can step in due to other kinds of contractual breaches by the company, but the contract should specify that the state has the right to step in immediately in cases of emergencies. For example, one of the contracts mentioned above calls for notice "within five (5) Business Days of such notice, or such shorter period as is appropriate in the case of an emergency…"[48] Notice requirements can also be applied to stepping out, but this remains at the discretion of the parties. Stepping out can be done when the event that led to the stepping-in has ended or after a step-out plan has been followed, granting full operational control back to the company.[49] The parties should address this largely site-specific concern during the contract negotiation phase.

Standard-of-care requirements refer to the level of care required of both the state and the company once the state has stepped in. In some jurisdictions, statutes mandate either or both parties to comply with a certain standard of care.[50] States should be aware if this is the case in their jurisdiction. If the law requires a standard of care, mining agreements should, at a minimum, restate or explicitly refer to the statutory requirement or reinforce it as appropriate. If no statutory requirement exists, to ensure that the mining project is properly cared for while the state is stepping in and that no unnecessary additional losses are accrued during a possible extreme weather event or other climate-related event, the step-in clause should require the state to at least adhere to industry best practice while in control of the mining project. Additionally, the private partner should be required to make a reasonable effort in assisting the state once it has stepped in.

Recommendations

- Step-in clauses should expressly provide that the state inherits no liability and must be compensated if its stepping-in was caused by a real or anticipated breach by the company, such as the failure to build resilient operations in the face of growing climate change risks.
- The mining contract should lay out the procedures for stepping in, including notice and standard-of-care requirements, and allow the state to step in with minimal notice in the case of emergencies.
- The contract should, at a minimum, require the state to adhere to industry best practice and the company to take reasonable efforts to assist the state once it has stepped in. If there are statutory requirements of a certain standard of care by the state, the company, or both when the step-in clause is invoked, the contract should restate, refer to, or reinforce the level of care within them.

2.8 Termination

Contracts typically include termination procedures, which often require a party to take efforts to remedy any breach it is responsible for before the other party can terminate the contract. As a last resort in cases of

breach, one of the parties may be entitled to unilaterally terminate the contract.

The MMDA contains two standards for termination by the parties. A mining company may (a) terminate the contract if the state breaches it or (b) simply surrender its contractual rights with six months' advance notice. A state is only allowed to unilaterally terminate the contract if at least one of the following so-called "default events" occurs: (a) production has not commenced by a certain date specified in the contract, (b) the company fails to make a payment after 60 days following the state notifying the company of the missed payment, (c) the company (or its parent company) dissolves or is unable to perform its obligations under the contract, or (d) the company materially breaches its contract with the state.[51]

The MMDA's list of default events is fairly limited compared to default events that mining contracts list or could list, such as social and environmental breaches.[52] An Afghan copper mining contract lists any "breach by the Company of any of its obligations pertaining to health and safety of labour, human rights, protection of the Environment or protection of affected communities as set out in this Contract" among its list of over a dozen events allowing for the state to terminate the agreement.[53] Egypt's model exploration license even contains a default event specifically referring to environmental harms committed by the company: "If it is proved that the licensed area is polluted due to a cause attributable to the licensee and the licensee does not remedy it, in spite of warnings by [the Egyptian Government]."[54] The language of these default events could be expanded and adapted to the climate context. For example, if a company exceeds the emissions limit agreed to in the contract and fails to remedy its excess emissions or if it fails to meet specifically stated climate adaptation obligations, the state should have the right to terminate the contract.

While the default events highlighted are specific, it is not uncommon for lists of default events to contain general language referring to any breach or failure to live up to contractual obligations or any violation of mining or environmental law as default events. General clauses like this are useful as they serve as extra security allowing for termination by the state if the company fails to meet certain requirements such as purchasing adequate insurance coverage for the mining project. Accordingly, mining contracts should specifically list the company's failure to meet climate mitigation and adaptation obligations included in the contract as a material breach and a default event allowing unilateral termination by the state.

Certain responsibilities do not disappear once the contract has been terminated. The MMDA states that "no obligations or liabilities exist for both parties once the surrender has been completed by the company, but any obligations and liabilities existing before the date of surrender still exist"[55] and that companies must "comply with the Environmental Management Plan or the Closure Plan as required to avoid imminent damage to the environment."[56] While climate change considerations may and should be included in EMPs, adding specific language referring to the company's climate obligations would eliminate any doubt as to whether a company remains responsible for their climate change due diligence obligations at the mine site after termination. These obligations should continue to exist at least until the state contracts with another company for the operation of the mining project.

Recommendations

Mining contracts should include:

- Clear termination procedures for when a breach has occurred, outlining when it may result in a sanction, indemnification, or unilateral termination.
- A general clause allowing for termination by the state in the case of contractual breaches or violation of the law by the company.
- A list of "events of default" or "termination on certain events" which would allow the state to terminate the contract if the company fails to meet specific environmental or climate change–related obligations.

