MINING CONTRACTS

How to read and understand them

REVENUE WATCH INSTITUTE
OpenOil
INTERNATIONAL SENIOR LAWYERS PROJECT
ISLP
VALE COLUMBIA CENTER

MINING CONTRACTS

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FOREWORD

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We are happy to present the first edition of "Mining Contracts - How to Read and Understand Them." Like its sister book on oil contracts published at the end of 2012, it has been produced in just five days as a collective effort using the Book Sprint technique. The authors and collaborators began work by the shore of the Chesapeake Bay in Maryland, USA, on Monday, December 9 and finished on Friday, December 13, 2013.

A Book Sprint is a facilitated process through which a small group of contributors with a wide range of expertise and perspectives come together to write a book collaboratively in five days. The authors started with a title only, spent a day deciding on an outline, and then wrote, illustrated, edited, proofed and "published" the book in the remaining four days. Building the book in a sprint has resulted in a comprehensive resource that benefits from the dynamic interaction of a diverse group of leading experts working at the intersection of mining and economic development. As with the oil book, the Book Sprint methodology has two major implications for its content.

First, it is a work of optimization, not perfection. We are confident in the quality and the value of the content, but despite the authors' best efforts during the sprint, we are sure the occasional factual error or typo will have remained, and there will certainly be gaps. These are unavoidable when writing a book of over 150 pages in under a week. We hope this book becomes a living document; that this edition is just a first pass at a work that will be updated and expanded over time. We invite our colleagues to criticize vigorously, and in this way help our organizations and our partners improve the text for the next edition.

Second, not every contributor - nor every organization sponsoring this effort - agrees

with every detail or judgment in the book. We do, however, share the vision that a resource of this kind is needed, to equip governments, citizens and other stakeholders to better understand the content and the impact of mining contracts so that they can negotiate, analyze and monitor contracts more effectively. We also all support contract transparency, the idea that major extractive industry agreements should be published to help build more trust and better governance around these industries. The analysis and quotations in this book, of contracts from Australia, Ecuador, Guinea, Liberia, Mongolia, Niger, Peru, Sierra Leone and elsewhere, are just a small sample of what is possible if more contracts come into the public space.

Apart from that, the goal is for this book to stand as an informational introduction to this complex and often controversial subject. There were lively debates among the authors throughout the week, and personal opinions implicitly inform the way the authors have sequenced and addressed various subjects. This book is the product of teamwork, not group think or a "consensus" document. We trust that readers will quickly recognize, as we have, the value of this unique drafting process.

The organizing institutions are: the International Senior Lawyers Project (ISLP), OpenOil, Revenue Watch Institute-Natural Resource Charter (RWI-NRC), and the Vale Columbia Center on Sustainable International Investment (VCC). Some financial support was provided from within our organizations, and more was generously provided by Australian Aid, the World Bank Institute, the World Bank Sustainable Energy, Oil, Gas and Mining unit, and the German Federal Ministry for Economic Cooperation and Development (GMZ) through GIZ. Special thanks go to Anna Shakarova at ISLP for mobilizing such a wealth of legal expertise for the project.

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Adam Hyde, who invented the Book Sprint technique, once again facilitated the book, assisted by Barbara Rühling and Clara Roorda, Research Associate at VCC as target reader. The Book Sprint team also included Henrik van Leeuwen (graphic design), Raewyn White (remote proof), and Eyal Holtzman & Myrthe Stel (HTML book design). We are also grateful to Debevoise & Plimpton for providing a proofreader in the eleventh hour.

Going forward, we anticipate translations into multiple languages, and that the book will provide material to be integrated into training courses run by our organizations and others.

One of the fallacies sometimes raised by those who oppose contract transparency is that the broader public is not equipped to read contracts or analyze them in any meaningful way. We hope that this book will become a valuable tool to broaden and enrich public debate of the mining industry, by and for the hundreds of millions of people around the world for whom it is an issue of vital public policy.

Daniel Kaufmann, President, RWI-NRC

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CONTEXT

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THE MINING INDUSTRY

The significance of minerals and the uses they have served across human history can hardly be overstated. Minerals are so important that ages of history have been named for them: the Copper Age and the Iron Age. Mines have been discovered dating to 40,000 years ago. Greeks, Romans and Egyptians wrote treatises about mining thousands of years ago. Nations have come to greatness and fallen on the rising and ebbing tides of mineral commodity prices. Silver and gold have taken countries to faraway lands to find more. Every continent has had mining of ores in some form or fashion in its history. Mining is, in many respects, ancient and universal.

And it remains vitally important today.

As mining has become more of an industrial process in many parts of the world, mining contracts governing that process have proliferated as well. And, as relatively "easy access" deposits are becoming fewer and farther between, mining companies are going to new locations to hunt for new mineral deposits.

This change has resulted in the rising significance of the minerals sector in the global economy. One study recently showed the number of economies which depend on mining rose from 46 to 61 in the period between 1996 and 2011 - and the degree of dependence also increased, according to Oxford Policy Management.

Some of these countries are among the world's poorest. Others are among the world's wealthiest.

Mine development holds much promise for host countries as the key promoter of growth through export earnings, economic expansion, eventual diversification of the

economy, and massive poverty alleviation. Fluctuating but rising demand for minerals appears to provide a logical and economic way to build new infrastructure in rapidly developing nations and replace the old in mature economies.

An aspect of mineral resources drives the dynamics that underpin much of this book: minerals are depletable, non-renewable resources. When they are gone, they are gone forever. The finite nature of minerals makes them unique as compared to other industries and revenue sources for companies, governments, and citizens in resource-rich countries.

But past experience also suggests that unless there is prudent management of these resources, these opportunities could be lost. Or, worse, catastrophic environmental and social consequences can occur.

"Be careful to learn the nature of the locality, its roads, its salubrity, its overlord, and the neighbours."

"The miner should not start mining operations in a district which is oppressed by a tyrant."

This is stunningly good advice for anyone starting out on a mining project. No, it does not come from one of the CEOs of the major mining companies, but instead it comes from Georgius Agricola, from his *De Re Metallica, Book 1* written in 1556.

You read that right: 1556.

And just as natural resource extraction has been around for a long time, so have the cluster of issues that have come to be associated with it. Although "Resource Curse" was only coined as a phrase at the end of the 20th century, its features were also around in Agricola's time. Economic historians have developed theories to describe how, after the "discovery" of the Americas by Columbus, his imperial master, Spain, fell prey in the sixteenth and seventeenth centuries to things like a drop in productivity in traditional livelihoods, corruption, political and social stagnation and conflict - because of huge amounts of gold arriving from the New World.

The mining industry has of course become far more industrial since the days of Agricola. This book is, largely, about a mining industry that he would barely recognize.

One with earth-movers larger than a house. Pits that go over a kilometer into the earth and mine sites so big they are visible with the naked eye from space. An industry dominated by machines: mechanized water treatment facilities, huge sites with just a handful of engineers on site managing the machines, not leagues of people scratching out ore by hand. Giant mines that consume as well as produce voraciously. Sites that need an electricity plant big enough to power a city, enough water to reduce a river, with their own roads and railways, their own settlements and sometimes security forces.

And with scale and machines have come capital investment on an unprecedented scale and, accordingly, lengthy contracts and detailed laws. Unless Agricola were also a lawyer, and history somehow forgot this detail, he would hardly recognize the subject of this book: mining contracts.

The rest of this book will focus primarily on mining contracts and the legal frameworks surrounding them. But these contracts reflect the market forces and realities of supply and demand. The real world drives the legal framework.

In order to understand the full implications of these agreements and their ramifications for the development of host countries, it is useful to examine the operations of the sector at the global level, how the markets function and are structured, and evaluate the links in the supply and value chains for the average mineral.

MORE OF JUST ABOUT EVERYTHING

The big picture for the way mining has evolved in the last two decades is quite simply: "more". Just more.

More of everything. More mining companies spending more money to produce more stuff which is more speculated on and then sold for more money to meet more demand than ever before.

According to *The Economist*, leading countries consumed 50% more tin in 2011 than at the turn of the century, 60% more nickel, 60% more lead, 60% more coal, 40% more zinc, 30% more copper and 20% more silver and gold. Iron ore production has nearly

tripled in that time. A billion tonnes more are produced today than at the end of the 20th century.

Prices have also rocketed. Gold, silver, lead, zinc, nickel and copper all tripled in price in the first decade of the century, and although some commodities have fallen back from 2010-11 highs, they are still all high in historical terms and many analysts expect demand to stay strong, with the occasional blip. Some economists talk of the world now being in a commodities "supercycle" such as has only occurred three or four times since the Industrial Revolution.

Part of this, it is true, can be explained by the world's rising population – there are another billion people alive on the planet since the year 2000. But another, perhaps larger part of it is rising living standards, as parts of what used to be called the developing world rush towards prosperity as best they can.

China's rise as global "swing consumer" of a number of commodities has been stunningly fast. Twenty years ago, it bought eight percent of iron ore traded on world markets. Now it is 60%. Across metals as a whole, its share has risen from 3% to 30% and that demand shapes the global market for individual commodities in very particular ways. Demand for copper is likely to remain strong, for example, because China is planning to add 700 gigawatts to its domestic grid by 2020 and copper fibre is an integral part of grid networks. China's demand for imported tin is also likely to rise sharply as its billion consumers eat more processed food.

There are also more mining companies on the scene now. Rising demand has led "junior" less capitalized companies into more remote and harsher locations in more speculative exploration, where they may seek quicker returns. Other companies may be large but new to the international scene, lured out of national strongholds by crazy demand and prices.

And just as production, consumption and price all shot up in the last decade, so did speculative investment in financial instruments around commodities. These instruments initially allowed traders who needed real quantities of stuff to lock in their price at some future date, or to "hedge" the price against other assets, and they have been enthusiastically embraced by investment banks and funds. The United Nations estimates the number of commodity futures contracts traded more than doubled every year from

2001 to 2011 as a slew of commodity trading indexes sprang up. The role of this "financialization" is hotly disputed. Some say it has driven the price rises, others say it has provided liquidity at a time of unprecedented growth in demand. But it is unlikely to go away.

Of course, the clear trend toward "more" and "bigger" has one important caveat: Smaller mines, and artisanal mines in particular, still play an important role in many countries. And these can have disproportionately large impacts - on employment, on the environment, and on the social fabric. Throughout this book we deal almost exclusively with industrial mining, but it is important to remember that this is not the whole story.

We live in a globalized world, and the people and communities affected by mining operations are clearly aware of these trends, even if they may not pore over the details. We are once again in a global expectations game which is hard to balance. The World Gold Council announced that the gold industry created $78 billion of value in the global economy in 2012, but the Al Jazeera presenter asked their spokesman why only an eighth of that went to the workers. Companies stress the pressure on their bottom line as costs have skyrocketed. Meanwhile the striking miners of Marikana were demanding their wages be tripled when they were shot dead in a confrontation with the South African police. Other mine riots have broken out recently in Guatemala, Zambia, and Argentina to name a few. A Chatham House report states that there were 126 active local disputes over mining in Peru alone.

These pressures within the mining sector, coupled with broader trends toward increased corporate accountability and increased attention on the broader impacts of mining on society, have spurred a number of innovative initiatives such as the Extractive Industry Transparency Initiative (EITI).

Several African governments have announced they are reviewing their mining contracts because of widespread perceptions they have not captured enough of the last decade's "superprofits"; other governments around the world, including in Mexico, Australia, and Quebec, have announced changes to their tax regimes aiming to capture more of the resource rent; and Indonesia's parliament is introducing an export tax on some minerals in an effort to encourage beneficiation.

One response by a left-wing movement centered in Latin America seeks to define "post-

extractivism". Since getting minerals out of the ground triggers so much turbulence, they argue, the only way out is to sharply reduce its prominence in economic development, and resist global forces that seek to extract it.

There is ferment everywhere, even in Swiss villages where residents elected to repatriate some of what they regarded as excess profits earned by commodity trading companies based in Switzerland, such as Glencore, to source countries in Africa.

Concern is on the rise for mining companies as well. Despite what could be viewed as an inexorable rise in commodity prices and a mining boom that could hardly see anything more than a "blip" in minerals prices, PwC is reporting that investor confidence in mining companies is declining relative to the broader equity markets. And although profits reached record highs in 2011, they came against record costs, which meant that profit margins, and the value of such companies, stayed flat or even dipped. Since then, prices have come off their historic highs, but costs have remained high and the companies are in trouble. Mining stocks fell nearly 20% in the first four months of 2013.

Deloitte has chimed in as well: the list of problems mining companies faced in 2013 includes rising costs, falling prices, supply-demand imbalances, and decreased productivity. Urging companies not simply to "wait out the swing", their annual review encouraged companies to embrace innovation, including systematic use of social media to increase their engagement with communities. Hence the need for this book which seeks to describe neutrally, from an informational point of view, the legal and contractual frameworks that surround mining operations around the world.

LAWS AND CONTRACTS

Every country has its own unique history, peoples, culture, food, music. Is it influenced by other cuisines, languages, and cultures? Yes. But it is always, in some way, unique.

The mining laws and contracts in any country are similarly unique. It is important to stress at the outset that this book cannot and will not cover every contract type, everything in a minerals law, or every law relating to mining for any given country. A contract or license often requires a reference to a law, which may reference another law, that then references several sets of regulations. Looking for an answer to a particular question regarding a specific project can send a person on a long journey across numerous articles, clauses, phrases, and sub-clauses. Given that complexity, this book provides a road map helping to locate what you can find; a guide on how to get to certain places in the legal framework; an approach to answering questions.

Some relatively common principles help that task. No matter what the legal system is, a mining company will always seek a recognized legal right to engage in mining activities from the state. Different licenses will cover different phases of the mining project, including exploration, production, and reclamation. While most countries in the world have mining codes (or mining laws) governing how they grant these rights and regulate these processes, even if there is a country that does not have a mining code, the state can issue decrees, executive orders or perhaps enter into contracts in the absence of a mining law.

The acquisition of a license or contract doesn't necessarily mean that the ownership of the sub-soil resources is also transferred. In fact, in most cases, the state retains ownership over the sub-soil resources. The state's ownership of the sub-soil in most cases

is the rationale for the government to impose a "royalty" (see the "Fiscal Issues" section). Only in a handful of cases, including the United States and some Canadian provinces, is ownership held by the owner of the land surface.

The whole point of a license or contract is to secure an exclusive right to undertake a particular activity on a particular piece of land. This is a fundamental part of the minerals law in any country, and is addressed this section through answers to some frequently asked questions on mining laws and contracts.

WHAT IS "THE CONTRACT"?

There are many types of contracts in the minerals sector. This book concerns itself with the contract that governs the relationship between the national government and license holder for an exploration and/or mining project. In any legal framework, there is a contract that is "The Contract". This contract (or license) provides an exclusive right to a company to explore over a certain area of land and/or mine the discovered resources in exchange for royalties, taxes, and other obligations.

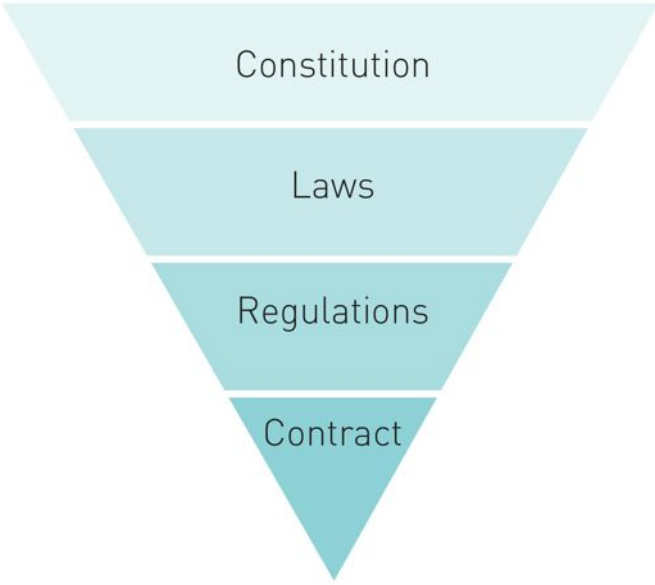
These "contracts" can have any number of names: Mineral Development Agreement, Exploration and Exploitation Agreement, Mining Investment Agreement, Mining Contract, Mining Concession. The important point here is: do not get invested in the name and what is on the outside cover of the document. No matter the name, these contracts are all dealing with the same kinds of issues, though perhaps at varying levels of detail. The differences in the name of the contract is not an important factor. It is mostly a matter of historical accident.

IS A MINING CONTRACT THE EXCEPTION OR THE RULE?

Contracts are not required or used by all countries. The countries that do not govern mining by contracts instead define all rights and obligations by the specific license and generally applicable laws. Comprehensive contracts are more often employed at the early stages of mineral sector development when the legal framework is still evolving. In contexts in which the legal framework and government institutions are fairly strong, it is more likely that the parties rely on generally applicable law to govern their respective rights and obligations. In this kind of environment companies can rely not only on the comprehensive nature of the legal framework, but also on the relative stability of the legal environment and transparent governance mechanisms that guarantee the safety of their investment. For instance, provinces in Canada such as British Columbia and Ontario do not have formally written contracts between the government and the company, though there are various other contracts involved, including contracts with the indigenous community. Similarly, contracts are not used at all in South Africa, also a country with a long history of mining.

DOES THE LAW TAKE PRECEDENCE OVER THE CONTRACT?

Now this question has an interesting answer. Theoretically, the answer is very clear: there is a hierarchy of laws, with the Constitution at the top, then laws, regulations, and contracts sitting way down at the bottom. Laws take precedence.



The hierarchy of law

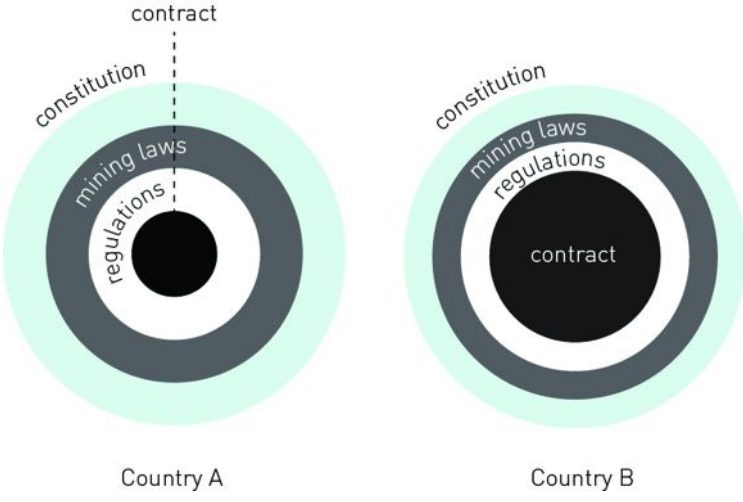
But theory does not always match reality. When you get into the real world, the answer may be quite different. There are cases where contracts are specifically designed to take precedence over domestic laws (though sometimes the laws will not allow this). Furthermore, there are legal stability clauses and agreements that may affect the hierarchy of laws. This topic will be treated in more detail in various other sections of the book.

However, as it was mentioned earlier, the more comprehensive the domestic legal framework, the stronger the tendency is for domestic laws to take precedence.

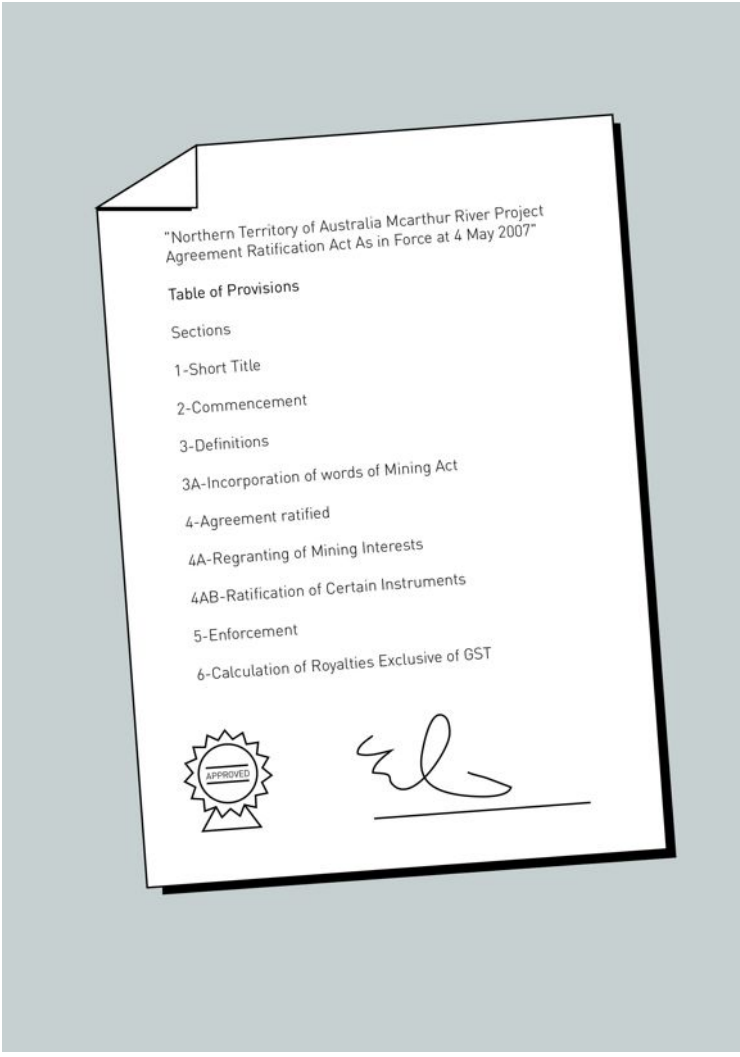
WHAT ABOUT COMMUNITY DEVELOPMENT AGREEMENTS, LOCAL AGREEMENTS, AND OTHER CONTRACTS? WHERE DO THEY FIT INTO THE PICTURE?

There are a number of contracts that may also be signed in addition to "The Contract" between a company and the national level government. These will serve a different function from granting the exclusive right to mine. There may be contracts signed by local authorities and license holders that regulate local rights and obligations. There are sometimes various contracts for usage of water and infrastructure concluded between government authorities and the license holder. Contracts could be concluded between various stakeholders, including for instance non-governmental organizations, participating in the mining project. In short, there could be hundreds of contracts associated with any given mine, but one is the most important of all, and that is the mining contract between the national government and the company granting that exclusive right to conduct mining operations.

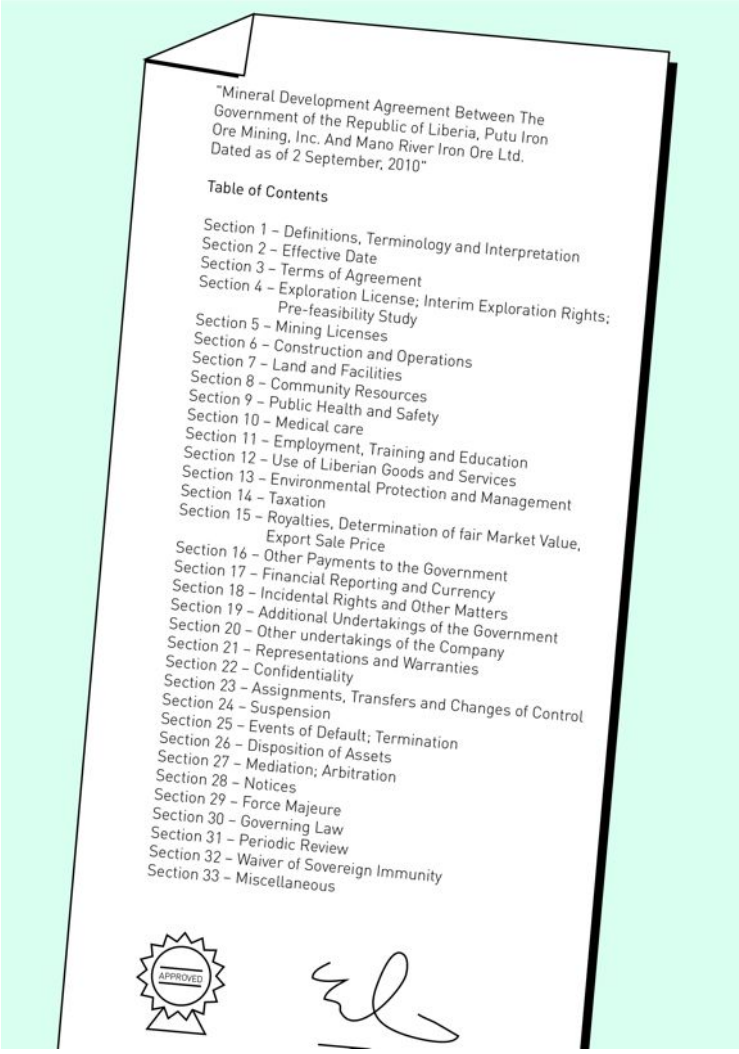
WHAT DOES THE CONTRACT COVER?



A contract could cover a wide range of issues such as operational obligations, fiscal and economic development issues, environmental and social issues, dispute resolution, local employment and procurement, change of ownership or management control, among others. In a relatively comprehensive legal environment, a contract could be extremely short. A contract in one country may be 250 pages and only 15 pages in another.



Example of limited scope agreement



"Mineral Development Agreement Between The Government of the Republic of Liberia, Putu Iron Ore Mining, Inc. And Mano River Iron Ore Ltd. Dated as of 2 September, 2010"

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APPROVED

Example of a Comprehensive Agreement

In the past 20 to 30 years, probably the biggest developments in mining laws and contracts are in the social and environmental areas - so much so that there is an entire

section of this book devoted to those topics. Areas like social responsibility, human rights, anti-bribery provisions, and local consultations are emerging as new issues in the contracts. New deal structures are also appearing that have infrastructure, public housing and other non-monetary forms of benefits for governments. This is often associated with the recent entrants to the market such as Chinese companies.

This book covers a wide range of issues typical of a comprehensive contract including fiscal issues, core operational obligations, environmental and social issues, economic development, dispute resolution, equity ownership, and force majeure, among others. However, it needs to be stated again that if the domestic legal environment addresses them sufficiently, all issues covered in the book would not necessarily end up in the contract.

HOW LONG DO THE CONTRACTS LAST?

There are two main practices when it comes to the duration of contracts.

One way is to set a hard time limit: 10 years, 15 years, 25 years. For a company to want to invest, the contract period will need to be of sufficient duration to allow the company to recoup its investment and make a profit. There will typically be the opportunity for extensions as well.

The other practice is to have the contract last as long as there is an economic deposit there to mine.

Under either practice, there are closure and reclamation obligations, which are covered further in the section, "Mining Operations".

BACK TO THE BEGINNING: GETTING THE CONTRACT

We seemed to have jumped to the end of the contract without talking about how you get one in the first place. Let's end with the beginning.

The vast majority of countries around the world use a first come, first served system of

issuing licenses and contracts for the right to conduct mining activities on a piece of land. This system makes sense, as it theoretically should not favor any particular party and should incentivize people to come and get licenses to start mining.