- Language clarifying that environmental and climate change–related obligations and any associated liabilities remain with the parties even after the contract is terminated. These obligations and liabilities should continue to exist until the state contracts with another entity to operate the mine.

3 Dispute Settlement

Though not considered risk allocation provisions, dispute settlement clauses in investor–state mining contracts deserve a brief discussion in this study as they play an important role in the enforcement of the risk allocation provisions discussed in previous sections. Dispute settlement clauses designate where, under what law, and through what processes disputes between the parties will be resolved. They usually indicate domestic courts, domestic arbitration, or international arbitration as the forum that will hear contract-based disputes that may arise. Many investor–state mining contracts provide for international arbitration, and the MMDA suggests including an international arbitration clause.[57]

Despite the widespread use of arbitration clauses in investor–state mining contracts and templates, research and practice show that arbitration can have various unintended and undesirable consequences. It can, for example, undermine sovereignty, regulatory space, and the rule of law.[58] Private arbitrators have discretion as to whether and how to apply the law of the host state. Arbitrators can and often do also second guess the legitimacy and even override the public interest–focused determinations of regulatory and administrative agencies. Transparency and opportunities for public participation in the proceedings are also subject to the discretion of the arbitrators; they are limited in most arbitrations compared to domestic court proceedings, where a certain level of disclosure is required, cases often become a part of the public record, and third-party interventions are routinely allowed in matters of public interest. In arbitration, there typically are no opportunities to correct errors of law or fact, given that arbitral awards, unlike most domestic court judgments, are not subject to appeal.[59]

Although arbitration is often marketed as being better than adjudication by local courts, its advantages are not always clear, and any benefits that do exist may be enjoyed disproportionately by the investor, while the state and its people bear a larger share of the costs.[60] For example, the average cost of defending a treaty-based investor–state arbitration case is roughly USD 4.7 million, and even victorious states often are left to bear those fees.[61] Arbitration awards can reach staggering sums in the order of billions of U.S. dollars; the average is roughly USD 504 million.[62] Many of the largest awards have been related to mining investments, for example, a USD 4 billion award (plus interest) against Pakistan.[63]

In the context of climate change, there is a risk that a mining company may bring arbitration claims against the state to either escape contractual performance or avoid liability for climate-related damage (invoking force majeure clauses), to claim compensation from the state for any negative economic effects of climate regulation (invoking stabilization or change-in-law clauses), or to challenge the state's decision to exercise its step-in rights. Previous literature has cautioned against the risk of arbitration claims in which investors challenge regulatory measures adopted by states to address the climate emergency, such as to decarbonize their economies in line with the Paris Agreement and advance the zero-carbon energy transition.[64] These claims are now materializing, and with increasing frequency.[65]

Because the benefits of arbitration are uncertain while its risks and costs are high, and because domestic courts are better suited to determine the legal consequences of climate change as well as legal and policy responses to it, investor–state mining contracts and model mining agreements should not include arbitration clauses. Instead, they should require that disputes arising out of the contract be resolved by the host state's domestic courts,

supported by technical expertise (including that from climate scientists) as appropriate. If states agree to include an arbitration clause in the contract, they need to make sure to receive adequate consideration in exchange for this concession, which requires taking several aspects into account. Detailed discussions about the risks of arbitration alluded to above and the considerations on the agreement to arbitrate, if included in the contract, lie beyond the scope of this paper. Finally, while important, the lack of a provision on contract-based arbitration does not eliminate the risk of potential treaty-based claims.

Recommendation

Mining contracts should not include international arbitration clauses; instead, states should consider alternatives to investor–state arbitration,[66] such as adjudication by the host state's domestic courts.

4 Conclusion

This paper detailed how common risk allocation provisions can be used in mining contracts to better allocate climate risks and impacts between states and mining companies. There is a pressing need to better allocate these risks due to the immense threat climate change presents worldwide. These risks are exacerbated by the fact that many mines are located in resource-rich developing countries, like many African countries, where the effects of climate change tend to be the most severe.[67]

While the suggestions discussed in this paper can be useful as general guidelines, contracts will need to be specific to the project and the jurisdiction where it is taking place. Further research could focus on drafting model language that can be applied broadly to assist states and companies in incorporating climate risks into model mining agreements and project-specific contracts.

Finally, revisiting risk allocation clauses in investor–state mining contracts and reframing them from a climate change lens does not obviate the pressing need to incorporate climate change considerations into the climate, environmental, water, forestry, energy, and mining laws of mineral-rich countries. As noted, domestic legal and regulatory systems governing the mining sector are ideally placed as legal instruments to regulate the sector's contribution to climate change mitigation and adaptation, and, therefore, to allocate and manage climate-related risks of mining operations.

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