This is, however, changing, and more and more countries are holding competitive bids for the right to mine or explore. Competitive bids can have several advantages: they can entice policy-makers to anticipate, plan and prioritize the benefits from mineral projects that they would like to realize, since those benefits can be the object of the bid; pre-qualification criteria, fees to participate in bids, and upfront bonus payments can deter speculation and license idling; and transparent bidding rounds can decrease risks of corruption compared to first come, first served systems or direct negotiations.

However, without strong transparency provisions and oversight, competitive bids can present the same challenges of corruption and misallocation of licenses and resources as the other systems. And, indeed, issues like license idling and corruption can also be tackled in other allocation systems. Furthermore, when a government lacks geological information, it can be harder to organize a successful and competitive bid round; in those instances, the government could either start with a first come, first served system or invest in revealing geological information (for instance, with support from the US and British Geological Surveys).

THE NEGOTIATING TABLE

The mysterious "negotiating table". Who sits at it? What do they do? What are some of the "tricks of the trade" - what do good negotiators do? Do people really pound their fist on the table and threaten to walk away? Who is really in charge? And perhaps most importantly, who is driving the process behind the scenes?

This chapter answers many of these questions. The chapter, "So You Think You Need Help After All," also provides guidance on how to choose legal counsel. And, we have "170 Years at the Table: Confessions of a Negotiator" to pull back the curtain even more on the negotiating table.

WHO SITS AT THE TABLE?

The choice of who should sit at the negotiating table and who will be representing the various parties can be (and often is) one of the most important decisions that will influence the outcome of the negotiations.

The main actors include the government, companies, lenders, and civil society.

Government: At the Table

There is no one structure for government negotiating teams. Practice is diverse across the globe, but can be grouped in three main categories, based on who takes the lead:

- Ministry of Mines, potentially with involvement of other ministries

- Inter-ministerial committee, which could be led by the Ministry of Mines, National Mining Company, the Executive's Office, National Investment Commission or other ministry-level representatives

- National Mining Company, potentially with involvement of other ministries

Reasonable minds can disagree on which structure works best. In all likelihood, any structure can work if there is the political will for it to do so. Which structure a country uses will depend largely on the country's governance structure and history of practice in this area.

It should be noted that bigger is not necessarily better when it comes to seats at the table. A single negotiator or 3-4 negotiators may be much more efficient than a group of 15. Confusion, distraction, and divide-and-conquer techniques can be employed for large negotiating teams. One negotiation was held up by the fact that the seven negotiators in the room on the government side typically needed to achieve unanimity on all issues. This isn't to say that a large team shouldn't support the negotiators and have their views taken into account; only that more is not always merrier when it comes to face to face negotiations.

If there is a National Mining Company (NMC) or some other special purpose vehicle created by the government to oversee mining permitting and operations, its representative(s) will sit at the table, usually with a team of legal, finance (fiscal), economic and mining advisers and experts. Such advisers and experts can be government employees or outside consultants depending upon the expertise and resources of the government.

If there is no NMC, the government will often be represented by employees of the Mining Ministry, with varying degrees of official or unofficial involvement from other ministries.

Which other ministries might show up at the negotiating table?

Here too, there is no consistent practice across all countries all of the time. One could reasonably expect representatives from the Ministries of Justice, Environment, Labor and Employment, Indigenous Populations (if existing), Culture, Finance (and Budget), Strategic Planning (if existing), Land Development/Planning, National Investment Commission, etc. Representatives of the Central Bank may be involved, and some co-

untries provide for ad hoc experts to be officially part of the team.

The following example is from Liberia's Mines and Minerals Law 2000. Later laws have since modified this particular structure - as they are apt to do! However, it remains a good example of the legal language that can be used to establish a negotiating team:

> *"Section 3.4. Establishment of Minerals Technical Committee. There is hereby established a Minerals Technical Committee composed of the following:*
> *The Minister of Lands, Mines & Energy (Chairman);*
> *The Ministry of Justice;*
> *The Ministry of Finance;*
> *The Ministry of Planning & Economic Affairs;*
> *The National Investment Commission;*
> *The Ministry of Labour;*
> *The Council of Economic Advisors to the President of Liberia;*
> *The Central Bank of Liberia.*
> *Section 3.5. Power of the Committee. The Minerals Technical Committee is hereby empowered under the chairmanship of the Minister to negotiate and conclude agreements [...]"*

The most successful government negotiators are those who have formed a coherent and coordinated government team with a lead liaison who reports directly to the prime minister or president. It is helpful if the person who heads the team is appointed directly by the president or prime minister and can obtain guidance when required.

The International Mining Company (IMC): At the Table

The IMC may be acting alone, with a Joint Venture (JV) partner, or as the managing partner of a Consortium of business entities. Who the IMC or JV sends to the table can depend on a lot of factors: the size of the company, how important it considers a particular negotiation or government relationship, or its general approach to negotiations worldwide. The IMC side of the table may have a regional director, in-house counsel, and other in-house experts. Small companies may have a CEO or other very high level representative at the table.

The IMC or JV will be typically assisted by its own in-house legal, financial (fiscal), economic, geological, marketing and technical (engineering and/or infrastructure) advisers. The IMC or JV may also call on internal or third party advisers to help address any number of issues, particularly issues that may be very local to that negotiation, for example, indigenous peoples, community, cultural heritage or other social issues that may be raised during the negotiations. In some cases, the IMC may even insist that certain community issues be covered in the agreement. While community groups or civil society organizations do not usually have a seat at the negotiating table, this does not mean that their voices cannot be heard; the IMC (as well as government) may be open to discussions and consultations in advance of or during negotiations.

It may be worth noting here that in all but a very few instances, the IMC and the government will often not be negotiating from the same information. While the IMC may submit a number of studies on the geologic potential of the area, engineering plans, costs of production, and other information that is critical to determining negotiating positions, the IMC will likely have more tools at its disposal to understand, analyze, and frame that information in a way that is beneficial to the company. And this makes sense: mining companies are in the business of mining! This is their primary purpose. The challenge for governments is to meet that level of expertise as best they can. A number of strategies for doing so are included in this book.

Lastly, the challenge of negotiating with IMCs can be compounded if there is a JV or Consortium arrangement. More interests at the table usually means more issues to work through. JVs and consortia are often necessary for large-scale, industrial mining projects. Such arrangements diversify the risks for the main project company, can give access to more equity finance, specialist skills or technologies (e.g., in infrastructure development), and even assist in securing part of the mineral supply.

Even with multiple companies at the table, ready to put their own cash into the project, that may not be enough. Enter: the lenders, the people with the money.

Lenders: Not at the Table (but hovering closely in the background)

Mining projects are expensive. Very expensive. Instead of coughing up all of their own cash, assuming the company even has enough, the IMC or the JV will probably turn to commercial lenders to provide debt. For some mining projects, debt could be used to fund as much as 70% of the total costs of building the mining project, with the third party lender having more cash tied up in the project at certain moments in the mine life cycle than the IMC or JV.

For this reason, the lender will often want to be quite well-informed about the negotiations over what will be, in effect, its money for a significant period of time. They may want to be informed of progress or problems encountered at the negotiating table, and will certainly have made their own conditions and expectations clear to the IMC as part of the financing or equity agreements drawn up with the IMC, such as default/breach and other provisions that will need to be harmonized with the terms of the mining contract or vice-versa.

Who are these lenders behind the scenes? They could be private commercial banks like HSBC, Barclays, RBS, Deutsche Bank, Credit Suisse, as well as public multilateral lending institutions such as the International Finance Corporation or "IFC" (a member of the World Bank Group).

These actors, while not officially at the table, have been important in the overall content of mining contracts. For example, today most of the commercial and larger private lending institutions subscribe to the Equator Principles, and IFC involvement in a project means compliance with its Social and Environmental Performance Standards (more about this in the "Environmental and Social Issues" section of the book). These standards have been almost universally embraced as common practice in these areas, and contracts may make these standards legally binding. Just because a player is not at the table does not mean they cannot be highly influential.

Who is Usually Absent from the Negotiating Table? (Answer: Almost Everyone)

Frankly speaking, just about everyone else is usually not at the table. But there are a few exceptional circumstances in which other groups may be invited to take part.

Representatives of community groups may be invited to participate in those parts of a negotiation that bear on environmental protection, community development, benefit sharing or social impact management.

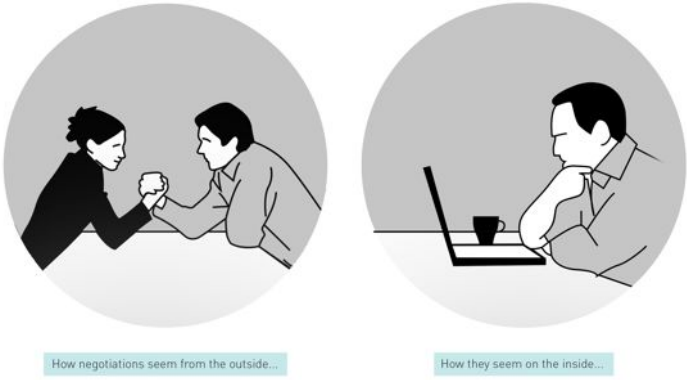
Sometimes, the government will include in its team representatives from ministries that are responsible for cultural and other issues affecting local populations or sub-national government interests. This presupposes that there is a government entity of some nature responsible for oversight or coordination of indigenous peoples, sub-national government or local community interests in general.

The more likely way that civil society will participate is through a consultation process of some sort, though that of course is not the same thing as being at the table. Community Development Agreements and other community processes are discussed more in later sections.

GETTING TO THE TABLE

Now that the team of negotiators are at the table and everyone knows - or thinks they know - who is representing what interest groups and entities, and who has authority to bind who, the negotiations can finally begin. The moment of truth has arrived: parties will come together and go into the intellectual equivalent of hand-to-hand combat. Angry words will be exchanged. Strategies and stratagems will be employed; bluffs, maybe even outright lies. Who will crack first? Who will cave on the crucial points? Who will come out on top? Which negotiator will win in this test of wit and will?

We have some disappointing news. For those that pictured men in suits debating each other to the death in a wood-paneled conference room in New York or Hong Kong, that is not quite how it happens 99% of the time.



Negotiations are often marking up a word document with track changes and then sending that to the other side by email. More often, it is a person behind a computer - maybe with a binder with laws and contracts, and probably several cups of coffee - reading and writing for hours at a time. The ratio of hours spent at the table, face to face with the other parties, to passing drafts of a word document is hard to accurately estimate; but be assured that in almost all negotiations, far more hours are spent away from the table than at it.

An IMC may start the negotiations with its model agreement(s), or the government may start with its model or a chosen agreement already in force that it views as its current position and practice. A model contract is one in which the general structure of an agreement is laid out, but with a number of areas left open for negotiation, such as the financial terms, exploration work programs, and community benefits, for example. Other issues may be open for negotiation as well.

What's the use of that, you might ask? First, it saves an enormous amount of time. Drafting from a blank sheet of paper would be extremely inefficient. Second, exchanging preferred models or redacted examples often will reveal the parties' expectations: a party will rarely share a model or contract that does not include its favorite provisions. (And if a side does send a model that goes against its interests, this would probably be a pretty clear example of poor negotiating strategy, if there ever was one).

By exchanging models or preferred redacted contracts, the parties will be able to assess

the first negotiating positions that each party may put on the table. These perceived expectations should not be ignored because they will surface at some point in the negotiations either as express requests or implied issues. This does not resolve which model or redacted contract will form the basis for the negotiations but it will be a window into the parties' wish lists.

Once the parties determine which agreement or agreements they will negotiate from, the fun begins. It is time to dive into the heart of this book, the text of mining contracts.

MINE OPERATIONS

INTRODUCTION TO MINE OPERATIONS

LEGAL REGIMES

RECONNAISSANCE AND EXPLORATION

FEASIBILITY

PRODUCTION

CLOSURE

INTRODUCTION TO MINE OPERATIONS

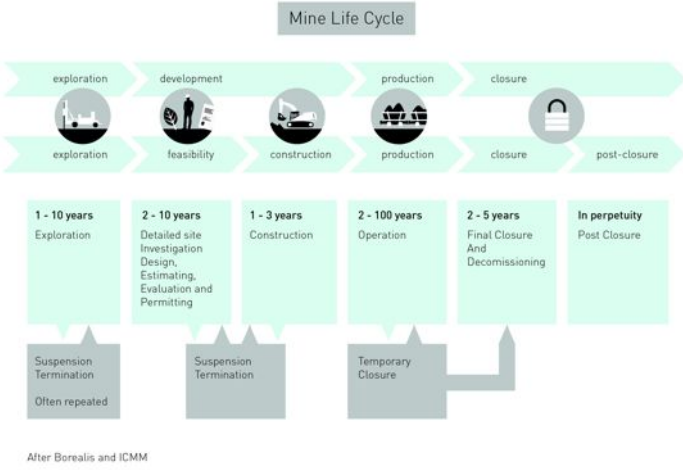
Some of the great mines of history have run for hundreds of years. Sweden's "Stora Kopparberg" (or the "Great Copper Mountain") is a mine that lasted from the 10th century to the early 1990s. While that is an extreme example, finding a resource, building a mine, and closing it down responsibly is generally a long process. Reconnaissance and exploration may involve decades of increasingly focused activity, by both governments and private companies, in an effort to find resources and identify those that may be worth developing. After that threshold is crossed, it may take many more years of feasibility studies and project appraisal, along with extensive consultations with government agencies, local communities, financial institutions and other key parties, before a company is able to move on to mine development and ultimately production.

And then, production may last from anywhere from a few to a few hundred years.

But that's if you're lucky. Most exploration activity will fail to result in a promising discovery, and many promising discoveries will never make it to the mining phase.

This chapter takes a closer look at each step in the mining life cycle, from high-level reconnaissance through closure, detailing some of the key considerations during each stage. Some of the topics covered relate to technical or engineering issues, providing an overview of the "footprint" and activities of a mining operation at a given phase. Other considerations relate to the legal framework, including broad principles that run through the mining life cycle as well as key regulatory processes and decision-points that govern and feature in particular stages.

And this will come as no surprise to anyone, but money is important. Very important. Understanding not only the cost of each phase, but where the money tends to come from, will therefore also be covered in the sections that follow.



After Borealis and ICMM

LEGAL REGIMES

LAND, MINE AND MINERALS OWNERSHIP

Minerals in the ground may be owned by the state or be owned privately. For instance, in the United States, subsoil rights under privately held land are privately owned; subsoil rights under state or federal lands and offshore are held by the federal and state governments. In most of the world, the state, or more broadly, the people, own all natural resources. This includes minerals below the surface even when the surface rights are held by others. This ownership is often set out in the Constitution and repeated, but in an increasingly specific form, in the mining act and the contract itself. For example, Article 1 of Ecuador's Constitution states:

> *"Non-renewable natural resources of the State's territory belong to its inalienable and absolute assets."*

This general statement of land rights becomes more specific in a mineral law. Ecuador's Mining Law states:

> *"Art. 16: Ownership of mines and deposits by the State. Non-renewable natural resources and, in general, underground products, minerals and substances whose nature differs from that of the land, including those found in areas covered by territorial sea waters, are the inalienable property of the State and are not subject to the statutes of limitations or seizures. The State's ownership of the subsoil shall be exercised independently of ownership rights over the surface land covering the mines and deposits."*

The Liberia - China Union contract shows how this general Constitutional statement makes its way from law to contract, confirming at the very outset of the agreement the country's ownership of mineral resources:

> *"A. Every Mineral on the surface of the ground or in the soil or sub-soil, rivers, water courses, territorial waters and continental shelf of Liberia is the property and national wealth of Liberia and all rights related to the exploration for and exploitation of Minerals belongs exclusively to Liberia."*

Land rights and rights in minerals are two different things.

In most jurisdictions, once the company gets the necessary rights to minerals for its mining operations, it must reach an agreement with the persons who own the land above the deposit or have the right to use it. These persons may be the state, a private land owner, communities holding use rights, or a mix of these.

Private or communal landowners may negotiate these agreements directly with the mining company. In many jurisdictions, if these parties cannot negotiate a solution without the state, the state will step in and negotiate for them, or in the most extreme circumstances, may expropriate the land. These issues of land rights can be extremely contentious, and are also dealt with in the "Environmental and Social Issues" chapter, but could easily fill their own book.

The state could develop and exploit the minerals it owns by itself, using its own resources, and in some cases does. More often, the state grants licensees or contract holders the right to explore for and develop minerals.

CONTRACT AND LICENSE REGIMES

Mining contracts and licenses are a common feature of mineral legal frameworks across the globe. These instruments go by different names – license, mineral development agreement, contracts of work, "conventions" in civil law countries - but they all serve the same purpose of filling out the obligations and rights of the investor that are not in the mining law or other relevant laws and regulations. (See the chapter, "Laws and Contracts" for more information about the broader legal framework).

Some common features of contract and license regimes are described below.

Contractual Regime

In a pure contractual regime, the primary document governing the investment is the contract. Very few countries still have a pure contractual regime, but there are many countries that have mining laws yet still rely more heavily on contracts to determine most of the state and company obligations.

In a contractual regime, the minerals law will typically have less content than a minerals law in a license regime. It is often a long document defining the company's obligations and rights with some specificity. It will cover the investor's obligations during various stages of development, its rights to extract minerals and what minerals are covered, and rights and obligations with respect to infrastructure. It may also give the investor protections from unlawful taking of its property, and will usually provide for special dispute resolution procedures. In many cases, the contracts reference and incorporate general law, but they can also provide for departures from general law. For instance, in the tax sections, the contract may modify certain of the income tax rules or it may provide for different tariffs. In civil law countries "conventions" or contracts will fill in holes in the law or fill out details of the investor's rights, but conventions cannot free investors from obligations otherwise set out in the law. Contracts can be individually negotiated, but they can also be in a standard form, with the form being updated from time to time. Indonesia, for instance, went through seven generations of model contracts of work before replacing them in 2009 with its present licensing system governed under statutory law.

License Regime

Alternatively, in a pure license regime, all of the major obligations applicable to mining operations are established through legislation and regulations. Rather than signing contracts with individual companies, the government establishes a system for companies to apply for licenses to mine particular areas of land, and those licenses are subject to generally applicable legislation regarding taxes, royalties, environmental requirements and so on. In this sense, companies' licenses contain identical obligations.

In the chapters and sections that follow we discuss the various obligations and rights that states, communities, and investors have, whether established in contracts, legislation, or licenses.

RECONNAISSANCE AND EXPLORATION

It all starts here. What otherwise looks like a field of grass, barren sand, or a body of water could have valuable minerals below the surface.

But finding those minerals is a one-in-a-hundred business. Or less, at least for gold, according to the World Gold Council: *"Estimates vary widely but even the optimists reckon that rather less than 1% of the prospects meet the threshold to produce a viable mine,"* they said in a report at the end of 2013.

So it's important to get the prospecting process right.

It usually starts these days with airborne studies and mapping. Although most minerals are found beneath the surface of the earth, a certain amount of geological analysis can be conducted by incredibly sensitive recording of gravitational and magnetic fields.

Next comes seismic analysis - analyzing rock structures by using sound waves - and sampling, picking up rocks and analyzing their chemical composition and density. In the case of "greenfield" sites - places that have never been mined before - this must come from on-site work. "Brownfield" sites that have already been worked may have both seismic and geologic samples held by the government from previous projects.

At this point, if all the research looks good, the company will apply for an exploration permit. The permit grants the company the right to look for minerals, but not to take them, and is valid for a certain amount of time, say two or three years, often with a renewal clause. The company will also have to submit work programs, detailing work and

the budget to be allocated to each phase of the work. From the mining company's perspective, an exploration license will usually give the company exclusive rights with respect to the designated area. Some countries impose minimum exploration expenditure and/or investment obligations. Mining codes, if they exist in a given country, will often provide these terms, which will include a certain number of reporting obligations by the company.

A contract will usually reaffirm the right to exploration and extensions. For example, the Liberia - Putu Appraisal and Exploration (2005) contract states:

> *"3.1 Grant of Exploration Rights: On the terms and conditions herein provided the Government hereby grants to the operator, during the period hereinafter defined, commencing with the Effective Date plus any extension of such period to which the Government may agree (referred to herein as the "Exploration Period") the exclusive right to explore for Iron Ore Deposits and appraise the existing Iron Ore deposits in the Exploration Area."*

And the minimum expenditures will often be specified in the contract, too. This is also from the Liberia - Putu Appraisal and Exploration (2005) contract:

> *"3.4 Minimum Expenditures: [...] (b) During the Exploration Period, the Operator shall expend not less than United States Dollars one (US $1.00) per acre during each calendar year as Exploration Costs [...]"*

If the right to exploration is granted, the company will then carry out on-site trenching and drilling.

In some countries, the government will require a company, even at the exploration stage, to set aside a certain percentage of the company's exploration budget to be spent on community development projects negotiated by the company, local communities and local, regional and possibly national officials. Plus, the company will have to submit progress reports on work carried out and money invested.

As the trenching and drilling results are analyzed, if the situation looks hopeful, the company will continue with more and more drilling. At this point, the company will

start analyzing bulk samples to estimate the size and quality of the minerals and begin preparation of a feasibility study. The company for a large project may be spending millions of dollars by now, but this is still considered an early stage and the company has not yet made a commercial decision to proceed.

The crunch point comes when the exploration permit expires. The company must either invest or give the site back to the government. A company will not give up its exclusive area lightly. This is a strategic moment in the life of the contract. The company will need to decide what areas it will retain and which it will relinquish.

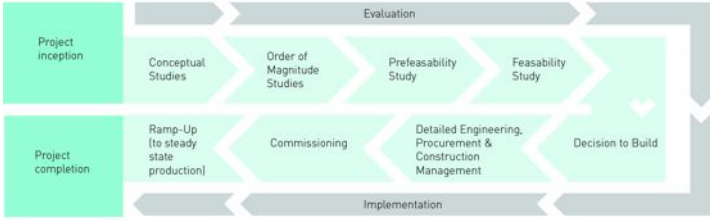
When enough geological data has been collected, an assessment will be made: can these minerals be extracted at a profit? Is the potential return enough to justify more resources going in? If not, further work will be shelved. But if the assessment is positive, then what was the "mineral deposit" now moves up to become, officially, an "ore body". An ore body is a mineral deposit that has economic value and may potentially be profitable. Designation as an ore body has a particular significance to company management and their investors.

Now the company's project development department takes over. If the deposit has been found by a "junior" company, it may decide to try and sell to a major. In most cases, such a sale or transfer is permitted, though in some jurisdictions, it may be subject to government approval. Prohibiting the transfer or sale of a license entirely may act as a disincentive for exploration and production. (This issue of transfer is addressed again in the chapter, "Planning for Trouble").

Very few finds, as we have seen, have the potential to become profitable mines. Because it's not just enough to find stuff. Stuff is, broadly speaking, everywhere in a geological sense. Take iron ore. In 2012, about two billion tonnes of iron ore were extracted. That seems like a lot. It is a lot, in fact. That amount of iron ore would fill out about half the volume of Mount Everest. But it turns out that iron is the fourth most common element in the Earth's crust, accounting for about 5% of a rock formation which is rarely less than 5 km deep (in the oceans) and often reaches as deep as 50km. That is, in fact, millions and millions of Everests. So what determines which tiny fraction of that iron gets extracted? Cost and convenience. Of all that iron, only the tiniest fraction is commercially extractable.

Mineral exploration is a throw of the dice. You don't know until you throw the dice and put your money on the table, what will come up or what you will find, and whether you will lose or win. The uncertainties and costs associated with mineral exploration are a big part of the challenge faced by host governments in promoting development of their countries' mineral resource endowments.

The diagram below illustrates the process of getting to a mine, which is described in greater detail in the next chapter.



FEASIBILITY

In a hypothetical world, which could be your own backyard, your metal detector suggests you are standing on top of a major gold find.

You are ecstatic. All you need to do is dig the gold out of the ground, run it down to the local gold buyer (lots of them around today), take the money and run to the bank.

Time to dig the gold out of the ground. You've spent the whole morning digging and sweating. You are now down six feet, still no gold, and the ground has become too hard to dig with a shovel. Maybe you are digging your own grave, but you will not give up. You go down to the local hardware store and rent a jackhammer. Now you get busy, shake, jump, shake. This is great. You're generating lots of rock. Uh oh, how are you going to get it out of the pit? Back to the hardware store to rent a winch and some buckets, but who will operate the winch? There's Joe; he's agreed to help you out for a piece of the profits. Back to the pit. Deeper and deeper you go; the waste pile is building up. Joe says there's no more room to put the stuff. Out you come and down to the equipment rental shop to pick up a truck and a mini-front end loader. This is beginning to get expensive. You take the time to haul away the waste and dump it at the dump. Oh no, the city wants you to pay for dumping the gunk. Back to the pit to continue drilling and taking out the waste. Now you are down to 15 feet and the signal from the metal detector is getting stronger. One more foot and the detector is going wild. There it is - an old gold watch band. Well, it looks like gold. Now off to the gold buyer. It's real 18 carat gold! What? Only $500? After Joe takes his cut, and you return all the rental equipment and pay everybody off, you are now $500 in the hole. This was not what you expected - the shovel alone could not do the job; you needed a drill to break up the harder rock; you had to set up an electric winch to get the waste out, then transport the waste to the

dump - none of this was anticipated and it all cost money. Finally you had to pay off Joe and the gold buyer took his cut too. The return certainly did not justify the effort.

Maybe you should have taken a break at six feet, and figured out all the extra tools and equipment that you might need, and what it might cost you to continue digging. You could have checked out your bank account and decided how much money you were willing or able to put at risk. You would never know until you got to the "gold" how much there was and whether it would be worth all the money and effort.

Back to the real world.

THE FEASIBILITY STUDY

There are many unknowns that need to be investigated in order to come to a reasoned conclusion about whether developing a mine makes sense. Mining profitably and responsibly today poses many challenges. Apart from questions of the quality and quantity of the mineral, how to get it out, and how the market is doing, there are cost, infrastructure, social, environmental and political risks. Assessing these issues and understanding the risks and opportunities are central to the feasibility study process.

A feasibility study - which may be preliminary or full - must consider a wide range of factors and conditions. If you take just one key technical area, geology, some of the questions that will need answers include, but are not limited to: what does the deposit look like? what is the chemical composition of the ore zone? what are the characteristics of the waste material? how much of the material can be classified as reserves? what are its possible mining options? how much of the ore material can be recovered from the mine (given that a certain amount will be left behind)? are there any seismic risks? what is the strength of the rock? what does all this mean for the design of pit slopes, underground openings, waste dumps, leach pads, and tailings dams? where is the water table? how does groundwater flow? where does it come from? and where are the aquifers located?

The mine design, processing or upgrading requirements, and the marketing approach are dependent on the type of mineral that is being mined and how it is deposited in or on the ground. Whether it is a fuel mineral like coal or uranium; an industrial mineral

like salt, kaolin, potash, titanium dioxide, metallurgical coal; a base metal like copper, zinc, lead, tin; a ferrous metal like iron ore, tungsten, manganese; a precious mineral like gold, silver, platinum, diamonds and gemstones: their depositional characteristics will determine how they are mined, processed and marketed. For example, alluvial gold may be mined using placer or hydraulic methods, while gold in quartz veins may need to extracted mechanically from the ground, crushed and then processed using gravity recovery, mercury amalgamation or cyanidation methods to strip out the gold.

In the case of certain polymetallic ores, for example a nickel-copper-cobalt ore, the ore will have to be mined and concentrated, the concentrate smelted to recover all of the payable minerals. While nickel may be the main product, the copper and cobalt may be value adding co- or by-products, depending on the extent to which they contribute to the revenue stream. Depending on the market value of the mineral, it may be sold as run of mine ore, as concentrate, or as a metal matte or refined metal. Whatever the marketable product is, and depending on the extent of the processing occurring at the mine, the product may need to be stockpiled or warehoused until such time as enough material has been accumulated to meet the IMC's sales commitments, or until transport conditions permit it to be sent out. Again depending on the product's characteristics and the proximity of the mine to port or final market, it will either be trucked or railed out, shipped out, or flown out to get it to the buyer(s).

Much of the investigation of the ore body has to be done remotely, through drill hole sampling. But there are no guarantees that you have correctly characterized the geology, the ore, the waste, the hydrogeology, etc., until you actually develop the mine and get into the ore body. This will not happen until after a "go" decision has been made, the mine constructed, and the ore body opened up or exposed. That could still be ten years down the road.

This is why the feasibility study process is so important and often lengthy. Once the project is turned over by the geologists to the project development (study) team, a more in-depth and detailed study of all the technical, legal, market, social and environmental aspects of the project will begin. There are typically two phases to this study – a preliminary phase (which becomes the preliminary feasibility study), and a final phase (which results in the final feasibility study). Attached to each of these phases are decision points which provide the company with an opportunity to review what is known and what is still not known, what the critical risks are that still need to be addressed,

and whether there are any "show-stoppers." At either of these decision points, the project team with the senior management will have three choices - (1) decide to shelve the project, (2) decide to do some more studies of items that need to be better understood or (3) decide that enough is understood and known at that stage to move on to the next phase. In the case of the prefeasibility study, the next phase is the completion of a much more detailed final feasibility study. In the case of the final feasibility study, the next phase is project implementation (final detailed engineering and construction).

The Model Mine Development Agreement (MMDA) sets out the major elements of a feasibility study. It states:

> *"2.4.1 ... The Feasibility Study shall include [elements as the parties may agree, such as the following]:*
>
> *(a) An estimate of minable reserves in accordance with internationally accepted standards;*
>
> *(b) A market study for all of the Minerals to be produced in the Mining Area;*
>
> *(c) An evaluation of the known deposits within the boundaries of the Mining Area, as well as the Minerals which can be exploited in the project facilities;*
>
> *(d) A description of the technology process to be used in each case, with the results of any laboratory or other tests designed to identify technologically appropriate methods for processing the ore or ores involved;*
>
> *(e) An initial mine plan indicating expected recovery rates;*
>
> *(f) A general description of requirements associated with obtaining required permits, including the estimated cost of compliance and implementation of the environmental Management plan;*
>
> *(g) A description and plans of the area of the project facilities, including a list of the main structures, machinery and equipment to be used, specification of raw materials and services (including electrical require-*

ments and water);

(h) An organization chart and requirements for personnel;

(i) Schedules to initiate construction and construction timetables;

(j) A description and generalized plans for all infrastructure and associated facilities (such as power, communication, transportation, roads, and fresh and reclaimed water), including a list of main items, structures and raw materials, and an assessment of the potential for sharing such infrastructure with other users in ways that promote sustainable development of the communities in the project Area;

(k) Plans for electricity supply for Mining operations, including reliability and cost of services that includes an assessment of the potential for sharing electrical supplies and infrastructure with other users in ways that promote sustainable development of the communities in the project Area;

(l) Plans for disposal of tailings from the ore processing plants and of waste rock and materials from Mining operations;

(m) A description of plans for any potential reprocessing of materials or tailings;

(n) Estimates, accurate to within fifteen percent (15%), of capital costs and operation costs;

(o) An economic evaluation and financial analysis (estimated rate of return of the investment and cash flow for the various phases of the exploitation), including probable future capital investments and comments on the financial viability of the exploitation;

(p) to the fullest extent reasonably practicable, detailed proposals with respect to any beneficiation or further processing of Minerals proposed to be carried out by the Company within the State; and

(q) The estimated date of Commencement of Commercial production."

It is during the final feasibility phase that the preferred mine design and operating option is optimized, the social and environment studies are completed and impact management plans finalized, that all permitting is underway, that any agreements with governments and communities are being negotiated and finalized, that the market niche has been defined and buyers lined up; that equipment has been selected and its specifications prepared for tendering; that all critical infrastructure needs have been identified and terms of construction and operation negotiated; that there is now enough detail and information to develop good cost and revenue estimates. These estimates will need to include any taxes that will have to paid to the government, as well as the costs of any additional community investments, local business development plans, and infrastructure development, or other projects and programs agreed on with the government, or the local communities. Only then can the calculation be made, as to whether the benefits of mining the deposit will outweigh its costs, and whether the predicted returns to the investors, the government and the communities are enough to justify the mine's construction and operation. And even then the numbers used are only best estimates, based on the technical, marketing, taxation, and other decisions taken or negotiated.

Some years ago, a study was undertaken to try to understand why so many producing mines, which had been subjected to full feasibility studies, were still facing serious operating problems.

Of 18 projects reviewed, only four were found to be unqualified successes. Five were still operating but with net negative cash flows, and the remaining nine had serious problems reflected in cost overruns, construction delays, and their reduced production capacities. There were design issues relating to water, metallurgy, equipment, ground control and even the mines' remote locations. There was labor unrest, and lower prices and productivity than predicted.

Over time, estimating techniques have improved and the level of due diligence and the care with which feasibility studies are undertaken have increased. With the dramatic escalation of costs over the past decade, the feasibility study has taken on even greater importance. We are no longer talking just about million dollar investments. "Mega-projects" - a term of art used to describe a project that requires over a billion dollars investment - are now common across global mining.

The list of risks has also changed over the past decade. Ernst & Young, which produces an annual review of mining, now lists as project-related threats such factors as capital requirements and allocations, resource nationalism, the social license to operate, skill shortages, price and currency volatility, and escalating costs. There are increasing demands on a cash- and skill-constrained industry to share more of the pie. Governments want a bigger take. Communities demand greater investments, and the public at large pay close attention to environmental and social sustainability.

When all is said and done, and the decision is made to move to construction, the feasibility study provides the optimized blueprint for the development of the mine: it will describe where mining operations are to be conducted; if there will be multiple phases for mine construction; what area will be mined first; whether rail, road, and power infrastructure is needed; it will indicate preferred routes; and provide the most accurate estimates of costs and timeframes for construction possible without more detailed engineering; it will project labor and employment needs, define mine-site services required, lay out environmental safeguards, community issues and mitigation measures, and so on.

It is the benchmark document for completing the detailed engineering design, cost estimates, procurement program and schedules that will allow for the start of construction and guide its completion.

But even if a full feasibility study looks good from the company's perspective, the question is whether the government is also on board.

THE GOVERNMENT PERSPECTIVE ON FEASIBILITY AND DEVELOPMENT

Many governments require the company to provide its feasibility study and all data used in it to the government. While sometimes the company will retain ownership of the feasibility study, in other cases the company will have to transfer ownership of the study to the government.

The recently negotiated (August 2011) Mineral Development Agreement between Liberia and a consortium of companies operating in the Western Cluster area illustrates a

requirement for the company to disclose its pre-feasibility analysis:

> *"4.6 Pre-Feasibility Study: [...] the Pre-Feasibility Study for the Bea Mountain Deposit will be completed and a copy provided to the Government no later than the third anniversary of the Effective Date, it being understood that the Pre-Feasibility Report will be provided for informational purposes only and not subject to approval by the Government."*

Similarly, Article 2.4. from the MMDA quoted above requires the company to disclose its feasibility study to the government prior to beginning construction on the project.

The government's need to review the feasibility study can be a major burden on agencies with limited staff and resources. These studies may be thousands of pages long and are supported by technical studies based on sampling methods with which only specialists may be familiar. Sometimes, the government is effectively in a position of having to depend on the professionalism and competency of the company.

Nevertheless, the ability to access the information is crucial. As is being able to trust in it. To address that issue, in addition to detailing the contents of a feasibility study, contracts might also impose requirements regarding who prepares the analysis. Article 2.4.1 from the MMDA quoted above, for instance, requires the feasibility study to be prepared by *"(i) an independent third-party or (ii) by the Company and verified by an independent Sole expert, on the basis of sound engineering and economic principles in accordance with good industry practice."*

Once a project is approved and moves to development, the government becomes the regulator, enforcing mining, health and safety, environmental and fiscal controls, and ensuring compliance with the terms of the mining contract.

Many different agencies are now involved. The Environmental Protection Agency would typically review and approve the Environmental and Social Impact Assessment (ESIA), the Environmental Management Plans (EMPs) and the reclamation or closure plan. The Ministry of Labor approves training, recruitment and employment plans. The Public Health Agency approves design plans for clinics and health facilities. The Ministry of Civil Works oversees road, township, water supply and sanitary systems. And so on. If the country has a mining cadastre unit or agency, it will be involved in recording claims

and handling applications for exploration permits, and possibly in the conversion of exploration to mining licenses. The mining permits may be authorized and issued by the Ministry of Mines, signed off on by the Minister him or herself.

BUMPS IN THE ROAD

Should we start digging?

Remember our backyard gold mine at the beginning of this chapter, when we went through all the effort to dig up the gold and at the end of the day we lost money? Even if we found a bit more gold, enough to cover our costs, the eventual profit was not worth all the time and effort (not to mention the fact that our backyard is now just an unsightly hole in the ground). Either way, that mine is not commercial, regardless of whether the government was going to tax it or not. This could certainly be the case for a mineral discovery, and all the study up front is the way companies seek to minimize the risk of this happening.

But we didn't even look at the taxes. The situation is more difficult when we throw that into the mix. Let's assume our mine turned out to be quite full of gold in the end, and we stand to make a good profit before taxes. But the government has a law that requires it to take 90% of our net profits. For almost any miner, backyard or otherwise, that mine is not commercial either, at least not as long as the government is going to take this deep cut of the profit.

In a real world scenario, a miner may come to the government to discuss changing the law that demands an otherwise profitable mine to be uncommercial.

In a contractual system, there may be room to negotiate this mine. And if the 90% tax is unreasonable, this might provide an opportunity to agree on something lower, where both the government and the company stand to gain from the mine going forward.

The feasibility study will certainly be necessary. More knowledge, for both parties, should mean fewer uncertainties and therefore a quicker, more efficient negotiation.

Maybe so. Maybe the geologic studies and economic analysis clearly show a world class

deposit that, under many price and cost scenarios, looks good and will be commercial under the current tax system in the law or model contract.

But maybe not.

The negotiation of the mining contract can become a long and arduous process in which the government still knows relatively little about the assets it has. In these scenarios, a government might hear a common refrain from its companies: the mine is economic, but only if there are just a few necessary changes to the model contract. Government negotiators will hear this over and over again.

If there is the opportunity to negotiate a lower tax or royalty rate or any other payment to government, any rational company would take it. If there is an argument that the proposed arrangements in the model agreement are uneconomic, then a company would not be irrational to negotiate terms that made the mine economic under even the worst scenarios (though a forward-looking miner might be cautious about signing a deal that is "too good to be true", anticipating government dissatisfaction and potential conflict down the road). The company will want to make sure its equivalent of the backyard gold mine is still profitable after it has incurred the costs of getting the gold out of the ground, to market, and paid the government its shares.

But the government will want to be sure of some things as well. Its job is not to bend over backwards, but to maximize the total benefit to the country. Correction, the total NET benefit. This is a key concept. Mining comes at a cost.

The feasibility study is thus the key here.

What can governments do? What can companies do to try to avoid lengthy negotiations, just at the point that a mine looks possible?

Disagreements and Delays

Even if there is not a discussion about whether the mine may not be economically viable under the taxation system currently in place, the government and company may not be aligned on other issues. Maybe the government prefers a certain rail or road route; or it is concerned about moving communities; or there is a desire to use the power plant that will supply the mine to also supply nearby areas. There could be any number of concerns from a variety of agencies. This may or may not be part of formal negotiations; it can arise under any system.

It is not uncommon to see time frames in which the government must either respond to what the company has submitted or it is deemed approved. The Model Mining Development Agreement provides an example:

> *"2.4.5 Compliance with Law; Requested Changes by the State. The State shall cause its appropriate agencies to review the Documents as promptly as reasonably possible after receipt and to provide comments thereon to the Company of any failure to conform to Applicable Law or to the terms of this Agreement. The Company shall correct any failures to conform to Applicable Law or to the terms of this Agreement, or shall submit the matter for resolution pursuant to Section 32.2. If the State does not provide comments of any failure of the Documents to conform with Applicable Law or to the terms of this Agreement within one hundred eighty (180) Days after receipt of the Documents, the Documents shall be deemed to have satisfied the requirements of this Agreement, provided that the foregoing shall not relieve the Company of its obligation to comply with Applicable Law."*

There may be permits needed before construction and operation, as part of general laws on business, health, safety, labor or others, at the local or national level. This may be handled in the contract as is provided in the Model Mining Development Agreement:

> *"2.5 Requirement to Obtain Permits: Where the Company is required under this Agreement or Applicable Law to obtain a permit, license or approval, the Company shall obtain the necessary permit, license of approval from the appropriate State agency (including Local Government) prior to proceeding with or undertaking the activity authorized by the permit, license, or approval."*

Any number of external events could also slow down the process. New laws may cause the company to make a new assessment of the viability of the mine. Community protests could result in local opposition. Dramatic changes in price could cause a re-evaluation. Natural disasters could strike.

"Construction!" or "Construction?"

A company may not always be in a hurry to conduct operations, particularly if that phase is expensive, like exploration and construction. It might prefer to use its funds on another project, or not at all. A company may need to raise funds, or just want to bide its time while a particular commodity price recovers or the political winds change. A mining contract has a value as an exclusive right or option to conduct the various mining activities discussed so far. This exclusive right is valuable in and of itself to a company, as potential prospects are limited and keeping a competitor off a piece of land is an advantage unto itself. The company will not give up that right easily. Sometimes taking things a little bit slowly seems like a good strategy.

For these kinds of reasons, governments might include a firm obligation for the company to start development of the mine once all other activities have finished. After all this time, the government will be keen to start collecting its share of the revenues, to employ its citizens, and generally to start reaping the benefits it has determined it stands to reap.

Take the Model Mine Development Agreement article 2.6 on Construction:

> *"(b) Within 180 Days after the last to occur of (i) the Company's receipt of all permits required for construction of the Project and (ii) the Company's submittal of the Documents, the Company shall commence and diligently continue construction of the Project until its completion in accordance with the Feasibility Study and any non-material changes resulting from engineering and other studies conducted by the Company after completion of the Feasibility Study."*

Even with language like this, when prices of a commodity crash or political winds change, it will be hard for a government to convince a company to keep calm and carry on with construction. At the end of the day, convincing a fundamentally economically motivated actor like a company to conduct uneconomic activity is well nigh impossible.

Yet there are still good reasons to include this sort of language. If the delay is not a general market price crash which is expected to endure and that would keep almost any company from mining the deposit, but an issue unique to the company (e.g., a shortage of cash due to bad management, perhaps) the government may be able to terminate the contract for a failure to undertake this obligation. Sometimes the obligation is enforceable with specific financial penalties rather than termination. This avoids the "all-or-nothing" approach. A strong contractual provision might be the difference between a company deciding to delay operations in Country A instead of operations in Country B.

A contract might also require the submission of a construction plan to the government:

> *"(a) [...] the Company shall submit to the State a detailed schedule for the performance of all planned activities during the construction period if such schedule is not included in the Feasibility Study. The State shall have the right to comment upon and request explanation of such schedule and any changes that occur in the schedule."*

This language from Article 2.6 of the MMDA addresses construction that is not contemplated in the feasibility study, and illustrates one of the cross-cutting themes of this chapter: the company provides a plan or report or study to the government, and the government then must review and approve or ensure it complies with law.

Ultimately, the mining contract or code can be viewed as a series of proposed plans for

every phase of operations from the company to the government. Not so much the result of a negotiation, as the framework for a permanent and continuous negotiation.

PRODUCTION

After the mine, including any processing facilities, has been constructed, when the site has been cleared, access roads put in place, surface facilities erected (processing plant, water and organic waste treatment plants, maintenance garages, warehouses, offices, camp accommodations, etc.), transmission lines, water lines, slurry (tailings) pipelines and pump stations installed, waste and tailings sites and dumps prepared, surface drainage and water control systems put in, overburden stripping commenced and the first cut of ore exposed, or the shaft or decline excavated and the development drifts driven to the ore body, extraction of the ore can commence. The amount of material first pulled out will be less than the targeted/designed production rate, and there will be a gradual ramp up to full capacity, as more ground is opened up.

During ramp up, the company may already have a full complement of technical, production, maintenance and camp and mine administrative staff on site, from mine geologists and engineers (planning, environmental, blasting, ground control, ventilation (if underground), safety, civil, mineral processing, mechanical), to skilled tradespeople (electricians, plumbers and hydraulic technicians, engine mechanics, metal workers), to equipment and plant operators and other skilled labor, to supervisors, assorted unskilled labor, to support staff (medical staff, community relations, human resources, accounting, information technology, mine site security among others), managers, and others, or may still need to finish staffing up. Many workers and professionals may be housed on site for logistical and operating reasons. The mine may operate around the clock, although in some cases, the mine may only run two shifts with the third reserved for maintenance.

At some point, if all goes according to plan, the mine will reach and be able to maintain

production at its planned monthly (daily) rate. Material is fed to the mill (mineral processing plant), which will either recover much of the metal directly or produce a concentrate. Whether the mill meets its scheduled/planned production of metal or concentrate depends on the ability of the mine to provide material that meets the mill's quantity and quality criteria.

The right people are in place, all the equipment is there. All systems are go. Production is humming along. At long last, your mine is constructed and the production phase has started. Now you can sit back, relax and have 30 years of production.

As one might guess, it probably won't be that simple. There are a large number of possible interruptions to production, and related issues which may arise.

The processing plant can fail to achieve its planned metal recovery rate or concentrate grade, and may need to be fine tuned.

Planned mine productivities may have been overestimated and the mining system and approach refined, or equipment changed out or blasting patterns and loadings modified, and so on. Tailings containment dams can leak and contaminated waters can escape.

Even before the point of full production is reached, the mine will reach the production rate that meets the criteria set in the contract for commercial production, which may range from 60 to 85% of the mine's production at full planned capacity. Depending on the configuration of the mine, commercial production will be tied either to mine or processing plant production.

Why would there be a minimum production criteria in the contract? This is to ensure that the mining company continues to produce ore even if its own business strategy may dictate otherwise. If a company has a number of iron ore mines across the globe, and one is not performing as it wishes, it might put that mine on care and maintenance. It may do so even if the global price for iron ore is, overall, quite good. Because of the revenues it will lose due to decreased production, the country would not want to see its mine production decrease in an otherwise beneficial market for iron ore. Hence the need for production minimums.

During ramp-up and then during steady state production, it will be in the interest of

both the mine operator and the government officials charged to monitor the project to maintain regular communication. Inspectors from the government mines inspectorate or from the Ministry of the Environment should make regular visits to the site. Relationship maintenance and communication between the mine/company and the government and between the mine and surrounding communities will be essential throughout the production period.

If the mine is part of a horizontally or vertically integrated mining and processing business, the mine may be a cost center only. This has implications for how fiscal terms and taxation are assessed (discussed in the next section of the book), but will also have implications for how the mine is operated and associated infrastructure requirements met. During the operating life of the mine, the IMC may continue to explore for nearby or contiguous extensions of the ore body, which could extend the life of the mine or result, depending on market conditions, in production capacity expansion. In either case, there may also be implications for new approvals or amendments to existing agreements or licenses.

In the best of operations, the mine operator will begin to reclaim disturbed areas during the mine's operating life and not wait until the mine reaches the end of its life and is decommissioned. This is called progressive reclamation. This may be managed by the operation or contracted out to local or national businesses.

CLOSURE

In a nutshell, the closing of a mine is the process during which the company dismantles some of the infrastructure and equipment that has been used to carry out the mining operations and engages in environmental remediation tasks. It is what ultimately determines the environmental impact and much of the social impact of the mine. This "nutshell" includes extensive and complicated processes that require considerable investment and rigorous control. The closure stage, like the others, can be risky and volatile if careful planning has not been done.

In most cases, companies negotiate the general contours of their closure obligations at the time of the negotiation of the mining contract.

The details that must be included in a closure plan will be specified in the mining contract or in the mining law in a license regime, or a bit of both. Then, as closure becomes a more pressing matter, the company will need to submit an updated plan that is more and more specific periodically.

Article 26 of the Model Mining Development Agreement provides a good example of some parts of this process:

> *"26.1 Closure Plan and Closure Obligations: (a) The Company shall prepare and deliver a closure plan to the State pursuant to Section 2.4(e) of this Agreement ("Closure Plan"). The Closure Plan shall address the anticipated environmental, social and economic state of the Project Area during the next five-year period of Mining Operations, and shall be prepared in Consultation with communities in the Project Area. It shall be consistent with any Community Development Agreements, and prepared consistent with guidance provided by the Planning for Integrated Mine Closure Toolkit and related guidance published by the International Council on Mining and Metals. The Closure Plan shall be updated through the same process by which it was prepared each time that there is a substantial change in Project operations. In the event that no such updated Closure Plan has been submitted for five (5) years, the Company shall deliver an updated Closure Plan on the sixth anniversary of the last such submission.*
>
> *(b) The Company shall, after Consultation with communities in the areas affected by Mining Operations, deliver to the State a proposed final Closure Plan not later than twelve months before the planned end of the Commercial Production. After review and comment by the State (with or without modification), the Company shall deliver the final Closure Plan to the State by the planned end of Commercial Production. The final Closure Plan may be amended by agreement between the Parties, during the performance of closure activities, at the request of the Company or the State, subject to any approval required by Applicable Law."*

The closure obligations do not end with the submission of a closure plan. The company has to continue to actually implement that plan. This is what that obligation looks like:

> *"(c) After cessation of Commercial Production, the Company shall continue to perform the required environmental management of the Project Area as set forth in the Environmental Management Plan and the final Closure Plan."*

And furthermore, the company has to update the Government on its progress of im-

plementation:

> *"(d) After cessation of Commercial Production, the Company shall provide to the State every 180 Days (or such alternative period as may be agreed by the Parties from time to time) a report explaining progress in the implementation of the final Closure Plan."*

Lastly, the Government will need to inspect the final closure and certify that the company has fulfilled its closure obligations:

> *"(e) Upon completion of the final Closure Plan, the State shall inspect the Mining Area and provide the Company with Notice as to whether the Company has completed closure in accordance with the final Closure Plan."*

What if the government is worried it might have a company that will not fulfill these obligations? A company that will take its profits and run after production has run out? What can the state do to protect itself?

The solution that most contracts and laws use is to require the company to provide a financial guarantee. Generally, in non-technical terms, a financial guarantee is money that is set aside to ensure that an obligation is met. The money can be accessed by the other party that benefits from the obligation of the complying party, in this case closure of the mine. If the obligation is fulfilled, the financial guarantee is returned to the party that provided the guarantee and fulfilled the obligation:

> *"26.2 Guarantees for Closure Expenses: The Company shall within ninety (90) Days of the Effective Date, provide a mine closure guarantee to the State. The purpose of this mine closure guarantee is to ensure the completion of the Company's Closure Plan.*
>
> *The mine closure guarantee shall be in an amount calculated to be necessary to implement the Closure Plan should the Company fail to implement the Closure Plan during the five-year period covered by the then current Closure Plan. The amount of the guarantee shall be updated any time the Closure Plan is updated, or with the five-year update of the Closure Plan under Section 26.1, so that it continues to be sufficient to ensure that all steps in the Closure Plan can be completed in a satisfactory manner should the Company fail to implement the Closure Plan.*
>
> *[...]*
>
> *(d) The State shall return to the Company the full sum of the Company's mine closure guarantee within [X] Days following verification by the State that the Company has fulfilled all the obligations of the final Closure Plan. [...]"*

The Model Mining Development Agreement suggests further monitoring by the local community:

> *"26.3 Post-Closure Monitoring: The Company shall in Consultation with local community leaders, develop and implement a post-closure monitoring committee, with the mandate to supervise the monitoring of geophysical stability, water quality, and rehabilitation of contaminated sites and restoration of land for post-closure use. The post-closure monitoring shall take place for a period after the cessation of Commercial Production, the length of which shall be agreed in the Closure Plan."*

One issue which can arise is the ability of the government to properly monitor and verify the company's compliance with its obligations. This will frequently require technical and monitoring capacity which the government and its regulatory agencies lack. When

negotiating the closure terms and cost, the government's capacity for oversight of the process should be taken into account, and if required, the costs should include funding of technical expertise for the government or the provision of third party verification and oversight.

One final issue may be the infrastructure associated with the mine being closed. If the infrastructure is public use, there may be a provision that allows the government to take ownership of that infrastructure and the responsibilities associated with it at the end of the mine's life.

FISCAL ISSUES

MONEY MATTERS

FISCAL REGIMES

SPECIAL CHALLENGES

HOW TO SPEND IT

MONEY MATTERS

Let's face it: most taxation regimes are complex and opaque. But it is taxes that fund the schools, housing, roads, rail and power. And at end of the day, it is what the governments and the companies care about.

BACK TO THE BACKYARD GOLDMINE

Remember that goldmine you thought you found in your backyard back in the last section, "Mine Operations"? Let's think back to that for a minute.

That gold was so hard to get out of the ground, you went $500 in the hole just trying to get this stuff out of the ground. Even without taxes, it was not worth doing. It wasn't commercially viable.

But maybe you stopped searching too soon. Maybe it wasn't a gold watch after all. Your second round with the metal detector seems to indicate there's real gold down there. New technology makes it easy to get out of the ground. Maybe now it only costs $1000 an ounce to get out of the ground and to market, whereas before it cost almost $1700 an ounce.

With gold prices currently at $1200 and costs only at $1000, you get $200 an ounce in profit. When you sell your gold for $1200 an ounce, you'll make $200 profit. It is worth getting the gold out of the ground after all.

The government, however, will want to share in your $200 of profit. If it has a fiscal system that takes nearly 90% or more of your $200, maybe spending that $1000 to get

that ounce of gold out of the ground seems like a risky proposition--too risky in fact. Your once profitable mine now looks pretty bleak. Your backyard gold was commercially viable, but the introduction of sharing revenues with the government has rendered your backyard mine uneconomic. It may seem quite obvious though it bears re-stating: companies will not undertake a project if there is little to no possibility of making a profit from it.

Because the government will also benefit from the exploration and development of a mine, it may negotiate its "share" in the profit in order to make sure you will still explore and develop the resources. This government may need to do that, or maybe not. We cannot know with just this information in this highly simplified and stylized example.

This hypothetical does capture the nature of the commercial assessment of a mining operation. Is it feasible to make a profit from this deposit? Then, if you take off the government's share of that, is it still profitable?

Let's go back to our example and assume you decide to create your own mining company, Backyard Goldmine Co.

Your company has the expertise and knowledge about how to get the gold out of the ground and sell it. But the government owns the gold your company needs. The Backyard Goldmine Company is going to have to pay the government for that gold. It is a partnership, if perhaps one that feels a bit forced at times.

Most governments will probably want to levy a royalty on the value of the gold before the deduction of costs. And it will want to receive corporate income tax from profits in addition to this royalty. It might want a bonus when your first shipment of gold goes to market. These different pieces, taken together, are how the government receives money from the goldmine. They are commonly called "the fiscal regime".

To understand a state's mining fiscal regime, and to assess its effectiveness, one must first understand the multiple ways in which a state can extract revenues from a mining project. The principal "revenue tools" in a "fiscal regime" are:

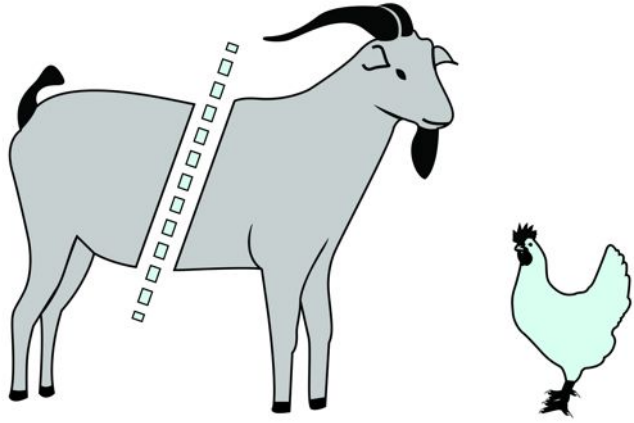
- royalties
- income tax

- excess or windfall profit taxes
- resource rent taxes
- signing bonuses and milestone payments
- equity participations in the mining company
- taxes on gains from the transfer of interests in the mining company
- withholding taxes on certain payments made by the investor
- import duties and VAT levied on imports and purchases by the investor
- land or "surface" rentals

Each of these components of state revenue is discussed more fully in this section.

FISCAL REGIMES

When it comes to revenue tools, not all are created equal. Or even equivalent. Or even terribly similar. They are quite different in the way they are calculated, the function they serve for policy purposes, and how difficult they are to collect. Simply put, a 5% royalty is not equal to nor equivalent to a 5% tax. And as we'll see, even one 5% royalty may not be equal to another 5% royalty.



Arabic proverb: "Half (50%) a goat is better than a whole (100%) chicken."

Why is this the case?

There are many reasons, but one of the primary reasons is that different fiscal tools are applied to different bases. Mathematically, 50% of 100 (50) is better than 100% of 5 (5). Or as the ancient proverbs have said, a half of a goat is better than a whole chicken.

This chapter will illustrate just how different the various revenue tools are.

The two most important mineral revenue components for most governments are royalties and income tax, and this chapter considers them first and in the greatest detail. In almost any country in the world, Backyard Goldmine Co. is going to be subject to these revenue tools.

ROYALTIES

We'll start with royalties. They are among the most common and simple of the revenue tools.

Royalties Measured by Product Value

Royalties are most commonly based on the value of the extracted mineral products. In Latin, the revenue tool goes by the name "ad valorem".

Let's return to our backyard gold mine. The royalty rate in the country where Backyard Goldmine Co. is mining the gold is 5%. The value of the gold is $1200 an ounce. If one ounce of gold is extracted and sold, the government will take 5% of $1200, so Backyard Goldmine Co. (nickname: BGC) will pay the government $60 as the royalty payment.

Under an ad valorem system, as the price of a mineral rises, the royalty that goes to the government will too. So under that same 5% royalty applicable to Backyard Goldmine Co., if the price of gold goes back up to $2000 an ounce, the royalty payment that BGC will make to the Government will shoot up to $100 per ounce. Why? Because 5% of $2000 is $100.

What does this language look like in contracts? Here is an example from Mongolia - Oyu Tolgoi (2009), Article 3.13:

> *"The Investor shall pay a royalty under Article 47.3.2 of the Minerals Law at the date of this Agreement equal to 5% (five percent) of the sales value of all Products mined from the Contract Area that are sold, shipped for sale, or used by the Investor. [. . .]"*

Hopefully, so far, so good. The royalty calculation is pretty straightforward as revenue tools go. Now for a bit more complexity: how is value to be established?

This question has two separate aspects: (1) at what point in the mine-to-market process is value to be measured, and (2) does the measurement at the selected point really establish the "value" of the mineral involved?

One way to minimize the valuation problem and to simplify administration is to use an international reference price for the value of a mineral, such as the London Metals Exchange or other published market price. The price of gold is a good example of exactly this kind of international reference price.

Contracts regularly refer to these international reference prices in order to have a value that is independently established by the market. Take the gold contract, Afghanistan - Qara Zaghan (2011):

> *"Article 8. After the start of commercial production and based upon a solar calendar [Company] agrees to pay, monthly, to the [Ministry of Mines], royalties at the rate of twenty six percent (26%) of the gross revenue from sale of gold at a price set on the date of sale by the London Metals Exchange for each sale of gold. Payment of Royalty to the [Ministry] is due no later than on the seventh (7) working day after the end of the month, and is based on the sale of gold from that month."*

Even with an international reference price, there may still be a number of questions about the appropriate value of a mineral. The base for the royalty is usually the value at a fixed point such as the mine mouth or the export point.

There are a number of different terms that frequently arise in mine-to-market determinations, and for someone concerned about how and whether product value is measured, it is necessary to be familiar with those terms. Some of the more common terms you might see are:

- Mine mouth valuation: value is determined at the entrance to the mine, without reference to any extra value created by future processing or transportation performed by the mine owner.

- Net-Back value: where a mineral is sold in processed form and is not processed by the mine operator, the royalty base is the price at which the processed mineral is sold less the cost of processing and the cost of transporting the mineral from the mine to the processing facility.

- Net Smelter Return (NSR): the royalty base is the amount paid by the smelter or refiner to the mine for mineral containing material (which is based on the value of the mineral contained in the material) less the transport costs to the smelter and the smelter processing charge.

- Free on Board (FOB): where a price is FOB, it includes the cost of getting the product to the port and on board the vessel, but does not include shipping costs.

If there is not an international reference price for the mineral, there will still need to be an assessment of the mine-to-market point to fix the value of the mineral. This adds more complexity to this determination. And now you can see why a 5% royalty is not always the same thing as a 5% royalty. The big question, which it pays to ask for most of these fiscal tools, is: "5% of what?"

If you are a government official trying to collect the right amount of royalty, this is very important. You may find yourself in a dispute over mineral valuation quite regularly. Get experts, hire lawyers, do whatever you need to do to ensure you're getting the royalty that is due. The chapter "So You Think You Need Help After All" addresses these kinds of issues.

The second question is a manifestation of the "transfer pricing" problem, discussed more fully in chapter 3 of this section. In brief, while it is generally understood that the value used as a base for the application of an ad valorem royalty should be a value based on so-called "arm's-length" transactions between willing and unrelated buyers and sellers, such transactions may be hard to find. Indeed, if the mining project is one component of an integrated minerals project that takes most or all of the output to another location for further processing or fabrication, or if the mining company primarily sells to affiliated companies, there may be no arm's-length transactions. This is another

reason why those London Metals Exchange and published prices are so handy--who needs an arm's length transaction when you can read the price in the newspaper?

Royalties Measured by Product Volume

Under a unit or volume-based royalty, the company pays a fixed amount for each unit of production. In these systems, whether gravel is selling for $5 or $50 dollars per unit, only a set amount is paid to the state for it, maybe $1 per tonne.

Unit royalties are rare and generally are limited to very low value commodities such as stone and gravel. Without intending any offense against the gravel and stone industry, this kind of royalty is...well, not very important for most industrial mining contracts around the world, so don't worry too much about it.

Royalties Measured by Mine Profitability

Some jurisdictions, including Canada and Botswana, utilize royalties based on project profit levels.

These royalties can be quite attractive to a company. Backyard Goldmine Co. is really hoping for this one. Why? If there is no profit, no royalty will be due. The royalty level will increase as profit increases. This makes Canada and Botswana quite attractive to investors, as they will not have to pay any royalty in the early years when there is no profit.

Profit-based royalties do not simplify the valuation question. . . they merely transfer the question from "what is the value?" to "what is the profit?" This can be harder to figure.

A profit-based royalty can also be called a net profit royalty, net interest royalty, or net proceeds royalty. The royalty rates set on a profit basis will be generally higher--sometimes well above 5%-- than those set on the sale value basis (between 1% and 4%). This will make more sense once you read the chapter on income tax, but just trust us for now: the allowable costs to be deducted for a royalty measured by mine profitability will be much greater than in the case of ad valorem royalties (the first ones discussed). Stay tuned for more on other profit-based revenue tools in future sections.

Sliding Scale Royalties

So far, we've been talking about fixed rate royalties, but royalty rates can vary as well.

Let's say there is a new sliding scale royalty that will now apply to Backyard Goldmine Co. When gold is at or below $1000 per ounce, the royalty rate is 2.5%. When the gold price is between $1001 to $1500 per ounce, the royalty rate is 5%. When the gold price is between $1501 to $2000 per ounce, the rate is 7.5%. If the gold price is $2001 per ounce or higher, the rate is 10%.

Assume that Backyard Goldmine Co. creates one ounce of gold each month and it sells that gold on the first day of each month. Further assume that each month, the price goes up. A higher price will benefit Backyard Goldmine Co., of course, but it will also be good for the government. Let's compare a flat 5% royalty versus the new sliding scale royalty.

January 1 price is $900 per ounce: the sliding scale is at 2.5% and yields $22.50 to the government, while a flat 5% yields $45.

February 1 price is $1300 per ounce: the sliding scale is at 5% and yields $65 to the government and the flat 5% royalty payment to the government is $65.

March 1 price is $1700 per ounce: the sliding scale is at 7.5% and yields a payment of $127.50, while the flat royalty yields $85.

April 1 price is $2100 per ounce: the sliding scale is at 10% and yields a payment of $210 while the flat 5% royalty payment to the government is $105.

While the sliding scale yielded less to the government at the lower price, the government does much better at the higher price. Assuming the cost of getting that gold out of the ground is not going up too, a higher price leaves Backyard Goldmine Co. and the government better off.

This is what a sliding scale royalty looks like in the Liberia - China Union (2009) contract, Section 15.1(b):

> *"The royalty rate for shipments or sales of Iron Ore in any month during the Term shall be as follows: (i) when the Index Price is US$100 per metric ton or less the royalty will be 3.25%, (ii) when the Index Price is greater than US$100 per metric ton and less than US$125 per metric ton, the royalty will be 3.5%, (iii) when the Index Price is greater than US$125 per metric ton and less than US$150 per metric ton, the royalty will be 4%, and (iv) when the Index Price is US$150 per metric ton or more the royalty will be 4.5%. The "Index Price" shall be the CVRD spot price FOB Brazil for shipments to China for the same product of equivalent grade and quality produced at [the mine]."*

In this provision, "CVRD spot price FOB Brazil" refers to a published price for iron ore that is comparable to the price of the product produced at the mine. When that price is high, it is presumed that the profitability of the project is high, and thus a higher royalty will be reasonable.

In these examples, the royalty changed with the price, but other triggers can be used. In South Africa, the royalty rate goes up from a minimal amount as profits go up, from 0.5% to 7% for unrefined minerals.

The theory behind a royalty is that it is a payment to the state for the mineral resources owned by the state on behalf of the people. A royalty is not, strictly speaking, a "tax". It is an exchange for the right to mine. Therefore, royalty provisions are often found in a state's mining law rather than in its tax law. Regardless of the philosophical underpinning, however, royalties are a cost to the investor, like taxes, and are viewed by investors as the equivalent of a tax for financing planning purposes. Which brings us to...

CORPORATE INCOME TAX

A corporate income tax is a standard element of every mining fiscal regime. Indeed, a corporate income tax is a part of any business entity's life. Backyard Goldmine Co. will definitely be subject to corporate income tax. Indeed, because it is a mining company, it will likely be subject to special income tax rules for mining projects, some of which may be useful for it to recoup the large costs associated with the mining industry, while others may tax the high profits that can occur.

Corporate income taxes are measured by the total income of the business less operating costs and an allowance that permits the cost of the company's investment in the mine to be recovered over a number of years. Most other amounts payable by the mining company to the government, such as royalties, import duties, bonuses, and the like, will be deducted in determining the company's taxable income. (Some payments might be calculated after the tax, but let's leave that aside for now.) Let us illustrate.

Assume that Backyard Goldmine Co. managed to generate $12,000 in total revenues in its first year of business from selling a few pieces of gold here and there while it set up its office, hired staff, and the like. Assume that it had overhead costs of $500 for the year (for those that might be worried about whether any capital expenditure has been invested in the gold mine, assume that the answer is "no, not yet" despite the fact that this would be well near impossible in real life). For simplicity, assume that the company sold 10 ounces of gold, and the price is $1200 an ounce, yielding $12,000 in company revenues. Backyard Goldmine Co. properly paid its royalty on the value of the gold it sold, which is still a rate of 5%, and 5% of $12,000 is $600. It still costs $1000 an ounce. The corporate income tax rate is 25%.

What is the corporate income tax due on this example?

Start with $12,000, the total revenues Backyard Mine Co. generated. If there were no deductions for costs or anything else allowed at all, the government would get 25% of $12,000. But that's not the way corporate income tax typically works. It is trying to tax profit, so it allows for the deduction of costs (contrast this to royalty above, which did not).

We need to start deducting costs (that are allowed to be deducted by the tax code) to get to the base to which the income tax rate will apply. Put simply, we need to find the "taxable income" of Backyard Goldmine Co. and then apply the 25% rate to it.

The royalty payment to government will be subtracted first, so $12,000-$600 = $11,400. Now subtract the cost of extracting the gold, $10,000, from the $11,400, leaving $1400. Now we need to deduct overhead costs of $500 from $1400. This gets us to $900 of taxable income. It is on this amount, our taxable income of $900, that we apply the 25% corporate income tax rate. Backyard Goldmine's corporate income tax payment for this year would be $225.

Before we move on to more complicated deductions, it bears noting that corporate income taxes around the world have fallen in recent years, and now are generally in the range of 25% to 35%. Check your local and national tax code for details on your applicable corporate income tax rate.

As important as the income tax rate is, the rules for measuring income are equally vital in determining the impact of the income tax, as we saw above with our first example. These measurement rules can be quite complex and have a significant impact on the timing of income tax payments when tax codes start to take account of the huge losses that mining companies accrue in the early years of a mining project. The calculation of taxable income is an area that could be a whole book on its own. For example, depreciation of assets and the deduction of interest from debt both reduce taxable income. These are discussed more below and in the next chapter.

We look at a few of the key rules below.

Depreciation of Capital Investments

It's easy to understand the basics of a tax calculation. You take money coming in, subtract money going out, and voila … that's your income tax base. Things get a little trickier—but not too much—with the large investments generally made at the start of a mining project. In that case, rather than subtracting the costs paid in one lump sum, tax rules provide depreciation rules that make a company subtract those expenses a little at a time for a number of years. From a company's perspective, the faster the better, as it's always better for taxpayers to pay their taxes as far in the future as possible. That's why many mining companies will push for so-called "accelerated depreciation".

Loss Carry Forward

A typical mining company that is undertaking a mining project from the beginning will have much higher expenditure than income in its initial years, as it needs to invest in mineral discovery and mine construction before it can begin receiving any revenue. The hypothetical company, Backyard Goldmine Co., would be no different. It has never mined in any other jurisdiction before, so when it starts it has no other projects with income that could affect how it is taxed. How would Loss Carry Forward help Backyard Goldmine Co.?

Income tax laws recognize that several years of expenditure with no profit is hard on a mining company, or any company. Thus, the law permits taxpayers to deduct in following tax years items that could have been deducted in determining taxable income in the current year but were not "used" because other permitted deductions had already been applied to reduce taxable income to zero in the current year.

For example, let's say the Backyard Goldmine Co. had $5000 in overhead costs for the year instead of $500. We start still with $12,000, deduct a royalty payment to the government of $600 and the cost of extracting the gold, $10,000, leaving us with the same $1400 before the deduction of overhead costs. If we now deduct $5000 from $1400, we are in the red, -$3600. At this point, the government does not want 25% of -$3600! Instead, the corporate income tax payment on that negative amount will be considered zero, and 25% of zero is zero.

But what happens to that -$3600?

The deductions exceeding income for year one can be carried over to year two, and offset against year two income to reduce taxes payable in year two. Unused deductions that can be carried forward for use in following years are customarily called "loss carry forwards". Backyard Goldmine Co. will be able to carry that loss forward into the next year and deduct it from its revenues next year, in addition to the other deductions (royalty, cost of extracting the gold, etc.).

Most tax codes will limit the length of time companies can continue carrying forward such unused deductions, and if they cannot be offset against income within the relevant time period, they are forever lost. Some common periods are 5 years, 7 years, 10 years, and even an unlimited carry forward. In countries where there is a limit, the disappearance of un-utilized loss carry forwards can be perceived as a positive result for the state because it will accelerate (and increase) the income taxes paid by the company.

Mining companies will often press for extensions for longer periods of the basic loss carry forward provisions in the tax law in order to ensure that all allowable losses can be used to offset income and thereby reduce total corporate tax liabilities.

Mine exploration may last 10 years, then another 4 years for construction. If loss carry forwards run out during this time period in which the mining company is only incurring

steep losses, there is hardly any point to the loss carry forward. At the point the company is generating revenues, in year 14, there would be no loss carry forward available. That would, to say the least, not be the outcome Backyard Goldmine Co. would hope for. And it is likely that Backyard Goldmine Co. would not invest in a country with such a regime, unless there was some other very compelling reason.

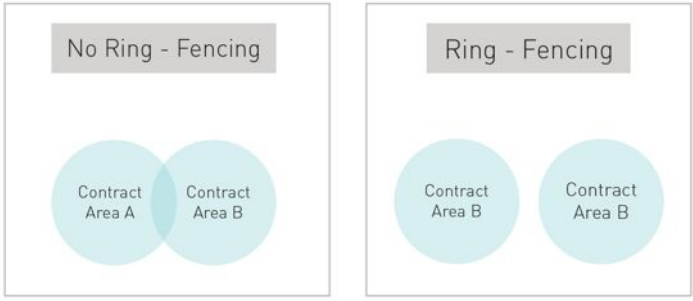
Some tax codes permit loss carry forwards to survive forever. These tax codes limit the amount that can be used in any year as a way to limit the effect of the unlimited carry forward.

We will leave this chapter with a point to consider: mining is hardly the only capital intensive industry. From this view, despite the arguments that Backyard Goldmine Co. will certainly try to get as much loss carry forward benefit as possible, is special tax treatment deserved?

Ring Fencing

Ring fencing. Out of all the tax phrases we have discussed so far, this might be the one you would puzzle over the most without a bit of explanation. Rings? Fences? Am I still in the tax section? Yes, you are. Let us explain.

For income tax purposes, mining projects are often "ring fenced." This means that the items of income and deduction or loss from one project cannot be combined with the items of income and deduction or loss from another project for income tax purposes. The consequence to a mining company of a "ring fencing" requirement is that the mining company cannot combine the deduction and loss items that arise in its development of a second mine to offset the income arising from an older mine where all loss carry forwards have been used and income tax is now being paid. So if Backyard Goldmine Co. finds another gold deposit several hundred miles down the road, ring fencing rules will determine whether expenses from the second mine can be used to offset taxes from the first mine.



From the government's viewpoint, ring fencing accelerates the collection of income tax revenue by the host government, and it also keeps an earlier investor from having an advantage in bidding for new projects. From the mining company's viewpoint, the absence of ring fencing makes it easier to develop a second mine in the jurisdiction in which it has the first mine, because it can use the exploration and development expenses of the second mine to offset taxes payable on the income from the first mine. This results in a large reduction in the cost of developing the second mine: if the investor has $100,000,000 of taxable income at the first mine in year 8, and $50,000,000 of exploration expenses at the second mine, and could use those expense to offset the income from the first mine, taxable income would drop by $50,000,000. At a 30% tax rate, the investor would have saved $15,000,000 that otherwise would have gone to the government that year.

If the second mine is successful, the gain would not be a permanent gain to the investor, because that $50,000,000 would not be available to offset income from the second mine when it starts to accrue, but it could effectively delay the flow of that $15,000,000 tax to the government by many years.

Most governments will seek ring fencing because of its relatively favorable effect on short term tax revenues, and because it is believed to level the playing field on new exploration ventures between mining companies already operating in the country and potential new entrants.

Separate Tax Rates for the Mining Industry

One last point. While corporate income taxes generally apply to all sectors, it is not uncommon for special rules to apply to the mining sector. These may be special rules for depreciation, or special limitations on the ability to deduct certain "home office" costs from income, or they may include special rates. With regard to the question of special rates, investors may argue the mining business is so capital intensive that mining investment should be encouraged through a lower tax rate, whereas the state may argue that because mining utilizes a depleting resource that cannot be renewed, it should be taxed at a higher rate than other business.

Well, that wraps up our discussion of corporate income tax. Without a doubt, it is a subject that can and does have entire books devoted to it. We hope this section provided an accessible primer to the topic and to royalties, the two most important revenue tools used by governments to receive a monetary return on their minerals.

BONUSES

Bonuses are a common element of a mining fiscal regime in which mineral rights are primarily established through specific contracts rather than through the grant of licenses under a regime that does not require negotiation for the issuance of the license. Bonus obligations are typically stated in terms of obligations to pay fixed amounts on the occurrence of specific events, such as the effectiveness of a contract, the commencement of commercial production, or the reaching of stated production levels.

Signature Bonus

As the name implies, a "signature bonus" is paid in connection with the signature or effectiveness of a mining contract or a mining license. One of the original purposes of a signature bonus is to help the government recoup its negotiation costs.

While the amount may be the subject of negotiation, the signature bonus normally involves the simple payment of a lump-sum amount. A general rule is the higher the expected value of the deposit, the higher the signature bonus.

From the state's viewpoint, a signature bonus should be paid concurrently with contract

signature and not at some later date, after the contract has become effective. Why? Because the state may have no effective remedy for failure to pay at that time other than termination of the contract. This may be very difficult for the state to do if the contract otherwise is viewed as a good deal for the state. No one wants to have to start over again. If the payment must be made before the contract becomes effective, and the company fails to make it, then the state does not have to go through the process of terminating the contract, it can find a new company instead. For a company, the lack of a binding contract in place makes providing a large upfront payment a risky proposition.

On the other hand, signature bonuses or other payments made to the state before a development decision has been made are disliked by investors. Prior to the time the investor decides to develop a discovered deposit, the investor will view all its expenditures as speculative and highly risky.

Backyard Goldmine Co. will not want to pay any bonus, and signature bonuses are particularly harsh on project economics since profitability may never occur if minerals are not found; and even if it does, it is years away. It is therefore often easier for a state to request and obtain sizeable bonuses associated with specific stages of development and production.

Production Bonuses

By contrast, production bonuses are treated by the investor as part of overall production costs, and are part of the total decision made to develop the mine. An example of a staged production bonus from DRC - Tenke Fungurume contract (2010), Article 4(d):

> *"In addition, TFM [Mining Company] will pay to Gecamines [National Mining Company] the following additional amounts:*
>
> *- US$ 5 mm after the conditions set forth in Article 15 herein have been met in full force and effect*
>
> *- US$ 5 mm at 0.5 mm tonnes cumulative copper production from the Project*
>
> *- US$ 5 mm at 1.0 mm tonnes cumulative copper production from the Project*
>
> *- US$ 5 mm at 1.5 mm tonnes cumulative copper production from the Project*
>
> *- US$ 5 mm at 2.0 mm tonnes cumulative copper production from the Project*
>
> *- US$ 5 mm at 2.5 mm tonnes cumulative copper production from the Project."*

Bonuses are the most simple of all revenue tools.

Lest you get too comfortable, let's go to the most controversial of revenue tools.

STATE EQUITY PARTICIPATION

Imagine that Backyard Goldmine Co. has been doing fairly well for the past few years and it is about to go into commercial production of gold, at long last. Just at this point, your lawyer gets out the Mining Contract and tells you to sit down, she has some important news for you: the state is about to come in as a shareholder in Backyard Goldmine Co.. You have no choice in the matter whatsoever. The state has the right to join in as a legal interest holder in the mining company.

The issue of state equity participation in mining contracts may be the most controversial aspect of any component of the fiscal regime. State participation in project equity can

take many forms:

- the state could participate as a normal investor, and pay a share of project expenses proportionate to its acquired equity interest.
- the state could receive what is called a "carried interest" where the investor pays all or a portion of the state's nominal share of project costs, and recovers that amount, plus a return, from dividends that would otherwise be paid to the state.
- the state could make some non-cash contribution to the project in return for its equity, such as the provision of infrastructure facilities.
- the state could trade reductions in future tax liabilities for a present equity interest in the project.
- the state could receive absolute free interest, pursuant to which it would pay nothing for its interest and would be entitled to dividends as soon as any other investor in the mining company received any distribution.

While the challenges of state participation are many, a few are important to highlight.

The pressure for state equity participation usually comes from both politicians and ordinary citizens. There is commonly a general feeling that because the mineral is the property of the state, the state should participate in the exploitation of and share in the "up-side" of its mineral deposits – and the obvious way to do this is to participate in project ownership. It is argued, not without justification, that state participation in ownership can assist in the transfer of technology and in the development of management capacity, and place the state in a better position to take over full ownership and operating responsibility upon expiration of the mining contract or the underlying mining license. Some states have been relatively successful with this strategy.

But state participation in a project company is a double-edged sword. Participation in ownership implies, in the first instance, participation in the costs of developing the mine, unless the state receives an absolute free carry, which has its own issues. Developing states, which most commonly make this demand, typically do not have that amount of money readily available, which means that they have to ask the investor company to pay the state share of development costs as well as the investor's share.

And if the state does try to make the payment itself, it will probably be diverting funds from urgent infrastructure or other development needs.

Further, unless the state uses great care in structuring its investment in the mining company, it may also find itself in a relatively powerless position. In a corporate structure, the majority owner can normally control the payment of dividends and make most corporate decisions, so that a minority state shareholder must negotiate a complicated shareholder agreement to protect itself from such things as a decision to use all available free cash to upgrade the mine rather than to distribute dividends to the company's owners.

Such participation can lead to an acrimonious relationship between the state and the company. There can be many disagreements over costs, strategy, and other areas that typically fall exclusively within the decision-making power of the company.

Therefore, if the state is truly looking for revenue and not prestige, it should at least consider whether the expected benefits of equity ownership can be substantially achieved through the use of other more flexible fiscal instruments.

Finally, companies, particularly private companies, are generally free to partner with whomever they would like to conduct their business. Putting together the right people for a team of any kind, whether as shareholders or joint venture partners, can be critically important for the success of a project. State participation limits the choice of partners a company can choose for management and ownership. While there may be benefits to the state, it can present additional challenges for a company.

CAPITAL GAINS TAXES

In addition to the profits generated through the sale of minerals, mining companies and investors may also realize profits through the sale of a project or mining right to other companies.

In some cases, the gains from such transactions have been quite spectacular, and companies and governments have been highly criticized and the public frustrated when the country does not share in the gain. This is particularly so when the investor is selling or

"flipping" its investment early in the investment life when the government may not yet have received any significant revenues.

The biggest challenge for the host government is jurisdictional – actually having power over the seller or the buyer. If the local company sells the license, its gain will be subject to the same tax rules applicable to any other capital gain in the host country. But typically, the local company will be held by a holding company located outside of the host country, often in a low or no tax jurisdiction. If the investor sells an interest in the holding company, neither the seller nor the buyer will be present in the host country. Because of the difficulty in reaching the seller – and in some cases because of restrictive tax treaties – most jurisdictions have until recently left such gains untouched by contract or statute.

The size of recent gains realized by selling shareholders in some less developed countries has attracted closer scrutiny, and governments are now in the early stages of developing contractual and statutory approaches for reaching such gains. Some contracts already require government approval of changes of control which would include indirect changes resulting from sales of a controlling interest in the holding company. The approval can require demonstration that the upstream seller has paid any tax due to the country on the gain, but whether a tax is payable still depends upon modification of contracts or changes in tax law or regulations. Moreover, such rules only reach cases where the sale of interest is sufficient to cause a change of control. Although we have not seen it in the mining area, some recent contracts in the petroleum sector have specifically addressed the tax obligations of the upstream investor if an interest is sold.

It should be noted that the concept of "control" is itself challenging. Lawyers can spend many words trying to ensure that any action which results in a new person, group of persons or company having the direct or indirect ability to elect a majority of the directors of the mining company is treated as a change of control.

WITHHOLDING TAXES

As the owner of Backyard Goldmine Co., you will certainly want dividends from your investment. And the government will want to withhold taxes on that dividend, as something like a pre-payment against your year-end income tax liability (this is similar in practice to many taxes that are withheld from the paychecks that employees receive from their employers).

Withholding taxes are an important and often poorly understood element of a mining fiscal system. The payments made by a mining company to its lenders (interest), to its owners (dividends), or to its contractors, service providers and consultants are usually subject to withholding taxes. When Backyard Goldmine Co. hires a drilling company to take core samples, it will "withhold" a certain amount of the payment to that drilling company on its income tax form at the end of the year.

The first thing to understand about withholding taxes is that they are not taxes on the local mining company at all. They represent amounts the mining company is required to "withhold" from the kinds of payments listed in the preceding paragraph and to pay over to the state on account of the actual or projected tax liabilities of the payment recipients.

For example, assume a contract or law calls for a 10% withholding tax on payments to subcontractors. If the subcontractor charges $1 million for a service, the mining company would be required to withhold $100,000 from its payment. The subcontractor would thus receive only $900,000 (in practice, a subcontractor might adjust its fee to $1.1 million to make sure it receives its full million dollars). If that subcontractor is a resident taxpayer, the money withheld by the mining company will be treated as a tax paid by that subcontractor and would be credited to its eventual tax bill. If the subcontractor is not a resident, however, the amount withheld will often be treated as a "final" tax, fully satisfying any tax liability the contractor may otherwise be deemed to have to the state with respect to income from that contract. The reason for this, in a nutshell, is practicality and ease of administration.

The importance of withholding taxes can be easily seen with a simple example. Assume Company A, Backyard Goldmine Co., is a local mining company using no subcontractors. It does all of the drilling, waste treatment, and all other mining operations itself.

The profits from the mining activity would be taxable income of Company A (we're simplifying things here for purposes of illustration), and the state would collect taxes on that income through the general corporate income tax.

Now assume Company B, Frontyard Goldmine Co., operates an identical mine, but relies on overseas subcontractors for most of its operations. In this case, instead of all of the profits from mining accruing to the local operator, as in the case of Company A, some share of the profits are in fact earned by the overseas subcontractors. Those profits are part of the payments made by Company B and deducted in computing its income tax, and without a withholding tax or some other way to reach the subcontractors, the profits would go completely untaxed.

Generally applicable rates of withholding are typically included in income tax legislation, but mining contracts may provide for full or partial exemptions of these taxes or may stabilize them for some period of time as an incentive. Practice varies widely both in terms of the rate of withholding and in terms of different treatment of various kinds of payments – interest, dividends, or services – and rates may be lowered for some initial period as an incentive. Rates at the level of 5% and 10% are common. It is also common for double taxation treaties to limit withholding taxes as discussed in more detail in chapter 3 of this section and thus what is written in statute or contract may not be the actual rate when the investor is able to take advantage of a lower treaty rate.

Below is an example of the issue of withholding taxes being treated in a mining contract, Liberia - China Union (2009), Section 14.3(c):

> *"In lieu of the withholding rates provided by Section 806 of Schedule 6 for non-residents and as provided by the Revenue Code for residents, the Concessionaire shall withhold tax on payments made to non-residents and residents at the following rates for the first 12 Years: (i) Dividends, 0 percent; (ii) Interest, 5 percent; (iii) Payments for services, 5 percent. Thereafter withholding shall be at the rates provided by Section 809 of Schedule 6 for non-residents and as otherwise provided by applicable Law for residents."*

One important issue with respect to withholding taxes that is too complicated to discuss in detail here is the question of whether a state's withholding tax obligations

should extend to payments made by the mining company for services performed by a non-affiliated company done at locations outside of the state, when that service provider has no connection with the state other than the fact that it is billing the in-state mining company for the work. For example, Backyard Mining Co. sends core samples to another country for testing for its gold content. Should that core sample testing company, which has no relationship with the host country of Backyard Goldmine, be subject to withholding tax in that other country? This book does not take a position on this question, but it is one that is subject to much debate.

FLEXIBLE TOOLS AND RENT TAXES

Mineral prices are inherently unpredictable and may rise and fall dramatically over the course of a given mine's life. Costs may also fluctuate significantly. One challenge governments face in the design of fiscal systems is how to capture a sizeable share of unusually high profits without making projects unsustainable during times of lower profitability. For this purpose, states now are favoring progressive revenue tools that will capture an increasing share of revenues as profitability rises. As discussed with respect to profit-based ad valorem royalties earlier in this chapter, the hope is that regimes containing such tools will be more stable over time because they provide equitable returns to the mining company and to the state over a wider range of circumstances.

Such revenue tools usually come in the form of additions to other base-line fiscal instruments. While the actual names of these taxes differ from country to country, they usually are expressed as:

- Windfall or excess profits taxes, which despite the names are typically triggered by high prices without regard to the associated level of profits;
- Resource rent taxes; and
- Sliding-scale royalties based on production: In addition to the ad valorem and profit-based royalties discussed above, there is the potential for a production-based royalty. While these are common in oil, they are less common in mining, but are possible.

First, some terminology. "Rent" is the term used by economists to describe the return in excess of the minimum return an investor requires in order to make an investment. Thus, if an investor requires a 25% expected return for a given investment, returns in excess of 25% are the "rent." Theoretically, these could be taxed at a 100% rate without affecting the investor's decision to invest. In practice there is no clear line regarding the minimum return required by investors and there is no serious attempt to tax all "rents" over and above the profits tax except in modest amounts.

Flexible tools to capture rents are quite prevalent in the petroleum sector, but less so in mining. But there is increasing interest in such taxes in mineral-rich countries intent on capturing a larger share of rents without overtaxing the industry during periods of lower profitability. Each of these may be found in legislation and/or contracts. While the emphasis and political motivation in introducing progressive tax instruments has been on capturing upside revenue or profit potential, they are also expected to bring fiscal flexibility or robustness to the overall fiscal regime, i.e., automatic adjustment to changing circumstances - lower government take when profitability is low, higher take when profitability is high.

This concept is typically called "progressivity" and it is important to understand. While all fiscal tools will give the government more money as prices rise, some do so better than others. For instance, if a country only collects a royalty, it may get more money as the price of gold rises, but the extra money it gets will not measure up to the extra money the company will get. The company's "share" of the total revenues will be greater as the prices rise. This is called a regressive tax. With a progressive tax, the situation is reversed. Both the company and the government will do better with higher prices, but the government's share will rise faster than the company's. Governments like this, of course.

One last thing to remember ... while each fiscal tool can be either progressive or regressive, it is important to look at how they all work together. A fiscal regime can have a royalty and income tax and a more progressive tool and still come out regressive on the whole. The devil is in the details.

Resource Rent Tax (RRT)

RRTs are the most sophisticated of the various mechanisms used to capture rents. A typical RRT has three basic components: (1) a threshold rate of return for the mining company (or several thresholds) above which the tax applies, (2) the specified tax rate(s) that apply once that threshold has been exceeded, and (3) a tax base, which is typically cash flow from a particular project. Whereas an income tax applies to taxable income, RRTs will typically apply to cumulative cash flow – looking at the cash out (payments for capital and equipment, goods and services) and cash in (revenues from sales). (In measuring cash flows, costs and payments relating to the financing of the project are not taken into account.) If profitability exceeds the threshold, for example a 20% threshold rate of return, a tax is paid on the excess.

While measurement of the rate of return at a given point in time sounds somewhat complex, in practice this is a mechanical calculation relying on some of the same elements needed to compute taxable income. There are relatively few examples of mining projects subject to RRTs (they are more common in the oil sector), but growing consideration is being given to them. Those contracts utilizing RRTs either have detailed annexes setting out the computation or refer to legislation.

Price-Based Tools

Rather than attempt to measure profitability directly through the calculations in an RRT, another approach is to use commodity prices as a rough proxy for profitability under the assumption that higher mineral prices lead to higher profits. A sliding scale royalty, for instance, could apply a higher royalty rate for a price higher than the benchmark reference price. In some cases countries have applied "windfall" profit taxes when prices exceed certain levels. The windfall profit tax is usually a percentage of the revenues attributable to the difference between what the investor would have earned at the threshold level and what the investor earns at the actual higher price. Because such taxes do not take account of costs, they are only loosely related to profits, and have often been repealed after investor opposition to the tax (see, for example, Zambia's experience).

Community Development

An emerging practice is for affected communities to share immediately in the financial benefits of a mining project by having a dedicated revenue stream that goes straight to them and not through the central tax authority first.

Sometimes this revenue stream is negotiated within the fiscal package between the national government and the company. This is the case in Guinea for example. In this system, the national government may negotiate the community development revenue stream with the mining company on behalf of the community. The Guinean Mining Code, Article 130, requires that 1% of the turnover of gold mining companies be paid into a local development fund that will be administered at the local level.

Under a different system, communities may negotiate with the company directly. This is the case in Canada or Australia, where indigenous communities are considered sovereign nations. In Canada, for example, Falconbridge, a mining company, signed what was called an "Impact and Benefits Agreement" directly with the Inuit people of Raglan in northern Quebec. In the 20 years since, the company has made direct payments to the Inuit in a model that created a precedent repeated elsewhere, at Quintette in the Yukon, for example. A similar arrangement holds at the Kakadu uranium mine in Australia's Northern Territory.

It is important to understand that these examples describe a situation of direct payment from the company to the community, not simply an agreed revenue sharing mechanism from the central government down to sub-national institutions.

OTHER TAXES

Import Duties

A sometimes contentious and complicated aspect of many fiscal regimes is the application of the general import tariff regime to the mining sector. Such duties are often significant revenue sources in low-income countries; they also may be used to protect domestic industry.

Import duties can make a huge difference to the overall profitability of a mine. Because

mining is capital intensive, overall company profitability depends a great deal on the timing of costs and revenues. Heavy up-front costs are only amplified by the addition of significant import duties. Moreover, many of the goods imported during exploration and development often cannot be obtained locally (thus making the domestic sector protection objectives irrelevant). In recognition of this, many countries will reduce or eliminate import duties on capital goods or goods specifically intended for project use. If the Backyard Goldmine Co. has to pay import duties on every earth-mover, front-end loader, and other piece of equipment needed to mine, it is easy to see how this could make already steep upfront costs that much higher.

One special problem occurs with goods like gasoline which are fungible and can easily make their way into the non-mining economy, thus avoiding the tariff. Many mining contracts will have specific provisions such as volumetric limitations to deal with these problems.

If, however, the state continues to collect import duties, it would receive the import duty tax revenues much sooner than it would receive the additional income tax revenues. From the state's point of view, this would be a useful tradeoff. Considering import duties alone, if the import duty is 5% and the contractor must bring in $250 million of goods and equipment, this is an additional $12.5 million of revenue that will be available far earlier than any income tax proceeds to the state. Very often, investors will seek exemptions from these import taxes.

Value Added Tax

Value Added Taxes (VATs) are a common type of consumption tax, i.e., they are applied to a taxpayer's consumption rather than its income. VATs apply to domestic consumption, and thus VAT is generally paid on imports and refunded on exports. Since it is common for a mining company to export the bulk of its mineral production to international markets, it is consistent with the principle of a VAT that these exports not bear the burden of a VAT and are exempted or otherwise receive a refund of VAT paid. Because refund mechanisms are frequently inadequate, contracts often will exempt mining companies from having to pay VAT on their capital imports or other materials used in mining.

Surface Rental Payments

Another element of many fiscal regimes is a surface rental payment to the central government, or sometimes to subnational governments. (These should be distinguished from payments to private landowners, which are not a part of the state's revenues.) Surface rental payments will usually be a fixed or per acre fee and may adjust automatically for inflation. They are not ordinarily a significant revenue source, but they discourage excessive land holdings.

BUILDING THE REVENUE MIX

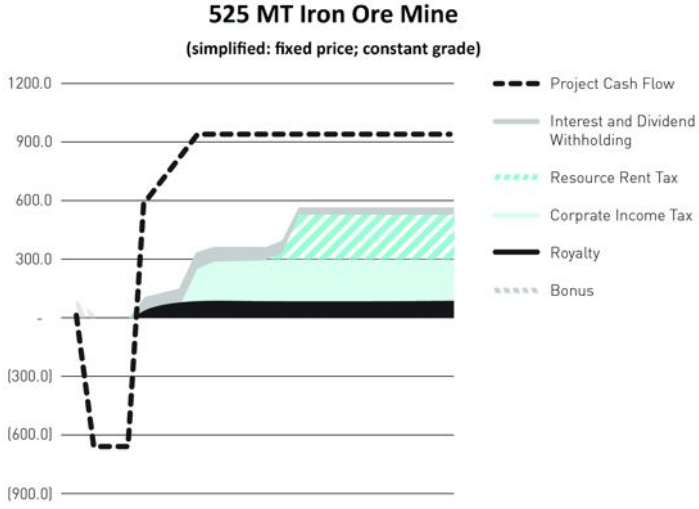
It is clear that there are a number of revenue tools that can apply to a mining project. It cannot be said enough: revenue tools absolutely cannot be viewed or evaluated in isolation. They must be assessed as a whole, as a "Fiscal Regime."

One must take account of the differences among tools. Income taxes do not begin to generate significant revenue for a number of years after production begins. Why? Because income tax laws allow taxpayers to deduct operating costs and the cost of their plant and equipment from their sales revenues to determine taxable income. Mining companies accumulate very large costs of these kinds before they ever see significant operating revenue. Therefore, although they may have a large cash income once operations begin, they may have little or no taxable income until they have recovered their early operating costs and much of their capital costs.

Royalties, on the other hand, have the advantage of providing an income flow to a government from the beginning of production. But this advantage to the government is hard on the investor: it is sending cash to the government when it still is recouping its costs and may even be investing in mine expansion or other large investments. Because most royalties take a fixed percentage of total income, they have the effect of "squeezing" the investor. As mineral prices fall, mining costs do not fall proportionately, so that the margin between mining costs and revenues available to the mining company after royalty payments will fall. This can lead to premature decisions to close a mine or to curtail production. Conversely, the profit spread will widen with only limited government participation if royalties alone are used.

Over the life of a mine, the different revenue tools may fit together to look something

like the diagram below over the lifetime of a project. Of course, it will depend on which fiscal tools a country uses, among a number of other factors. This is just illustrative of one possible outcome in a stylized model.



It is important to remember the trade off of upfront payments. Upfront payments can be "expensive" for the state. Investors expect that many exploration expenditures will go unrecovered. The rate of return they expect from successful projects must be enough to compensate them both for the costs of that project and to compensate for some of their unrecovered exploration costs from other unsuccessful projects. An up-front payment made before any discovery will be treated by the investor as a high-risk exploration cost; even a seemingly small front-end payment may be high enough to persuade an investor that an exploration program is too risky.

Resource rent taxes have the advantage of not impacting the investor except when the investment has been highly successful. They provide the government with a measure of assurance that the state will have a larger share in profits when there are high returns but do not burden the investor when returns are lower. This may provide a better balance of the economic and political interests.

How does one evaluate a particular fiscal regime or regimes in a given country? For this, a tool called a financial model is needed.

FINANCIAL MODELING

While governments and citizens of course want to maximize the benefits from an investment through taxes, infrastructure, corporate social responsibility and other means, the reality is that a company's budget is not endless. The trick for governments is to know how much they can get from investors without putting their investments at risk. And for this, you need a financial model.

Financial models are fundamental instruments of planning, negotiation and fiscal policy. They will tell you such things as :

- What is the trade-off between "quick money" through signature bonuses and a higher share of long-term profits?
- What is the efficiency of tax incentives?
- What is the equitability of the fiscal regime for investors and government?
- If we change the tax regime, what is the impact for the parties?
- How does one fiscal regime compare with others?
- What is the fairness of the current and potential deals?
- What long-term public investment policy can be funded and planned?
- What are the effects from changing prices?

All companies generate a financial model (usually a spreadsheet in Excel or a similar program) showing cash flows, mine operations and various taxes under different scenarios, to consider their side of the financial story. When pressures are made on companies, the cost implications are plugged into the model to determine the effects or impact on the rest of the mining operations.

Some decisions that are important for the country's economic development may have little impact on a company's operations, and some may even improve their cash flows. An example is power supply. A company may determine that a certain capital expenditure on power will be needed to ensure the mine has a reliable power supply. Doing this alone, as in most cases in the past, would involve high upfront costs for the company. Partnering with the public sector to provide larger supplies could mean lower unit costs and even lower initial capital expenses. It is therefore useful to know the company's financial model or to generate a proxy model in cases where the company will not share theirs with the government. This will not only give the government an idea of how viable a decision may be, but also, at which point certain issues can be raised with the greatest chance of success.

The same government "take" can be arrived at using different tax instruments, so modeling can help the parties negotiate a different set of tools that will arrive at a similar total sharing of the revenues over the life of a project. Moreover, the timing of government revenues will be significantly affected by the choice of instruments. To really understand this interaction and the impact of different tax instruments, it is important to build financial models that forecast the revenue/profit flows of a project across the life of the mine and under various possible scenarios, taking into account the inherent uncertainties, especially of future market prices.

But it is also possible to get a little carried away with modeling. You have to keep in mind that a model only predicts outcomes under a range of assumptions (prices, costs, etc.), and that those assumptions are just that ... assumptions. However important and useful they are, they will seldom if ever perfectly predict reality. If used to assist in predicting revenues (for national budgeting purposes, etc.), they will need to be continually updated to adjust assumptions and account for past activity.

SPECIAL CHALLENGES

In this chapter, we summarize some of the issues that preoccupy those tasked with designing and enforcing a fiscal regime for mining.

HOW MUCH DID YOU EARN?

Revenues raised by taxes depend not only on the tax rate but also on the rules for calculating the tax base. You might think this should be straightforward - Backyard Goldmine Co. declares what it sold the gold for and what its costs were, and the state taxes the difference - the profit - at a given rate. But there are some significant ways that this crisp picture gets blurred.

Backyard's own financing costs may eat up a large amount of income ("thin capitalization"), and need to be evaluated. Or Backyard may buy many of its inputs from, and sell much of its gold to, other companies it controls ("Backyard Goldmine Holding BV" in the Netherlands, "Backyard Goldmine Trading Inc." in the Cayman Islands), making it hard to know what the real price is (an issue of "transfer pricing"). Or it may have locked in a price ahead of time to deal with its own cash flow needs that ends up being considerably more - or less - than the known market price ("hedging"). Let's take each of those in turn.

The Interest Deduction and Debt/Equity Limitations

Mining contracts or legislation often establishes a maximum ratio of debt to equity financing for a project. An example from Liberia - Mittal (2006), Article 14:

> *"At no time shall the ratio of Debt of the CONCESSIONAIRE to Equity of the CONCESSIONAIRE exceed 3:1.[. . .] For purposes of this Section 3, "Debt" shall mean the long-term debt of the CONCESSIONAIRE and "Equity" shall mean the shareholders' equity in the CONCESSIONAIRE as defined by standard accounting practices.[. . .]"*

The contract prevents the company from borrowing more than 75% of the money it needs to invest in the project. This is because the interest on debt financing is allowable as a company cost. And that means that, given the choice, companies will often prefer to finance their operations through debt rather than tie up their own capital. The Liberian contract addresses that issue by capping the proportion of debt to equity.

Another approach to the same issue is not to cap the debt, just the degree to which interest payments on it are an allowable cost, in a rule known as "thin capitalization." Below is an example of such a provision from the Mongolia - Oyu Tolgoi (2009) agreement:

> *"Section 2.31.1. if the Investor's debt to equity ratio exceeds 3:1, any interest attributable to the excess debt will not be deductible for Tax purposes;*
>
> *2.31.2. if the Investor's debt to equity ratio exceeds 3:1, any interest attributable to that part of the debt that does not exceed the ratio strictly remains deductible for Tax purposes;*
>
> *2.31.3. for the measurement of total debt for the purpose of the ratio, both related party and non-related party debt are included, however, any non-interest-bearing liabilities are specifically excluded;*
>
> *2.31.4. for the measurement of total equity/capital for the purpose of the ratio, both common shares and preferred shares are included; and*
>
> *2.31.5. any non-tax deductible interest shall be deemed to be a dividend and taxed in accordance with laws and regulations and applicable double tax treaties. Any such non-tax deductible interest will not be subject to any interest withholding tax."*

There are other approaches as well. Under some systems, interest deductions are limited to some specified percentage of taxable income. This means that, even in early stages of the project when the company might have huge debt from capital outlays, the interest deduction can never totally eliminate taxable income. Another key goal of debt-equity limits is to ensure the company has a stake in the game. It has to have some of its own money at risk.

But how do you check all of this stuff out? After all, the government now has to analyze submissions made to it by the company not only about its costs and sales, but also about its terms of borrowing. And if interest payments are deductible from the overall tax bill, how does the government ensure that they are reasonable? While some contracts specify using benchmark interest rates, related, for instance, to LIBOR (the London Interbank Overnight Rate used by banks to borrow from each other), many more do not. This could be a particularly challenging issue if the company is borrowing from an affiliate - as it often does.

Transfer Pricing

More than half of all cross-border transactions around the world are happening between companies that are affiliated. This is equally the case in mining. As it has now become an international operation, Backyard Goldmine Co. may buy a lot of goods or services from Backyard Goldmine Industrial LLC, incorporated in Bermuda, and sell a lot of its gold to Backyard Goldmine Trading SA, formally incorporated in the small Swiss town of Baar but mostly active in East Asian markets. The prices in such transactions are known as “transfer prices.” The question is, how do we know that these prices reflect true market value?

The term "transfer pricing" or "TP" has become synonymous in some circles with nefarious practice. But it is important to understand that transfer pricing itself is a central instrument of international global markets. Tax accountants have fierce debates about which TP rules are the most appropriate. OECD has a system of TP guidelines. The UN has another system. Many countries have developed their own approaches. The problem is if transfer pricing rules are abused.

How might that happen? Well, suppose Backyard Goldmine buys all its inputs from affiliates in the Cayman Islands, a low-tax jurisdiction, and pays twice the going rate for

those goods. Suppose it also sells the gold for a 30% discount off world market prices to an affiliate in another low-tax jurisdiction - one might even say "haven." It would find itself with far less income in its host country - and therefore have to pay far less tax. It might have more income in those other countries, but since those countries have low rates of corporate taxation or none at all, the tax bill is going to be low. Things are looking good for Backyard Goldmine.

How to guard against it in the contract? It's quite difficult, but there are a few things that can be done to help. Most tax codes or mining agreements require prices in such transactions to be at the same price as a company would obtain in an "arm's-length" transaction. But determining the arm's-length price and monitoring such transactions can be challenging. To assist governments in this respect, some mining agreements contain provisions requiring reporting of such transactions, documentation of the basis of the arm's-length prices used and, in some cases, a certification from a company officer about such prices, such as the following, from Liberia - Putu (2010), Section 17.4(e):

> *"Each year's financial statements shall be accompanied by a certificate of the chief financial officer of the Company to the effect that (i) with respect to goods or services covered by any Pricing Agreement in effect during the relevant period, the Company's transfer prices during such year were computed in accordance with the requirements of such Pricing Agreement and (ii) with respect to goods or services sold or provided in a transaction between the Company and an Affiliate or a Related Person of the Company which are not covered by such Pricing Agreement, the prices thereof imposed during the relevant period were computed in accordance with Section 20.7."*

One critical part of the cost-sales dynamic is the market value of the commodity. For royalties, this may sometimes be handled by basing the royalty calculation on a public international reference price rather than on the actual price received by the seller (see the discussion of royalties). But this may not always be possible. Not all minerals in all markets have real-time published prices, although more "benchmarks" for more commodities have become available in recent years. One small caveat: even when an international reference price is being used, there may be a quality differential off that international reference price, upward or downward, that needs to be taken into account.

And just one more "Except...". Sometimes the price in the export market might not accurately reflect a fair price for any given source country. In that case a "net-back" price relating the public price to the price in the mining jurisdiction could be used. This means subtracting all the transport, insurance and other costs it took to get the commodity from the host country to market. Sometimes an estimate of the minerals' value in the mining jurisdiction may be agreed ahead of time by the government and the company in what is called an "Advanced Pricing Agreement" (APA). Rather than the government checking costs shipment by shipment, both sides agree on a method of doing the valuation to save themselves the trouble of arguing over it later. APAs are generally not included in the mining contract itself, although the contract could require the company and government to make one before production starts.

Management fees paid by the local company, "Backyard Goldmine", to its parent for services provided by the parent are another difficult transfer pricing area. These are often calculated as a percentage of operating costs or investment with percentages ranging widely. Such charges can significantly reduce taxable income, and finding comparable market transactions is difficult. Some governments limit such deductions to a fixed percentage, e.g., two percent of operating costs. In some cases charges by the home company may be limited to actual cost with some agreed profit mark-up. In all cases it is desirable to be clear what services by the parent or affiliates are covered by the management fee, perhaps by a schedule identifying any charges or services **not** covered. In particular it is important to know whether such charges include all the necessary know-how or intellectual property that is required by the mine

The complexity of the supply chain in the modern world is hard to overestimate. Just one example: when the government of Uganda exercised its right to audit an oil company at a very early stage in the project, the company had already contracted with over 200 other companies. Lots of what it bought were services for which no ready market price existed. The same is true for mining operations.

Hedging

To protect against price fluctuations, companies often "hedge." For instance, some lenders may require mining companies who borrow from them to reduce their exposure to future drops in commodities prices by selling some portion of their future production at a price agreed today. This is typically called a "futures contract." Or it may pay a small sum now to buy the "option" to sell at a given price a few months from now - which it will either exercise or not depending on market prices at that time. These financial instruments - and many others - may protect the company against a price crash (the trade-off is that they may not get the full benefit of future price increases).

Hedging can help a company negotiate volatile markets and ensure that projects remain economically viable. As a side note, many think the massive "financialization" of commodities markets has also helped fuel the unprecedented price rises of the last decade, though that is not our subject here. But hedging can also mean actual sales revenues of the mine company are quite different from what is observed in the market. For instance, if Backyard Goldmine Co. has agreed to sell all of its production for the next five years at a price of $1,200 per ounce but prices rise to $1,600 per ounce, the company will not be as profitable as it would have been without the hedge. On the other hand, if prices in that period fall to $800 per ounce, it will be much more profitable - and its revenues will be protected.

From a host government's perspective, this can have undesired consequences. Most simply, in the case in which the sales price is below the market price, the hedging transaction could cut the royalties received by the government if the royalty were based on the received sales price (rather than a published market price).

To avoid this, some jurisdictions specify that royalties be based on spot (present) rather than future market prices and specifically exclude hedging operations from determining taxable income. The company can still hedge, either through its international operations or through a separate local entity. But state tax revenue will be insulated from those financial decisions.

STABILIZATION

A significant mining project and associated infrastructure can require billions of dollars of capital. Once in place this capital cannot for the most part be readily moved. As a result, investors have a strong interest in the stability of the fiscal regime during the lifetime of the project - which as we have seen could be as long as 50 years or more. The government itself may also want to reassure the investor. This is especially an issue in jurisdictions with weaker institutions or without an extended period of political stability.

This issue is frequently resolved through the use of a stabilization clause in the contract, which can take different forms. An example from Liberia - Putu (2010), Section 14.3:

> *"The Government hereby agrees that with respect to those items set out in this Section 14.3 the rates and provisions provided in this Agreement shall be fixed as of the Effective Date for the Term of this Agreement but not to exceed 15 years from the grant of the first Mining License (which shall extend to the end of the fiscal year applicable to the Company in which the 15th anniversary of the grant of the first Mining License occurs to the extent the anniversary does not fall on such date). . . For the avoidance of doubt, during such period, any future amendment, additions, revisions, modifications or other changes to any Taxes and Duties (or the provisions or practice relating to any Taxes and Duties) applicable to the Company or the Operations that would have the effect of imposing an additional or higher Tax or similar charge on the Company or the Operations shall not apply to the extent it would require the Company to pay such additional or higher Tax or similar charge, including any future amendment, additions, revisions, modifications or other changes [..]"*

This particular provision has two important features. First, it is limited to specific portions of the fiscal regime and does not extend to other areas of the law such as health and safety regulation, employment, or environmental regulation. Many stabilization clauses in earlier contracts (some of which are still in force) are much broader and have been highly criticized for the negative impact on evolving social and general welfare policies, particularly given the long duration of many mining leases. They are some-

times known as "freezing clauses" because they freeze new lawmaking in broad areas of public policy. But secondly, within the fiscal sphere, it does operate as an absolute bar to applying higher charges to the company. It freezes the fiscal law.

As you can imagine, governments and the public do not react well to the idea that their sovereignty should be inhibited for the interests of a foreign company, however much money has been invested.

One alternative, more widely used today, moves the debate from law to money. An "economic equilibrium" clause basically says the state can pass any new laws it likes but calls for negotiations between the parties if the changes have reduced the "economic interest" of the project to the investor, or, in its stronger form, requires the state to compensate the mining company to the extent required to restore the same state of profitability. This is an example from an oil contract, though similar clauses can be found in mining contracts:

> *"If at any time after the Effective Date, there is any change in the legal, fiscal and/or economic framework under the Kurdistan Region Law . . . which detrimentally affects the Contractor, the terms and conditions of the Contract shall be altered so as to restore the Contractor to the same overall economic position as that which Contractor would have been in, had no such change in the legal, fiscal and/or economic framework occurred."*

The limitation on what is subject to stabilization and an affirmation of the primacy of domestic law on general economic and social policies is sometimes specifically addressed:

> *"Except as explicitly provided in this Agreement and the Revenue Code, the Company shall be subject to all of the internal laws of Liberia as in effect from time to time, including with respect to labor, environmental, health and safety, customs and tax matters."*

Two other features of stabilization clauses are worth noting. First, they may contain so-called "one-way street" clauses that allow the investor to opt into any general reductions in rates of taxation, without bearing the burden of any general rate increases -- a questionable but not uncommon practice. Secondly, some countries, for example, Chile and

Afghanistan, will provide stability but only if the investor agrees to a higher base tax rate, i.e., the investor has to pay for the additional assurance. Interestingly, no investors in Chile have elected stabilization.

Lastly, sometimes in addition to and other times in lieu of stabilization, some contracts include provisions which allow either party to request consultations with respect to the contract if there have been fundamental changes in circumstances. As an example, Liberian mining contracts usually give the parties rights to request (but do not compel) revisions where there have been "Profound Changes in Circumstances." From the Liberia - Putu (2010) mining contract:

> *"Profound Changes in Circumstances" means such changes, since the relevant base period under Section 31.1, in the economic conditions of the mineral and mining industry worldwide or in Liberia, or such changes in the economic, political or social circumstances existing in Liberia specifically or elsewhere in the world at large as to result in such a material and fundamental alteration of the conditions, assumptions and bases relied upon by the parties at such base period that the overall balance of equities and benefits reasonably anticipated by them will no longer as a practical matter be achievable."*

It is important to stress here that this is not an obligation to renegotiate by either party. It is only an obligation to sit together and talk. This is a weaker obligation than an obligation to negotiate.

DOUBLE TAX TREATIES

Another set of potential snares lie in international treaty obligations, and the way they can affect contracts. For instance, many countries have entered into bilateral "Double Taxation Treaties" in which two countries agree on how and when each will tax activities of the residents (persons and legal entities) of the other with respect to certain items of income. There are now more than 3,000 such treaties between the 200-odd jurisdictions around the world, although the number of treaties a country has can vary drastically.

But with respect to mining law and contracts, these treaties can limit the government's power to impose withholding taxes. Typically, double tax treaties will reduce the withholding rates below those imposed by statute, sometimes to zero. Also, an investor can shop for intermediate jurisdictions which offer the strongest advantages from these treaties. For example, even if the parent company of a local mining entity is based in Country X, it may make loans to the project through a related entity in Country Y if it finds that there is a tax treaty with Country Y providing for a zero withholding rate on interest. Tax treaties may also limit the host government's ability to tax non-residents on capital gains.

MOST-FAVORED CONTRACTOR

There is also the question of treating all investors the same. Some contracts contain a provision requiring the government to extend to the contractor any benefits that the government may extend to other investors in the future. Here is a typical example:

> *"In the event that the Government of Country A enters into a contract or agreement with a third party engaged in the mining or industrial sectors that, based on the laws in force in Country A at the time, affords more favorable treatment with respect to the stability of fiscal or other tax terms than have been granted to CopperCo under this Mining Contract, the Parties agree that the Mining Contract shall be amended to apply the more favorable treatment to CopperCo." [adapted from unpublished contract]*

Whatever the rationale for such clauses, they make it difficult for the government to change its policies and contract terms over time to meet changing circumstances within the country, or to address the unique issues presented in a particular mine, or simply to upgrade their policies.

Consider the following: A government has entered into a contract with Backyard Goldmine providing for a 3% royalty and a 35% income tax and including a "most-favored company" clause similar to the example above. But, a year later, it decides to move in a new direction and wants to emphasize royalty payments in its fiscal regime. It enters into an agreement with Backyard's competitor, Motherlode Resources Inc., call-

ing for a 5% royalty and a 25% income tax rate. It seems as though this could trigger the "most-favored company" clause, and that Motherlode might protest.

But it is actually only possible to compare the two fiscal regimes by financial modeling to demonstrate the effect over time of a higher royalty coupled with a lower income tax. In some scenarios, overall revenues may go up, but in others, they may go down. It may also be impossible to make comparisons if the mines are very different (e.g., different costs structures, resource bases, etc.). These issues raise the prospect of a potentially contentious debate about the proper baseline to use for evaluating the net effect.

It is also possible that Backyard could argue (depending on how the "most-favored company" clause is drafted) that it should benefit from the reduced tax rate, but keep the agreed royalty rate. Could Motherlode come back and then claim that it should get the same regime? The mere possibility of this highlights the problematic nature of these provisions, and it is easy to see how this would result in a gradual "ratcheting down" of the fiscal regime that applies to companies.

To avoid these problems, many contracts do not contain such clauses, or if included, they are limited to companies in substantially similar circumstances.

TAX INCENTIVES

Finally, a principal challenge facing policymakers and negotiators is how to capture an acceptable amount of revenue from mining—under a variety of economic circumstances—while maintaining a regime that attracts the desired type of investor. One way that countries have attempted to walk this tightrope is by instituting a robust general fiscal regime but coupling it with a variety of specific tax incentives.

One old form of such incentives, still seen in many contracts, is to provide tax "holidays" in which the investor is freed from some or all taxes for a period of time. This can really slash government revenues. There have been occasions in which mines were developed and went into full production while a tax holiday was still on, leaving the government with no income tax revenue at all. It is hard to imagine any government seeking that particular outcome.

Even in less extreme cases, holidays result in long postponement of government revenue, well past the expiry of the tax holiday if depreciation and loss carry-forward rules let a company start writing off its expenses after the holiday is over. Moreover, there is very little evidence that such holidays - much less any incentive - are actually determinative of the decision to invest in extractive industries.

One alternative to the tax holiday which could also meet the investor concern of rapid recovery of investment is accelerated depreciation rules. If the investor is allowed to deduct a greater share of capital costs early in the life of the project, then there will be greater deferral of taxes. This type of provision at least ties the incentive to the actual capital investment and avoids the possibility of taxes being sidestepped entirely (i.e., the tax is deferred but not eliminated).

HOW TO SPEND IT

Once the state has collected the money from the various revenue tools in the fiscal regime, how the state should spend it becomes the burning question. This section focuses on how the state can obtain money from its mining activities. The money should enable a government to provide the goods and services essential to the prosperity and growth of the country. A country can invest in state-of-the-art mining laws, mining contracts and revenue laws, but if the money flow is not used well, the effort could be wasted.

While this book is not about how to spend the money - that too could be a book unto itself - the basic considerations are clear. What governments seek to do is to convert wealth in the ground into wealth for their society.

Simply making the state's mineral revenues available to citizens, thereby increasing living standards, will not be sustainable because the mineral revenues will eventually run out when the minerals run out. This is a factor that drives government policy and company strategy: minerals are finite resources that will not last forever. Even if a mine lasts 100 years, it still runs out.

What this means is that governments have one shot at spending mineral revenues well. Most people who have studied the challenge of sustainability conclude that states should invest as much as possible of their natural resource revenues to increase physical infrastructure, skills and labor productivity, and thereby bring about a sustainable increase in the country's economy and in individual living standards. In practice, this means beginning with the fundamentals: primary and secondary education, health care, basic transportation and, in most places, electricity supply and water supply and treatment.

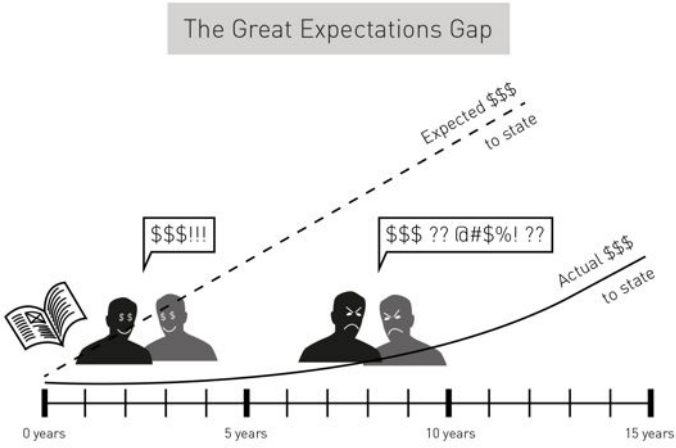
Some countries have made direct transfers of cash to citizens. Mongolia's experience is discussed below. But attractive as direct cash transfers may be, governments in countries with weak administration and high levels of illiteracy will need to consider the difficulty of constructing systems to distribute that money fairly, efficiently, and without leakage.

Political pressures may also lead to campaigns to subsidize "essential" consumer purchases, like electricity or gasoline or rice. This can improve living standards, but is dangerous beyond the very short run, as it can stimulate wasteful consumption, lead to smuggling (where tangible goods are involved), and, as experienced in many countries, can be very hard to reverse.

HIGH PUBLIC EXPECTATIONS, LOW REVENUE INFLOW

When the public learns of big mineral discoveries, or hears that a major IMC has come to their country to negotiate a mining contract, public expectations can shoot through the roof. There are many reasons for this, but political reasons dominate. Politicians may rush to seek credit for the news and make inflated predictions of the impact. Optimistic investor statements aimed at potential home country investors leak back to the host country. Newspapers fan the flames with banner headlines.

The reality, of course, is that except for the occasional signing bonus and a small bump in local employment when mine development begins, money will not start to flow until the mine goes into operation, many years later. Governments and civil society should anticipate this gap between expectations and reality, and should actively control expectations by keeping the public informed as to the progress of the mining sector and educating the public about the time frames involved.



This can be difficult to do, as it is tempting to take credit for each new discovery and each new contract, and it is natural to present them as though the pot of gold at the end of the rainbow has been unveiled. A thoughtful, on-going effort to educate the public and journalists about mining project time lines and revenue expectations should help. If the non-political opinion leaders understand reality, the impact of over-exuberant or self-aggrandizing announcements can be reduced.

The Mongolian Experience

Following a major mineral discovery in Mongolia, the government created a Human Development Fund that was designed to function as a transfer of money to individual citizens under a structure that would force most of the money into investments used to fund education, housing, health and pension plans over time, the type of expenditure needed for growth. Political pressures, spurred by populist political claims, resulted in the promise of cash transfers to individual citizens in amounts that far exceeded the then-existing mining revenue. The government had to fund the shortfall in the international debt markets, where it was required to pledge future mine revenues to secure the loan.

This experience was so sobering that Mongolia's political parties were able to agree

upon a series of laws designed to limit the ability of politicians to make impossible-to-fulfill promises. In summary form, the principal components of this effort were the following:

- The new Election Law, adopted in 2011, prohibits political parties from including in their election platforms, among other things, promises of cash, property, property rights, shares or endowments from proceeds of minerals and oil or promises that are of a similar nature.

- It also provides that if an election platform declares that the party involved will enact a new program with expenditure proposals, the expenditures proposed must comply with specific requirements of the budget stability law, and the compliance must be verified and certified by the State Audit authority. (The law is online in Mongolian at www.legalinfo.mn/law/, law 351.)

Laws like this, while difficult to follow (and which, inevitably, have not been strictly followed), can help to create a "culture of public prudence". Even in a country in which the passage of similar laws can be difficult, a debate on the subject can educate people of the risks of placing the appearance of large revenue gains before opportunistic members of the political class.

Bottomless Budget: Where to Stop?

A country with a relatively small economy and major mineral deposits will have two distinct budgeting problems. First, as soon as there is a major mineral discovery, there will be a political instinct to start spending the benefits. But, during the long period between discovery and operations, there is no cash flow. Any increased expenditure will have to be funded by borrowing against the prospect of future mining revenues. This is always dangerous for economic stability, particularly when there are also pressures, as there were in Mongolia, to distribute the funds directly to citizens.

Mongolia tried to limit this problem by adopting a budget stability law designed to limit mineral-driven deficit spending. Article 6.1 provides that any budget deficit should be limited to two percent, that budget increases must not exceed the average rate of growth of the non-mineral sector, and that government debt must not exceed 40 percent of GDP. (The law is online in Mongolian at www.legalinfo.mn/law/, law 503.)

Mongolia's experience, following adoption of this law, actually demonstrates that enacting laws of this kind will be easier than living within their limitations, but they do create the basis for public discussion of the issues and affect the tone of legislative budget debates.

The second budgeting problem when mining does begin is learning to live with the fact that mineral revenues (and natural resource revenues generally) are typically quite cyclical because of the volatility of commodity prices. This volatility can result in stop-and-go program funding, excessive expenditure commitments at the top of the revenue cycle and public uproar when budgets shrink at the bottom of the revenue cycle.

Chile, with an economy very dependent on copper and molybdenum exports and an earlier history of over-expenditure and boom-and-bust spending, tried to deal with this issue early in this century. The core of the policy is the notion of achieving "structural balance", which, in very rough terms, requires estimating the government income that would accrue if the overall impact of the economic cycle were levelized, and spending no more than would be net of that levelized amount, even when actual revenues are higher. In practice, this results in a surplus when revenues are up, which can be used to cover deficits when revenues are down. Chile built a large surplus after the program took effect, but then was able to use it during 2009 to maintain expenditures through the international financial crisis.

Savings Funds

A few countries will be fortunate enough to have large revenue flows which exceed their ability to use or "absorb" them in domestic spending. In addition, some countries want to hold some funds for future generations. The most well-known resource fund is that of Norway.

Norway's fund, based on its petroleum income, had reached over $750 billion by late 2013. It is managed on behalf of the Ministry of Finance and invested outside of Norway to avoid the inflationary impact of trying to invest all that money in Norway. Transfers from the fund to Norway's current budget are intended to be limited by the real return on the fund.

Norway's fund is focused primarily on intergenerational equity, ensuring that a large

portion of its oil revenues remain available to the country and its citizens after the oil runs out. This is appropriate for Norway, which is a highly developed country with a small population and a large oil surplus. It is not appropriate for an economy with large social and physical infrastructure deficiencies, except, perhaps, in the rare instance in which the population is very small in relation to the resource revenues.

ENVIRONMENTAL AND SOCIAL ISSUES

WHAT ARE THE ISSUES?

USING THE CONTRACT TO MANAGE THE ISSUES

FINDING GUIDANCE AND ANSWERS OUTSIDE OF THE MINING CONTRACT

WHAT ARE THE ISSUES?

Mining can be transformative, with a potentially enormous environmental and social impacts. This section describes some of the environmental and social issues that can arise with mining projects, as well as the contract provisions that address those impacts. It also outlines some of the broader legal and policy frameworks that can apply to and help shape the impacts of a mine.

ENVIRONMENTAL ISSUES

Mining is typically considered to have significant impacts on the environment. Pollution of land, water and air, strains on water and other natural resources, erosion, deforestation, loss of habitat, and disruption of lives and livelihoods are among the negative impacts that mining projects can have. What are the issues and how can they be managed?

Water

This is where the environmental impact of mining is often greatest. Pollution and scarcity are the two major issues.

In temperate or tropical climates, a key challenge is preventing infiltration of toxic elements into the water table (such as mercury in artisanal or illegal mining), which can result even from surface mining and processing operations because of high water tables. In parts of the world where water is scarce, the enormous consumption of water by mining activities is the fundamental issue, lowering the water table and drying up rivers

and lakes.

Whether through use, diversion, and/or pollution, mining operations can potentially starve downstream or nearby communities of the water they need, and destroy the farm lands and other natural resources on which they depend.

The effect of the mine on water quality and availability, and whether sources of surface and groundwater will remain adequate and fit for humans, plants, and animals are crucial questions; and the answers to these questions may determine whether a company gets a mining license. Accurate awareness of and anticipation of these consequences is a first step towards designing appropriate mechanisms to avoid or correct them. It is no surprise therefore that companies like Rio Tinto and industry associations like ICMM have recognized the importance of water impacts, issuing their own standards and best practice guidelines for responsible water management.

Toxic Materials and Acid Drainage

Mining operations produce large quantities of solid and slurry waste. Different kinds of waste come at different stages in the process. First, there is the "overburden" and waste rock which has to be removed before you can get to the material to be mined. While this material is not mineralized, or does not contain enough recoverable minerals to be processed, it has to be stored, typically on the surface of the land but sometimes in abandoned mine pits or underground operations.

Understanding the proportions is key. While iron ore typically contains upwards of 30-60% iron content, this is exceptional. Most metallic and precious minerals contain very small proportions of the mineral (typically less than 2%), which means the other 98% of material is waste. When you concentrate the ore or extract the metal, you create another major waste stream, called tailings. Tailings are not just about volume. Because they are the waste product of ores that have been treated, this slurry can include heavy metals, cyanide and chemical processing agents, sulfides, and suspended solids which have to be contained. Tailings storage therefore needs to be insulated, sometimes for decades, often well beyond the life of the mine, to allow decomposition and settling. If these facilities fail, the impact can be serious.

Air Pollution

Technology has improved significantly but there can still be issues with airborne pollution. Mining operations can generate a lot of dust, which can trigger respiratory diseases in people, and asphyxia of flora (plants). If the mine includes a smelting plant, gas emissions can also be toxic and a long-term risk for human life and health. This can be a major problem around the older smelting operations, such as the lead-zinc smelters at Broken Hill in Australia, La Oroya in Peru, and the recently closed Herculaneum smelter in Missouri, USA. Depending on the quantity and concentration, these substances may contribute to an increase in mortality or illness.

Biodiversity

Mining can impact biodiversity by changing the relative populations of species in the same ecosystem, as some species are more tolerant than others to land disturbance, loss of habitat and exposure to high metals and acid. While wholesale habitat destruction might be relatively rare, there is also the issue of habitat fragmentation.

The Local Effects of Noise, Vibrations and Blasting

These can impact the stability of infrastructure, buildings, and homes of people living near mining operations, as well as people's peace and tranquility.

Rehabilitation of Mined Areas

The global trend in mining is towards what is called "progressive reclamation," meaning that disturbed areas become reclaimed during the life of the mine as well as after it has closed. Closure itself is now often planned and designed from project start-up in order to make reclamation easier and more successful. The trick is to monitor what happens right from the beginning and ensure that mechanisms are in place to guarantee that the eventual cost of rehabilitation is adequately funded.

SOCIAL ISSUES

The social impact of mining projects can be serious and complicated, particularly when mining takes place in locations where people are already living. Mining can seriously disrupt community stability and distort or damage local economies and livelihoods. In several countries, the beginning of a large mining project has been documented to impact the economy of a town or community, and bring problems such as prostitution, drugs and crime.

Historically, the costs of mining have been borne largely by the directly affected populations while the benefits have tended to accrue to the national government, select elites or the private sector. Social impacts at the local level may therefore be quite different than at the national (or international) level - a scenario that can lead to tensions, conflicts and instability.

In the last decade, the avoidance and mitigation of negative social impacts have come to be seen as critically important. When properly managed, social impacts of a mine can even be positive.

Land Acquisition and Resettlement Issues

Land acquisition is a common and significant cause of resentment and conflict associated with large mining projects, related especially to the amount and type of land used and the way in which it is acquired. In addition to land being needed at the mine-site, it can also be required to establish transport corridors and transmission lines, as well as around new or upgraded port facilities needed by the mine.

In many cases, entire communities or significant parts of them may have to be moved elsewhere. This involves the physical relocation of households and their real assets, but can also lead to their "economic displacement", that is, the loss of their livelihoods and income sources, which must be re-established or re-created in their new locations. The major risk of resettlement, voluntary or involuntary, is the potential to impoverish communities and leave them worse off than they were before the mine necessitated their relocation.

In addition to creating challenges for resettled people, resettlement can also be difficult

for the places and communities that receive them. Alternatively, new purpose-built settlements may need to be built, but these might not meet needs. For example, the houses built and the lands allocated may not allow for family growth, or even the restoration of incomes or livelihoods. People may have to change their livelihoods in order to survive. Particularly challenging can be the displacement of indigenous people that have cultural ties to the land, and a single defined livelihood.

There are also situations where artisanal miners, often regarded as barefoot prospectors and finders of new mineral deposits, are mining in areas where IMCs have applied for exploration and/or mining permits. The displacement of artisanal miners, who often work areas without legal authority, poses a different kind of challenge to governments and IMCs. This often has led to confrontations and conflict between IMCs and artisanal miners, and between artisanal miners and the government.

Companies traditionally held much wider sway on these issues. The relocation of populations has in the past been carried out by the government or the IMC with the approval of the government. But there is now a growing expectation locally, nationally and internationally, that these processes will be done in consultation with the affected communities and in a participatory way, and will include post-resettlement follow-up and ongoing IMC or government support to the resettled people. Many IMCs and lenders now subscribe to the IFC's Performance Standard 5 on Land Acquisition and Involuntary Resettlement, which lays out an explicit framework for consultation, planning, implementation and monitoring of resettlement, including income restoration.

Additionally, resettlement of indigenous peoples is addressed in IFC Performance Standard 7, which states that indigenous peoples can only be resettled with their consent.

Governments may also need to clarify their own approach to and responsibilities regarding resettlement, which may be defined in the mining contract but can also be governed by other legal rules, including under international law.

Inward Migration

New mining projects, particularly in economically depressed regions or countries, often lead to an influx of newcomers from outside the area looking for jobs on the project, or to set up businesses to profit from the new economic activity. As a high-value activity, mining generates support and service jobs, and if it triggers better infrastructure, that can be a further people-attractor.

At a logistical level, a sudden increase in population can lead to added pressures on water, land, housing and other resources, as well as existing public infrastructure and social services, including sanitation, health and education services. There may be other negative "boomtown" effects. Social cohesion within the community may be threatened. Disease, substance abuse, disruptions in law and order, and social conflict may become major problems. Uncontrolled population influx can have a profound impact on the original inhabitants, and on the social and political stability of the area. The management of influx risks is now recognized as a major challenge for responsible mine development. Here too, forward thinking IMCs will develop and implement workforce recruitment and housing strategies that minimize these risks, and develop other policies and procedures in collaboration with local government and national authorities to keep in-migration under control.

Livelihoods

Mining can affect peoples' livelihoods in a variety of ways - both positive and negative. If the people in the area depend on local natural resources for their subsistence (hunting, fishing, farming, or peasant mining), exploration activities, site preparation, mine and plant construction, infrastructure development, and mine operations may interrupt, interfere with or prevent them from accessing these resources and continuing their ways of supporting themselves and their families. This has been referred to above as "economic displacement", which can occur even when communities and households do not have to be shifted.

The main compensatory measures that IMC's and governments can take are to ensure the creation of alternative livelihood and employment opportunities for families and individuals. This has often involved preferential training and hiring policies, as well as investment in local business development and the sourcing of certain goods and supplies that may be available locally. Some governments have built preferential national

hiring and procurement provisions into their mining agreements, but these have not necessarily filtered down to the local level. There are, however, renewed efforts in this direction, as many companies and governments recognize the need to ensure secure and stable communities in the mining area, and are designing and implementing local employment and procurement policies and procedures.

Cultural Heritage and Sacred Sites

Land acquisition, earthmoving activities, and population influx can all threaten access to and the protection and preservation of cultural sites, whether of archeological or spiritual significance. Where cultural sites are present, IMCs, often obligated by national laws, undertake surveys, and where needed, implement protective measures and management systems. This issue may also be addressed in the mining investment agreement.

Physical and Social Infrastructure

One of the potential benefits of a mine's presence is its investment in the improvement of local infrastructure and services. IMCs often perform public service functions in the absence of robust public services in order to assist local communities to meet basic needs and improve quality of life.

Some IMCs take a strategic approach to social/community investment, and promote public-private partnerships for local development, partnering with different levels of government, communities and NGOs, sometimes with additional funding from multi- or bi-lateral aid agencies. However, the roles and responsibilities, as well as the expectations of all parties to the mining contract (or other relevant agreements) in this domain should be made clear during negotiations and community consultation when they occur, and formalized within the agreement(s).

Financial Benefit Sharing

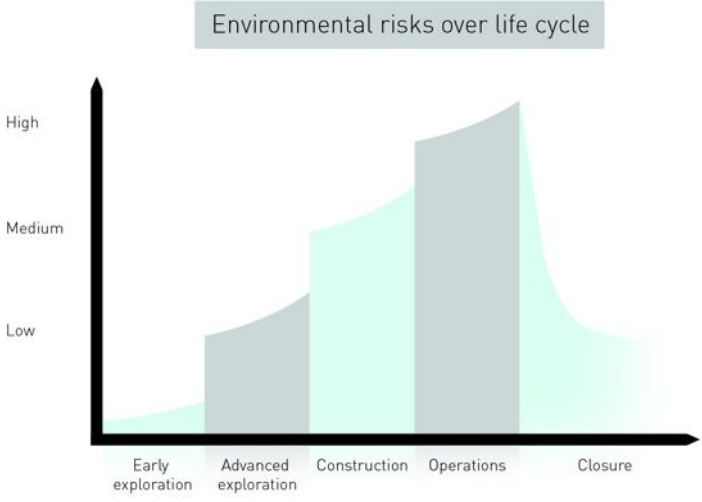
Since impacts are unequally borne, there is an increasing expectation that the people and communities most directly affected will share in the benefits generated by the presence of a mining operation. These benefits may not be limited to employment and business opportunities, improved infrastructure and services, but may also relate to financial benefit sharing, for example, a return of a portion of national government royalties to the local municipal or regional authorities. This is an issue that is also being addressed in contemporary agreements, which may mandate financial contributions by the IMC directly or by the central government back to the local authorities.

Equity Issues

A major challenge is in reducing the risk of creating new divisions between social or economic classes of people within the affected communities. The mine will have differential impacts on different groups within the community, and the benefits of employment or business may not be evenly distributed. Consultation processes may not be inclusive and, as a result, community investment decisions and partnerships may favor select groups. Disparities can be widened and power and social relationships within a community distorted. IMCs, governments and other partners should be attentive to these risks.

USING THE CONTRACT TO MANAGE THE ISSUES

The environmental and social impacts that mining projects can have will vary over the course of the projects' life cycles; and different parts of the contract can be used to affect those impacts - for better or worse.



Relative Environmental Consequences over a project life cycle (based on UNEP diagram)

This section provides examples of how contracts can address some of these issues. While these examples primarily describe obligations placed upon a mining company, this does not mean that the government is free from responsibility. Even if there are no provisions in the contract placing environmental or social obligations on the government, the government does have relevant responsibilities under international law. These issues are described briefly in the third chapter of this section.

THE HEART OF THE MATTER: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENTS (ESIA) AND ENVIRONMENTAL MANAGEMENT PLANS (EMP)

The planning phase is the most important phase for influencing what a mining project will look like and what impacts it will have. As plans for exploration, exploitation and closure are developed (and revised), there is a crucial opportunity for taking stock of environmental and social risks, figuring out how to avoid or mitigate problems, and designing the project and operations accordingly.

This process is the "environmental and social impact assessment" (ESIA).

ESIAs are fundamental pre-project planning tools used to make sure a wide range of potential environmental and social implications are considered before the project is formally approved. They provide an opportunity to mold or even halt projects based on their findings.

Traditionally, these assessments have analyzed the environmental features of a project-affected area and the potential impact of that project, surveying the plants, animals, air quality, water use and water availability, and assessing the potential effects of the project on those resources and associated communities (these assessments are called "Environmental Impact Assessments" (EIAs)). However, the assessments increasingly look at broader project-related issues, and require consideration not only of the environment, but also detailed analysis of impacts on communities and socioeconomic issues.

In Australia, for example, the state of Queensland recently passed regulations requiring more extensive social baseline work and social impact management planning in advance of permit approvals. The regulations call for data to be gathered on categories

such as community history and culture, income and cost of living, population, social infrastructure, workforce participation, employment and diversity profile, housing and accommodation, education and training, and transportation. Everything from the price of houses and mortgages to the nature of local labor markets, to public transport could be relevant to these impact assessments.

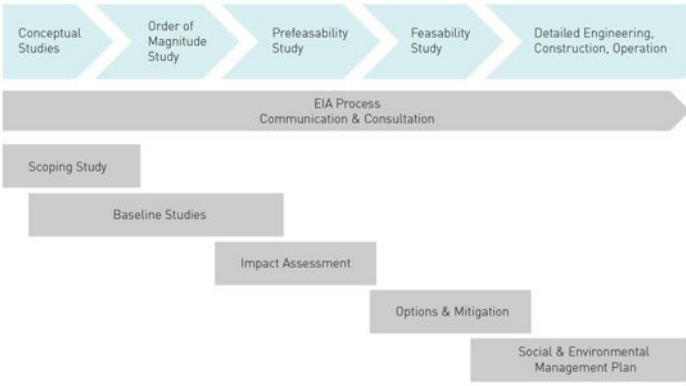
An ESIA often describes alternative forms of the project (including even a "no project" alternative), and lists different options for avoiding or mitigating possible negative impacts. The level of detail required in an ESIA commonly depends on the nature of the proposed project. Given mines' heavy footprint, ESIAs for mines are mostly done to the most demanding standards.

Domestic law may require companies to prepare an ESIA or at least to secure relevant approvals and permits before proceeding with a mining project, but when that is not the case, ESIA provisions in contracts can ensure that they are required. Additionally, even if the requirement for an ESIA is already in the law, there may be reasons why a government would also want to include the obligation in the contract: By putting the requirement for the ESIA in the contract, the government can reinforce the message that a company's obligations to properly prepare or procure the ESIA is viewed as a fundamental part of the deal. If there were a violation regarding how the ESIA was prepared, the contract could provide for specific penalties and remedies that might not be otherwise available under domestic law.

The ESIA process can contain various phases, including:

- preparation of a draft ESIA (which may be done by the project developer, relevant governmental authority, and/or independent firm);
- consultation with the community in the drafting of the ESIA;
- a period in which the public can review and comment on the draft;
- revision of the ESIA based on the comments by stakeholders, including the public and the company;
- preparation of the final ESIA; and
- selection of a project plan with a course of action and strategies for avoiding or

mitigating harm.



In some jurisdictions, citizens have the ability to challenge the ESIA and resulting decisions in court.

How ESIAs are undertaken is vital for determining whether, to what extent, and how environmental and social impacts are anticipated and - to the extent possible - avoided. Without the proper independence, oversight, and integration into decision-making processes, the ESIA has no practical value.

Some agreements, like Guinea - Zogota (2009), require the company to prepare the ESIA.

Others, like the Mongolia - Oyu Tolgoi (2009) contract (Article 6.1), specify that the company "*shall obtain detailed environmental impact assessment reports ... in accordance with the Law on Environmental Impact Assessment prepared by a competent, independent, professional firm.*"

Some mining contracts indicate that the government must approve ESIAs, although most contracts do not specify the requirements for the scope of the ESIA or the process for its approval.

LINKING ASSESSMENT, PLANNING AND MANAGEMENT: THE ENVIRONMENTAL MANAGEMENT PLAN

Assessment means nothing if the information is gathered but not actually used in planning the project, making decisions, or implementing strategies. This is where environmental (and social) management plans come in (referred to here as "EMPs"). These plans present a fuller picture of how the relationship among the project, the environment and surrounding communities is being handled through the life of the project from exploration through mine closure.

In comparison with ESIAs, EMPs focus less on the planning or design phase and more on management of environmental impacts and compliance with relevant permits and approvals. In some cases, EMPs require compliance with findings of an ESIA. In other cases, however, the precise relationship between the ESIA and the EMP is less clear.

Some important questions the contract might answer regarding the EMP are whether the EMP has to take into account all categories of issues covered in the ESIA, or whether it requires the company and/or the government to mitigate (at any cost) the risks identified in the ESIA.

The Mongolia - Oyu Tolgoi (2009) contract, for example, requires the investor to implement an "environmental protection plan ('EPP') and environmental monitoring and analysis program," but does not link it expressly with the required environmental impact assessment. It states:

> *"6.4. The Investor shall meet all costs for each year of implementing an environmental protection plan ("EPP") and environmental monitoring and analysis program, in connection with implementation of the OT Project and shall provide to the State central administrative authority in charge of environment a report, prepared by a certified, independent, professional firm, on addressing the Investor's implementation of the measures specified in the EPP every 3 (three) years."*

While the Mongolian agreement sees the assessment and the plan as two separate documents, other agreements assume that the ESIA itself sets out an action plan that the company must comply with. For instance, Article 12.2 of the Ecuador - Ecuacorriente

(2012) contract states:

> *"El Concesionario Minario tomara las precauciones necesarias, y establecidas en el EIA aprobado, para prevenir, controlar, mitigar, rehabilitar, remediar y compensar los impactos negativos que sus actividades mineras puedan tener sobre el ambiente y la comunidad."*
>
> *[The Mining Concessionaire will take the necessary precautions, established in the approved EIA to prevent, control, mitigate, rehabilitate, remediate and compensate for the negative impact that its mining activities can have on the environment and the community.]*

Similarly, Article 1.10 of the Afghanistan - Qara Zaghan (2011) agreement defines the gold mining project's Environmental and Social Management Plan as a:

> *"... plan proposed by [the company], and which must be accepted by [the Ministry of Mines], which details the measures to be taken to minimize or alleviate the Environmental and Social factors applicable to the Qara Zaghan Gold Project which are identified and detailed in the Environmental and Social Impact Assessment."*

The Sierra Leone - MMDA (2012) provides yet another example and, as compared to the agreements quoted above, is relatively specific regarding what it must contain and what the company is supposed to do. It states:

> *"The Company, prior to commencing construction, shall have an Environmental Management Plan prepared (and updated prior to any major change to the mine plan) by an independent third-party (and if prepared by the Company, verified by an Independent Sole Expert) on the basis of sound engineering and economic principles in accordance with Good Industry Practice. The objective of the Environmental Management Plan is to prevent any unnecessary and undue degradation of the environment by the Mining Operations; to protect public health and safety, particularly for communities in the Mining Area; to preserve water quantity and quality; to ensure that impacts within the Mining Area are contained in that area; to stabilize the site physically and chemically at the end of mining operations to prevent offsite impacts; and to ensure that the Mining Area may be safely and beneficially used by future generations. The Environmental Management Plan shall upon request by GoSL, be made publicly available in a language and in a form that is accessible to affected communities in the Mining Area, and shall be placed in the document files identified in Section 35.1(e) of this Agreement." (Article 2.6.1(a)).*

The agreement also includes a list of topics that must be covered in the Environmental Management Plan, and specifies what is required in order to comply with "Good Industry Practice". This, the agreement explains, is:

> *"... the exercise of that degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected to be applied by a skilled and experienced person engaged in the international mining industry and includes but is not limited to the guidance provided by the International Council on Mining and Metals, the International Finance Corporation's Performance Standard 1 (Social and Environmental Assessment and Management Systems), Standard 3 (Pollution Prevention and Abatement), and Standard 6 (Biodiversity Conservation and Sustainable Natural Resource Management), by ISO 140001 standards." (Article 1.4).*

These tools (the ESIA process) and plans (the EMP) are central to determining the extent to which a mining project will facilitate long-term sustainable development, or

leave the country with a legacy of social and environmental problems.

DRILLING DOWN ON SPECIFIC ISSUES: ACCESS TO RESOURCES, WORKPLACE SAFETY, SECURITY, CULTURAL HERITAGE, MINE CLOSURE AND LIABILITY

While it is vital for the ESIA and the EMP to be as comprehensive as possible, there may be certain issues to which the contracting parties want to give additional special attention. Experiences have shown that mining projects give rise to tensions over access to and use of resources, issues regarding workplace safety, conflicts between communities and security forces, and concerns regarding ensuring that - if something does go wrong - the problem can be solved at the appropriate party's expense. There is also increased awareness of the opportunities that mining projects can present for community development. Some contracts contain special provisions on these topics in order to make clear what the parties' rights and obligations are; and some do this in order to ensure that a breach of the obligation also constitutes a breach of the contract with real consequences for the parties.

This section provides examples of some of those provisions.

ACCESS TO LAND, WATER AND OTHER RESOURCES

One critical early-project issue relates to access to resources. To access minerals you must have access to land and water; the access to and use of those resources can have significant impacts on surrounding ecosystems.

Some contracts state explicitly, or imply through their silence, that a company's access to and use of land, water and other resources will be governed by general background principles of law regarding mineral rights, water rights, land rights and environmental protection. Under these contracts, the company will have to secure relevant access and approvals consistent with those laws - a process that, in many jurisdictions, is often cited as being lengthy, complex and costly.

Some contracts seek to bypass those processes and constraints by facilitating (or even promising) mining companies' abilities to use or affect water, land or other natural resources. At one extreme, a government may grant a company these rights in broad if not absolute terms. Other contracts take a more restrained approach by imposing obligations, such as fees and/or restrictions on the amount or scope of use. Regarding water use, for example, the Liberia - Putu (2010) agreement states in Article 19.5:

> *"The Company shall have the right to access (including by means of extraction) such water supplies as are reasonably required by it for the purposes of carrying out its [exploration, development, production and other operations] subject to the payment by the Company of the charges required by applicable Law for the use of water and provided that such access by the Company does not affect the water supplies used by the surrounding population or, to the extent that it does so affect water supplies, the Company provides an alternative source of water supply to the affected population."*

That provision illustrates how a contract can impose certain limits on the company's use of water in order to take into account other users, uses and interests. But it also shows how contracts leave a number of environmental and social issues unresolved. It does not, for example, place any limits on the use of water that may impact the environment (as opposed to the population); nor does it clearly address who is the "surrounding" population who may be entitled to receive "alternative" sources of water supply.

Issues around land access can be just as contentious. Awarding rights to access land to the mining company by the government, for instance, may not take account of customary land rights held by local communities.

As was noted above, one of the most sensitive aspects of mining projects is when the establishment of a mine requires local residents to be relocated for operations. As a result, requirements as to the handling of resettlement are increasingly likely to be found in mining contracts.

The Sierra Leone - Sierra Rutile (2001) contract (Article 10.b.v) has a long section dealing with this issue. But it does not categorically state whether residents have a right to refuse to move:

> *"If at any point a resettlement of the local population appears to be absolutely essential, the Company shall move with utmost caution, with the consent of the Government and in consultation with local authorities in persuading the local population to resettle and provide a fully adequate resettlement program in accordance with the directions of the responsible Minister."*

So what happens if, despite proceeding with "utmost caution" and offering a "fully adequate resettlement program," the local population or individuals refuse to move?

The Sierra Leone contract clearly specifies that the central government has the final say in adjudicating between a company and an individual landowner for use of the land. So does the Liberia - Putu (2010) agreement, which states (Article 7.3.a):

> *"If no other surface rights are reasonably available to the Company for such purposes, the Government will use its powers of eminent domain to obtain such rights from an unwilling third party."*

In the Guinea - Koumbia (2010) contract, it is assumed that the company will be able to move residents if it has to. The agreement simply lays down conditions (Article 15.8) for how it must do so:

> *"Si la Société juge la presence d'Utilisateurs et/ou Occupants Fonciers incompatible avec ses Operations Minieres sous la Concession Miniere, elle est tenue d'indemniser ces Utilisateurs et/ou Occupants Fonciers avant la date de signature de la Convention et de les aider a se relocaliser. La Societe doit verser une indemnite a ces Utilisateurs et/ou Occupants Fonciers, pour toute relocalisation ou pour toute perte d'usage, titre foncier, habitation et recoltes. L'indemnisation susmentionee doit correspondre au montant necessaire a la relocalisation et a la reinstallation des dits Utilisateurs et/ou Occupants Fonciers... (et) doit comprendre la juste valeur marchande de toute perte."*
>
> *[If the Company judges the presence of Users incompatible with its mining operations under the Mining Concession, it must indemnify these Users before the date of signature of the agreement and to help them relocate. The Company must disburse an indemnity to the Users for every resettlement or for every loss of use, habitation and crops. The above-mentioned indemnity must correspond to the amount necessary to relocate and reinstall the said Users and must encompass the fair market value of every loss.]*

OCCUPATIONAL HEALTH AND SAFETY

Contractual terms detailing mining company responsibilities for occupational health and safety around mining operations are relatively common. Health and safety issues are covered in legislation in most countries, and many mining contracts will simply note that the mining company is bound to provide adequate protections in line with the law and with international standards. For example, the Liberia - Western Cluster (2011) contract notes that the company:

> *"...[s]hall practice such modern health and safety procedures and precautions (including regular safety training instruction for its employees) as are in accordance with applicable Law and International Mining Standards."*

The Sierra Leone - MMDA (2012) similarly requires the company to adhere to "good in-

dustry practice" regarding labor, health, and safety. (Articles 16.5 & 16.6).

SECURITY

Security is an important and sensitive issue. The mine needs security for its personnel and operations, but questions arise regarding who has responsibility for security, what the mine's rights are to have its own security forces, what protections are available against abuses, and other issues.

There are a number of different ways a contract might seek to resolve these questions. In some cases, mines may be entitled to maintain security forces but must immediately turn over any detained individuals to the authorities. In other cases, mines are not permitted to maintain armed security personnel, and the government takes on the obligations of providing internal security.

The Liberia - Africa Aura Resources (2004) agreement notes that the project is not considered to have started until a joint visit by the government and company officials has determined that the site is safe. It even specifies (Article 27) that the company should be "*under the guidance*" of the United Nations office in Monrovia and says the company shall make "*all reasonable efforts to accept a 'safe to operate in' declaration.*"

But the Liberia - China Union (2009) contract goes much further in giving the company power. It explicitly allows (Article 9.2) the company to form its own security force to operate on the mining concession areas and "the immediate vicinity":

> *"Those members of the Concessionaire's (or such contractor's) security force certified by name by the Concessionaire to the Ministry of Justice as being literate, as having received adequate full-time training in police and law enforcement procedures given by an outside trainer satisfactory to the Ministry of Justice and as having been provided with operating manuals approved by the Ministry of Justice, shall have enforcement powers within the areas described in the preceding sentence, always being subject to applicable Law."*

These powers include rights to search and arrest individuals, though the agreement

specifies that the company's security force must notify the police within 24 hours of any detentions.

In addition to granting rights, the contract can also include obligations on the mining company to utilize them sensitively in recognition of community and basic human rights. It appears to still be unusual to see this spelled out in a contract, but there are now some examples. Section 9.2 of the Liberia - Western Cluster (2011) contract, for example, specifies that the firm's security force is subject to both applicable law and the Voluntary Principles on Security and Human Rights (see the next chapter for more details on the Voluntary Principles).

MINE CLOSURE

What happens when the contract terminates? Will the country be left with an unusable and potentially hazardous wasteland? In order to avoid that outcome, countries can include specific obligations related to mine closure in their contracts. The mining company will be asked to provide plans and cost estimates for rehabilitation of the mine site – usually built into the EMP. Some contracts may require additional guarantees of financing that will be available if there are major environmental problems that require cleanup. These may be one of several "parental guarantees" requiring the company to demonstrate it can mobilize additional funding as needed. For example, Liberia's Model Mineral Development Agreement (2008) states:

> *"The closure management plan must also set forth the means by which the Company proposes to ensure the availability of funds to finance its environmental restoration and remediation obligations under Sections 8.2 and 8.3 of the Mining Law so that the cost of closure will be borne by the Company and not the public or the Government. If the Company does not agree in writing with the Government to a "pay-as-you-go" funding scheme, then a funding guarantee reasonably satisfactory to the Minister of Finance from a third party financial institution with a long-term credit rating of at least A (or its equivalent) from at least two internationally recognized credit-rating agencies with provision reasonably acceptable to the Minister of Finance and the Minister for redetermination of estimated closure costs at least triennially and adjustments in the amount of the funding guarantee will normally be acceptable."*

It is important to remember that some environmental issues, such as tailings ponds, will have to be managed years after the mine may close so that some permanent funding source may be required. For more on mine closure, see the chapter on "Mine Closure" in the section, "Mining Operations".

COMMUNITY DEVELOPMENT

Contracts increasingly require companies to provide services to affected communities, in part due to broader recognition of the economic and social disruption that a mine can create alongside economic opportunities.

These provisions typically take the form of terms detailing commitments to support community development, at least on the part of the mining company. These may be as simple as stating financial compensation to be provided. The contract for Afghanistan - Qara Zaghan (2011) is relatively straightforward. It states that *"[d]uring the first two years of [the] contract [the company] shall spend a minimum of US$50,000 for implementation of social programs as per the Social Development Plan."* (Article 31).

Who decides the use of such funds? Sometimes it is specified. Sometimes it is left ambiguous. The Sierra Leone - Sierra Rutile (2011) contract provides some information on

that issue. It notes:

> *"The company shall with effect from the financial year commencing January 1, 2003 … make payment to the Agricultural Development Fund of the higher of US$75,000 and 0.1% (one tenth of one percent) of gross sales free alongside ship the Sierra Leone port of shipment in United States Dollars or its Leone equivalent. The Fund shall be utilised for the development of agriculture in the affected areas and shall be controlled by representatives of the Government, Chiefdom representatives and the Company's representatives."*

But even where contracts achieve some degree of specificity, there may be questions among affected communities as to who can legally and credibly act as their agent negotiating and securing benefits.

Some contracts contain much broader community development-related commitments. Often these are integrated with provisions related to local economic development and corporate social responsibility. The Mongolia - Oyu Tolgoi (2009) contract is broad in its coverage of such issues (Article 4). In the agreement, the government commits to establishing a multi-stakeholder "Southern Gobi Regional Development Council" to help deal with local governance, migration, infrastructure, training, social service provision and capacity building. The investor is required to be a member of this Council's governing board and support its activities.

The agreement also imposes requirements on how the investor engages with other stakeholders, such as obligations to conduct all of its "*socio-economic development programs and activities based on principles of transparency, accountability and public participation"* and to maintain *"productive working relationships … with non-governmental organizations, civic groups, civil councils and other stakeholders*."

A contract may also require the mining company to go the extra step of negotiating a community development agreement, or affirm that such a requirement exists under the law. Such agreements, which are discussed in detail in the next chapter, usually outline the size and nature of corporate contributions to local livelihoods and provide a framework for managing such contributions and for ongoing dialogue. Again, the Mongolia - Oyu Tolgoi (2009) contract states:

> *"The Investor shall establish cooperation agreements with local administrative organizations in accordance with Article 42 of the Minerals Law and these agreements may include the establishment of local development and participation funds, local participation committees and local environmental monitoring committees."*

Managing community relationships continues to be one of the most difficult challenges of mining projects. A number of resources are available to provide guidance to companies, governments and communities, including ICMM toolkits, IFC principles and standards, the IBA Community Toolkit, and guidance from the University of Queensland's Centre Social Responsibility in Mining (CSRM), such as their recent (2013) practitioner guide on Community Relations.

CULTURAL HERITAGE

Mining necessarily disturbs the ground. Not only does this mean disruption of current or potential uses of the land, but exposing the legacy of past uses. There is the risk of discovering or disturbing culturally significant artifacts. How will miners recognize what might be significant? What do they do?

These are also among the types of issues now covered under industry good practice guidelines, such as the IFC's Performance Standards and ICMM principles (see the next chapter for more details). It is not common to find provisions dealing with these issues in the contracts themselves, but there are examples.

The Afghanistan - Qara Zaghan (2011) contract anticipates this (Article 28), and tries to ensure that the government is quickly notified of any discovery:

> *"If, during prospecting, exploration, and mining, any historical or cultural artifacts, monuments, buried treasures and (noble metals and non-noble metals) are found, these historic items and works (according to the applicable laws of Afghanistan) will belong to the government. If AKNR, during its operations becomes aware of the existence of this kind of treasure or monuments, AKNR is bound to inform the Ministry of Mines and Ministry of Culture within 24 hours."*

The Guinea - Simfer (2002) agreement provides more detailed instruction to the company regarding what it can and cannot do after it discovers an archeological site (Article 37.4):

> *"En cas de découverte d'un site archéologique, la phase d'exploitation devra être précédé aux frais de SIMFER S.A. et en accord avec l'Etat, par des études appropriées menées par les services compétents a l'interieur du Périmetre d'Exploitation.*
>
> *S'il venait à être mis a jour des elements du patrimonie culturel national, meubles ou immeubles, au cours des activités de recherche, SIMFER S.A. s'engage à ne pas deplacer ces objets, et à informer sans délais les autorités administratives. SIMFER S.A. s'engage à participer aux frais de sauvetage raisonnables."*
>
> *[If an archaeological site is discovered, the exploration phase must be preceded, at the expense of SIMFER S.A. and by the agreement of the State, by appropriate studies led by competent agencies within the perimeter of exploitation.*
>
> *If elements of cultural patrimony come to light, whether fixed or movable, during the course of research, SIMFER S.A. commits to not displacing objects and to informing the administrative authorities. SIMFER S.A. commits to sharing in reasonable salvage costs.]*

WHEN THINGS GO WRONG - COVERING LIABILITY FOR HARM

Things can and sometimes do go wrong in mining operations. Environmental and social obligations may be knowingly or negligently breached; unknown and unforeseen impacts and challenges may arise; plans may change; and expectations may be frustrated. Contracts generally attempt to address these issues in advance by determining who will be responsible for what.

In terms of environmental problems, as noted above in connection with mine closure,

contracts typically require financial guarantees to cover necessary cleanup. One variant of such guarantees is to require the mining company to post an environmental bond, where they set aside funds up front that are held in escrow explicitly for rehabilitation. They are only drawn upon if needed. If not, they are returned to the mining company upon completion of the project.

In the Mongolia - Oyu Tolgoi (2009) contract, the parties use this type of advance-payment system in order to help ensure that there are funds available for routine environmental management and cleanup, and not just closure. It states:

> *"The Investor shall deposit funds equivalent to 50% (fifty percent) of its environmental protection cost for the particular year, prior to the start of that year into a bank account established by the State central administrative authority in charge of environment." (Article 6.6).*

The company will use that money if necessary to comply with its environmental management obligations. If the money runs out and the company still has work to do, environmental experts can require the company to do or pay more. (Article 6.12).

In the event of a significant or catastrophic environmental mishap or accident, the critical issue will be how to make sure there is money to fix the problem. How can the contract help ensure that costs of mitigation, remediation and restoration are met? That injuries are compensated? In addition to requiring companies to post bonds, pay deposits into dedicated funds, or secure guarantees from a parent company or other institution, some contracts contain provisions requiring companies to obtain insurance for environmental or, more typically, general liabilities. Including these obligations - and ensuring they are complied with - can be particularly important to protect the government in cases where the company that is party to the contract lacks significant assets or balance sheet strength.

WHEN THINGS GO WRONG - LIABILITY FOR HARMS TO NON-PARTIES

As noted above and in other chapters, some contracts require companies to do or to not do things, in order to shape their impacts on the environment, surrounding communities, and other non-parties to the contract, such as individual employees. The provision in the Liberia - Putu (2010) contract requiring the company to limit its use or provide alternative water to surrounding communities is an example.

Under some countries' laws, that type of requirement can create "third-party" rights enabling non-parties to the contract to enforce those obligations: If the company fails to limit its use or provide the community with adequate water supplies, community members may be able to take them to court and seek relief for the company's breach of the contract.

But some contracts seek to foreclose that avenue. The Liberia - Putu (2010) agreement, for example, states:

> *"33.6 Third Party Beneficiary*
>
> *Apart from the government, the Company and the shareholder… no Person shall have any rights under this Agreement."*

This provision does not necessarily mean that individuals negatively impacted by the mining operations are without protection. They may have other causes of action they can turn to based on tort, environmental, property, or other law. Nevertheless, these types of claims are not always available in every jurisdiction, and may not cover or provide effective remedies for breach of the mining contract. This clause in Article 33.6 is therefore significant in that it cuts off one potential avenue that individuals or communities may have otherwise been able to use in order to enforce contractual commitments made for their benefit or protection by governments and/or companies.

A final issue relating to harm to non-parties to the contract (e.g., an employee or nearby farmer) is that when one of these non-parties is harmed as a result of mining operations, and sues the government and/or company for relief, the contract often specifies who will wind up ultimately paying for any compensation. These are called "indemnification" clauses, and are used by contracting parties to decide how to allocate liability

between themselves.

HOW TO HANDLE EVOLVING ENVIRONMENTAL AND SOCIAL LAWS AND REGULATIONS

The environmental and social impact of a mine at one point in time will not necessarily be the same 10, 15 or 20 years later. Laws change over time, and those changes can apply to projects to upgrade their performance on any number of issues.

Are mining companies always required to track such changes and ensure their compliance with relevant amendments? The answer to that question can determine whether a country will have a mine that operates in accordance with best practices, or one that complies with outdated standards.

Some contract provisions actually might hinder improvements in social and environmental performance. These are known as "stabilization clauses" - provisions stating that the government will not require companies to comply with new environmental, labor or other laws as they are amended from time to time. This can freeze the environmental and social regulation of a mining project, hindering governments' abilities to take into account new information, technologies and best practices.

Other stabilization clauses do not "freeze" the law, but require the government to cover the company's costs related to compliance with any new requirements. This allows the government to upgrade its environmental and social regulation of mining projects, but can discourage it from doing so in practice.

Certain stabilization clauses give the mining company the choice of whether to be governed by new laws or regulations. This is the case with a stabilization provision contained in the Liberia - Mittal (2005) contract for development of iron ore in the country. It states in Article XIX:

> *"In particular, any modifications that could be made in the future to the Law as in effect on the Effective Date shall not apply to the CONCESSIONAIRE and its Associates without their prior written consent, but the CONCESSIONAIRE and its Associates may at any time elect to be governed by the legal and regulatory provisions resulting from changes made at any time in the Law as in effect on the Effective Date. In the event of any conflict between this Agreement or the rights, obligations and duties of a Party under this Agreement, and any other Law, including administrative rules and procedures and matters relating to procedure, and applicable international law, then this Agreement shall govern the rights, obligations and duties of the Parties."*

Because stabilization clauses can limit the government's ability to prevent environmental and social harms, or to ensure effective remedies exist for those harms, they have attracted strong criticism from civil society, among others. Some experts argue they are bad policy and may even violate domestic law and/or international human rights law. The trend in practice is to limit stabilization where it exists to identified fiscal and closely related provisions and to explicitly exempt social and economic policies from stabilization.

FINDING GUIDANCE AND ANSWERS OUTSIDE OF THE MINING CONTRACT

In the previous chapter, we described the kinds of social and environmental provisions likely to be found in contemporary mining contracts and noted a number of specific issues that may (or may not) be dealt with in a mining contract. We also noted that no contemporary contract is likely to contain all applicable social and environmental requirements. As a result, anyone who wants a comprehensive picture of the social and environmental requirements applicable under a proposed mining contract for his her country must look at the contract together with the country's applicable law and regulations.

Most countries today have comprehensive environmental protection laws and regulations, together with an environmental protection agency administering them. The law may have developed so much that the contract will do little more than refer to it.

Yet beyond the contract and domestic law, there is a complementary framework of international law, ancillary contracts, policy and guidance that can help provide specifics regarding expected or required conduct, or help fill in gaps. This section provides an overview of that framework, and covers community development agreements, industry and other standards, and relevant international law principles and rules.

COMMUNITY DEVELOPMENT AGREEMENTS (CDAS)

Major IMCs have begun to establish, as a matter of course, community liaison or relationship building functions at project locations. These operations are typically responsible for such matters as general community consultation and engagement, oversight of social baseline and impact assessment work, development of social impact management plans, planning and implementing community investment strategies, the design of community capacity building projects, and dealing with individual and community requests for assistance, complaints and grievances.

These developments have become more formalized as communities have begun to express their needs in a more organized fashion, and mining companies have realized that a wide range of support activities cannot continue to be administered without some kind of a plan to set priorities and make clear the limits of the company undertakings. This process appears to be most advanced in Australia and Canada, where benchmark agreements were signed in the 1990s directly between IMCs and aboriginal groups, and continue to be negotiated today. While certain provisions have required adjustment over time and in light of accumulated experience, they have generally withstood the passage of time.

There is now serious discussion about expanding and formalizing company-community understandings in other country environments that are unrelated to indigenous status. A number of countries are encouraging or requiring companies to negotiate such agreements, currently known as community development agreements (CDAs) in advance of or as part of project development. Papua New Guinea, Mongolia and Nigeria each has a provision in its mining law requiring the mining license or contract holders to negotiate and enter into CDAs to facilitate the transfer of social and economic benefits to local communities.

CDAs can help define the relationship between mining companies and impacted communities, including the roles of local and national governments and nongovernmental organizations. They are often an expression of a mining company's commitment to corporate social responsibility.

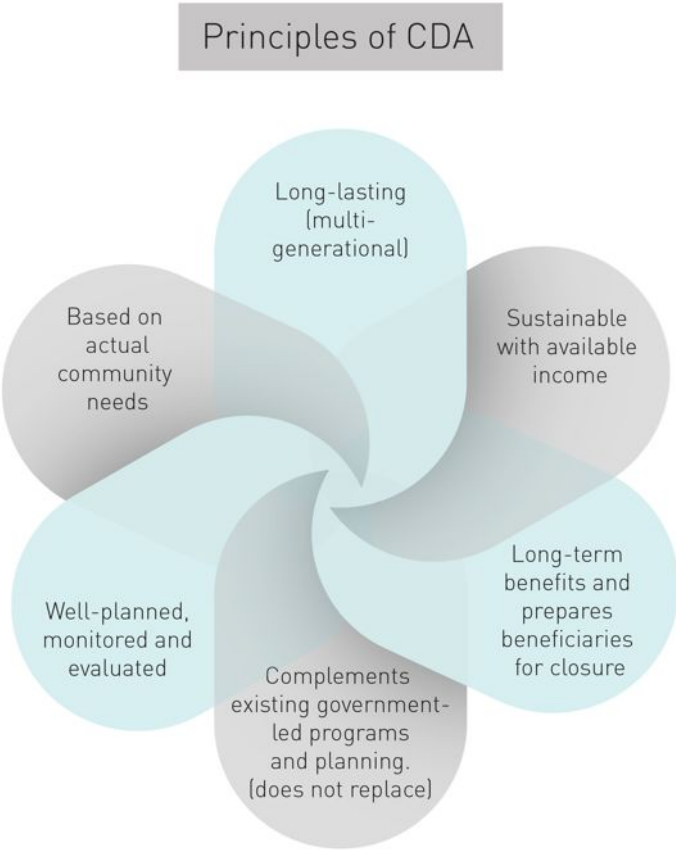
The creation of a CDA may also flow from corporate response to significant conflict with local communities. When BHP Billiton acquired the Tintaya Copper Mine in 1996 in

Peru, it ran into widespread community discontent related to the land acquisition process and unfavorable treatment of the local community when the mine was under state ownership. The Tintaya Dialogue Table was created to provide a forum for addressing these grievances and an agreement was finally reached with the five communities in 2004, covering issues of compensation and monitoring and establishing a community development fund.

WHAT IS IN A CDA?

CDAs vary in coverage but primarily focus on those issues most pertinent to impacted communities, including employment and economic development, land use, services, infrastructure and processes for bringing grievances. They may include company employment commitments, specific local infrastructure commitments, or specific social services. A careful CDA will probably specify the timing of contributions, the use to which each contribution is to be put (or the process for allocating funds to specific uses) and a vehicle for the management of the contributed funds.

They also provide a framework for community interactions with the mining company (and potentially local government entities) across the whole range of matters that may concern the local community. By bringing the players together on a regular basis, they can build relationships between the players and thus establish an atmosphere of mutual trust and respect. In many cases this process may be as important as the details of the agreement itself.



Based on WB (2012) Mining Community Development Agreements: source book

A comprehensive CDA would cover most of the matters set forth below. Actual agreements may differ from this in response to local circumstances and the dynamics of negotiation:

- the objectives of the agreement,

- who represents the company,
- who represents the community,
- how the agreement is administered (meetings, meeting procedures, etc.),
- how community members participate in decision-making and CDA administration,
- representation of interests of women and subcommunities,
- undertakings with respect to the social and economic contributions of the project to the community,
- relevant timelines,
- assistance in creating self-sustaining, income-generating activities,
- consultation on mine closure measures,
- participation in environmental monitoring programs,
- funding requirements and qualifying expenses, disbursement requirements, management, accountability, and transparency of funds,
- mechanisms for monitoring the achievement of stated goals or milestones, and related progress and achievement reporting requirements, and
- grievance and dispute resolution mechanisms.

CDAs are not without risks. Requiring communities to enter such formal agreements can be counterproductive. At the outset, there are identification issues (e.g., who is included in the community? who is empowered to represent it?) highlighting the existence of competing interests within the community. Formal agreements can also give rise to perceptions that a community has been misled or coerced, or that a "backroom deal" has been struck with selected interests. They may also encourage dependence on company provision of services that ought to be provided by the local or national government. Careful community leaders will want to know the details of the mining company's community obligations (if any) under the national investment contract with the government before negotiations begin. This will better enable them to ensure that the

commitments reinforce each other, and that the CDA requires additional steps beyond what the company had already committed to under the mining contract.

INDUSTRY AND OTHER STANDARDS

In addition to referencing applicable laws, a contract may require the company to follow "good industry practice", "accepted industry practice", or "best practices". As contract language quoted in the chapter above showed, some agreements specifically refer to a particular set of standards (e.g., the IFC Performance Standards), and/or a standard-setting body (e.g., the ICMM), in order to better clarify in advance what type of conduct is required.

Absent a specific reference, such provisions (or expectations) seeking "good", "accepted", or "best" practices can lead to disputes during the contract implementation phase. It is also worth keeping in mind that differences of opinion are likely to become more acute with the proliferation of new industry players operating around the world from countries like China, Russia and India, without experience in the international industry. Their assumptions as to "standard practice" may be born from their experience operating in their domestic contexts.

There has, however, been a recent proliferation of voluntary and semi-voluntary standards arising from intergovernmental, multi-stakeholder, and industry sources, which can help clarify what types of practices are standard, accepted, or even the "best". These new standards have introduced new ways of understanding and addressing environmental and social issues, of reporting company and government conduct and performance, and of handling and addressing community concerns and grievances. While most are voluntary initiatives, they are increasingly shaping what is considered responsible social and environmental standard practice and serving as a basis for guiding and evaluating IMC and government performance in these areas.

Some of the more influential initiatives and organizations that have established voluntary standards are detailed here, but the list is far from complete.

The International Council on Mining and Metals (ICMM) was set up in 2001 in London by a number of major players in the international mining and metals industry to sup-

port sustainable development in connection with mining projects. Member companies commit to implement and measure their performance against 10 sustainable development principles covering social, environmental, economic and ethical dimensions of operation. These are reinforced by clarifying position statements and guidance.

A number of national and producer associations have developed their own codes of conduct and sustainability frameworks, like the Mineral Council of Australia's *Enduring Value*, and the Mining Association of Canada's *Towards Sustainable Mining*, which also address social, environmental and health and safety issues. These mainly apply to Australian- and Canadian-based operations, but the conduct of Australia's and Canada's more junior exploration and mining companies operating abroad have become national issues. Both countries are looking at ways of promoting more responsible social and environmental practice by their national companies operating abroad.

Outside of the mining sector, the International Organization for Standardization (ISO) has developed standards for managing environmental impacts and improving environmental performance (ISO 14000). Mining companies commonly seek such certification and are subject to regular third-party audits of compliance at their mining sites. ISO has also developed guidance on social responsibility (ISO 26000), which at this point is set up as a voluntary undertaking without any certification mechanism.

During the past decade a number of International Financial Institutions like the World Bank, Inter-American Development Bank, Asian Development Bank, African Development Bank, the European Bank for Reconstruction and Development and the International Monetary Fund have strengthened their environmental and social safeguard policies. These policies normally apply only to projects supported by them, but are sometimes incorporated into other projects, and can more broadly serve as voluntary standards and guidance where they aren't formally required.

The IFC Performance Standards were first formalized in 2006 and updated and approved in 2012. These Performance Standards were developed for and apply to IFC-supported projects, and are also used within the broader World Bank Group for certain Bank-supported projects. Many other institutions, including the roughly 80 financial institutions that have signed onto the "Equator Principles", have also adopted the IFC standards, meaning that the projects they fund are similarly expected to comply with the IFC requirements.

The IFC Performance Standards cover social and environmental baseline and impact assessments, environmental management plans, safeguards for indigenous peoples and their cultural heritage, control of environmental contaminants and pollution, land acquisition and resettlement, and protections for the health, safety and security of communities. Many IMCs, especially the larger ones, have subscribed to specific individual standards, most commonly Performance Standard 5 on Land Acquisition and Involuntary Resettlement.

For issues of corporate responsibility more generally, the OECD Guidelines for Multinational Enterprises are also relevant. OECD countries are expected to encourage businesses based in their countries to operate in accordance with these Guidelines. Each of the countries maintains a "National Contact Point", which may receive and review any complaints brought against businesses based in the country but operating overseas. The Guidelines are periodically updated to take into account new or emerging thinking and expectations.

The Extractive Industries Transparency Initiative (EITI) is an international initiative founded on the notion that increased transparency of the revenues flowing from mining and petroleum companies to host governments is a key channel for ensuring improved governance in the sectors. In addition to the publication of detailed reports covering payments and revenues, among other aspects of the extractive sector in a given country, the EITI process requires the establishment of a multi-stakeholder group consisting of government, company and civil society representatives, which is intended to serve as a platform for dialogue around all aspects of the extractive industries in a country. At the time of publication of the first edition of this book, 41 countries were deemed either "compliant" or "candidates" under the EITI standard.

In 2000, a number of governments (the UK, US, the Netherlands, and Norway), companies in the extractive industries, and non-governmental organizations issued a set of Voluntary Principles on Security and Human Rights (sometimes referred to as the "VPs"). The VPs aim to guide oil, gas, and mining companies on providing security for their operations in a manner that respects human rights.

More recently, in 2007, the United Nations General Assembly endorsed the UN Declaration on the Rights of Indigenous Peoples, which was over 25 years in the making. It was endorsed by 143 countries with 45 absent or abstaining and 4 objecting. A number

of the hold-out countries have since endorsed the Declaration. Of particular interest to local communities and mining companies is Article 32(2), which states 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 other resources, particularly in connection with the development, utilization or exploitation of mineral, water or other resources."*

IS THERE A LINK TO INTERNATIONAL LAW?

In addition to the intergovernmental, industry and other standards outlined above, there is also a body of international law that is relevant for mining contracts.

International law governs the activities of states – and not the activities or conduct of private actors such as companies. But importantly, obligations on states under international law also affect what they can promise to companies in investment contracts or agreements, and what duties they owe to their populations even when a contract is silent or contravenes these duties.

To list all relevant international law sources is impractical, but examples can be given for specific issues. As noted in sample instances below, this body of international law may provide opportunities to bring suit against contracting parties for grievances related to environmental and social impacts of mining operations.

Human rights law – which is made up of a number of international and regional treaties and rules – is especially important. States have the legal obligation to respect, protect and fulfill the human rights set out in the international human rights treaties they ratify. This includes a duty to protect those rights against infringement by third parties such as corporations. Major international human rights instruments are the 1948 Universal Declaration of Human Rights, the 1966 International Covenant on Civil and Political Rights (167 state parties) and the 1966 International Covenant on Economic, Social and Cultural Rights (161 state parties). Copies of these documents are readily accessible online by Googling their respective titles.

Regarding human rights for workers, the International Labor Organization's (ILO) Declaration on Fundamental Principles and Rights at Work commits all its member states to four categories of principles and rights: freedom of association and the right to collective bargaining; the elimination of compulsory labor; the abolition of child labor; and the elimination of discrimination in respect of employment and occupation. There are eight treaties that states worldwide have negotiated and ratified regarding protection of these core rights. There is also ILO Convention 169, dealing with Indigenous and Tribal Peoples, which recognizes the right of indigenous peoples to participate through their traditional organizations in all government decisions affecting them.

A number of regional human rights treaties also exist that govern state conduct when contracting with private investors. These include the 1981 African Charter on Human and Peoples Rights; the 2003 Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa; the 1969 American Convention on Human Rights; the 1988 Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights; the 1950 European Convention on Human Rights; and the 1961 European Social Charter.

Importantly, international human rights law has some teeth, as certain treaties provide individuals, communities and other entities judicial or quasi-judicial mechanisms to bring claims against states before courts, tribunals and other bodies. In the 2001 *Awas Tingni* case, for example, an indigenous community successfully sued the Nicaraguan government for failing to ensure an effective consultation process before granting a logging concession on its land. The Inter-American Court of Human Rights determined that Nicaragua violated the American Convention on Human Rights by failing to protect the community's customary tenure and collective land and resource rights.

Since that decision, much work has been done by various organizations to further describe what international human rights law requires of governments when contracting with private companies for mining and other projects. Among those efforts, in 2011, the United Nations Human Rights Council adopted a report containing principles on responsible contracting that aim to assist government and private negotiators seeking to ensure their deals are consistent with human rights.

ECONOMIC LINKAGES

INTRODUCTION

MINING AND LOCAL CONTENT

MINING AND INFRASTRUCTURE

INTRODUCTION

With the wave of liberalization of the 1990s and the so-called "Washington Consensus," many mining agreements lost the development orientation they had in the 1970s and 1980s. For host governments, what was previously called a "mining development agreement" became an investment promotion agreement, bringing limited tax revenues to the government, and not much else. Those agreements allowed the development of an "enclave" model of mining, whereby mines operate and pay taxes, but remain largely disconnected from the rest of the economy.

Twenty years later, there is increasing awareness among host countries that the mines which could have been a springboard for development have failed to produce in-country benefits. The aim now, therefore, is to integrate the mines into the heart of, and leverage them for, economic growth. Reflecting this trend, the Heads of African States have drafted the African Mining Vision, which recognizes the role that minerals can play in spurring real economic growth and driving economic diversification. Rather than using mineral wealth solely as a way of generating revenue, this strategy seeks to better embed mining operations into the economy of the country.

The challenge is how to put this into practice.

This section describes different options that a host government can negotiate with a mining company to help ensure that the mining project generates linkages with and integration into the economy. The first chapter deals with what is commonly called "local content" and the second discusses infrastructure linkages.

MINING AND LOCAL CONTENT

Local content requirements in contracts are intended to ensure that host countries' citizens get jobs and training, and local firms get supply contracts. Mechanisms such as objectives for local employment or suppliers, preference schemes for local businesses, industry or human capital development support from the government, or giving local businesses greater access to finance, are all methods of achieving local content goals.

A variety of definitions are used to determine what is "local". Depending on the context, for example, a company may be deemed "local" based on its registration, ownership, workforce, or value-added in terms of local production. A majority foreign-owned company can even qualify as "local" in some cases, as long as a local firm has a minimum percentage stake.

MINING AND LOCAL CONTENT

Many mining contracts have local content provisions aiming to maximize the economic opportunities from mining investment and better ensure that benefits remain in the country. The aim of these provisions is to harness mining activity for sustainable growth and development. These add to what might also be found outside the contract in countries' laws, practices and policies, as well as in community development agreements (CDAs). (For more on CDAs, see the section, "Environmental and Social Issues").

When used properly, these policies and instruments boost skills and economic oppor-

tunities. They can also serve the mining company well, as locally sourced workers and production can be less expensive, more predictable, and help embed the company in the host country, strengthening connections between the firm and a broad range of stakeholders.

Achieving the objectives that local content provisions aim at, however, can be difficult as it involves coordinating policy and contractual instruments in light of national, regional, local, and cross-border considerations. Too often, local content suffers two related ills – poorly crafted local content provisions, and weak enforcement.

WHAT ROLE DOES THE CONTRACT PLAY?

Setting Out the Requirements

As noted above, mining contracts increasingly include local content requirements covering such issues as employment, supply chain procurement, training, skills building and knowledge transfer.

The Guinea - Simfer (2002) contract is a fairly typical example, demanding that the firm:

- source Guinean products and services to the extent possible,
- prioritize hiring of Guinean nationals for manual labor as well as for skilled labor (subject to experience and qualifications), and
- create a training program for Guinean personnel.

The Liberia - Mano River (2005) contract (Article 10.1) is more blunt, simply stating, "*The Operator shall not employ foreign unskilled labor. To the maximum extent feasible, the Operator shall employ Liberian citizens at all levels.*"

The Australia - McArthur River Project (2007) agreement provides another example. It requires the company to use local labor and services within Northern Territory of Australia, but states that the company can look elsewhere for labor and services providers if it can demonstrate that complying with those requirements "*is impractical for*

commercial, technical or other reasons." (Article 13(1)).

Developing and Strengthening Upstream and Downstream Diversification

Local content provisions are often used to develop and strengthen "upstream" linkages - connections integrating local individuals and entities into the mining company's supply chain. But provisions can also be used to generate "downstream" linkages that encourage increased value-added activities. While it is rare for the contract to include references to downstream requirements, some contract terms do highlight such diversification strategies.

The Australia - McArthur River Project (2007) contract, for example, states in its article on "Downstream Processing" (Article 12):

> *"(1) Having regard to the Territory's intention to have established downstream processing within the Northern Territory, the Company shall in accordance with this clause, unless otherwise agreed in writing by the Minister, investigate downstream processing of zinc, lead and silver within the Northern Territory.*
>
> *(2) The Company shall within 7 years of the date of this Agreement and every 5 years thereafter provide to the Minister, unless otherwise agreed in writing, a written report setting out the technical and economic feasibility of downstream processing of zinc, lead and silver.*
>
> *(3) The Company shall use its best endeavours to encourage and support downstream processing of zinc, lead and silver within the Northern Territory if it is technically feasible and commercially sound..."*

Similarly, the Mongolia - Oyu Tolgoi (2009) agreement states:

> *"3.19 Within 3 (three) years after the Commencement of Production, the Investor will, if requested in writing by the Government, prepare a research report on the economic viability of constructing and operating a copper smelter in Mongolia to process mineral concentrate Products derived from Core Operations into metal (the Smelter)...*
>
> *3.20. If the Government either alone or in conjunction with others or a third party plans for the construction of a Smelter in Mongolia, the Investor will, if requested in writing by the Government, provide on agreed terms, with preferential access, Rio Tinto's (or its Affiliates) Proprietary Technologies held in joint venture with Outokumpu, for the operation of the Smelter.*
>
> *3.23. If the Investor constructs a Smelter in connection with implementation of the OT Project that Smelter will be located in Mongolia."*

Both of these provisions aim to encourage development of downstream activities but, it is important to note, also recognize that it might not be economically viable.

This highlights the point that policies for encouraging local content must be carefully designed. Insisting on downstream processing, for instance, can be an illusive requirement for many reasons. Downstream processing can be a very capital-intensive and a low-margin business. If the country doesn't present the right comparative advantage (e.g., it doesn't have inexpensive energy, proximity to the market for the finished product, skilled labor, or stable currency), it might not be sufficiently competitive for downstream investment. The country is often better off spending its negotiating capital and resources creating an industrial strategy that will facilitate the development of "upstream" (supply chain) linkages for the mine.

Flexible or Fixed Requirements?

Local content clauses tend to fall into two camps: those that require specific minimum targets or those that set more flexible objectives.

The Afghanistan - Qara Zaghan (2011) contract is an example of a more flexible

approach, stating that the investor, Afghan Krystal Natural Resources Company, "*shall employ Afghan personnel, to the extent practicable in all classifications of employment, for its Gold Production Facilities construction and operations in Afghanistan.*" (Article 14.1).

In contrast, Article 11.1 (a) of the Liberia - China Union (2009) contract provides more fixed targets, stating:

> *"[...] parties shall agree on progressive implementation of an employment schedule so as to cause citizens of Liberia to hold at least 30% of all management positions, including 30% of its ten most senior positions, within five years of the Effective Date, and at least 70% of all management positions, including 70% of its ten most senior positions, within ten years of such date."*

Similarly, the Mongolia - Oyu Tolgoi (2009) agreement lays out fixed targets for employees hired by the mining company, making clear that, "*[i]n accordance with Article 43.1 of the Minerals Law, not less than 90% (ninety percent) of the Investor's employees will be citizens of Mongolia.*" With respect to subcontracting, however, the contract is more flexible, stating that the company is to use its "best efforts" when subcontracting in order to ensure that at least 60% of construction employees and 75% of mining-related employees are Mongolian citizens. (Articles 8.4 and 8.5).

Enforcing the Requirements

It is one thing to have local content requirements in the contract. It is another to enforce them. There are three factors that can make enforcement particularly difficult: one is vague contract language; a second is the challenge of monitoring compliance; and a third is related to the consequences of breach.

The issue of vague contract language can be seen in the Guinea - Simfer (2011) , Liberia - Mano River - Exploration (2005), and Australia - McArthur River Project (2007) agreements quoted above. Companies may want more flexible standards as they can be easier to incorporate within their business operations and strategies. But with flexibility come questions of interpretation. When companies are required to comply with local content rules only "to the extent possible" to the "extent feasible", or "if practical", who

determines what is possible, feasible, or practical, and how is that done? When contracts specify that domestic citizens are to make up a certain number of positions of senior positions, who determines what is a "senior" position? And when companies are to use their "best efforts," what exactly does that mean?

These types of questions commonly arise, and can make it difficult for governments to enforce local content obligations.

The second enforcement challenge is monitoring. After negotiating for local content commitments, how can governments make sure that they are followed? Some contracts help address this issue.

The Australia - McArthur River Project (2007) contract, for example, states that the Minister for Energy and Mines may annually request, and the company must then provide, "a written report concerning [its] compliance with and implementation of the" contract's local content requirements. (Article 13.2).

But then there is the question of consequences. Suppose the Australian government has a report from the company that shows noncompliance. If there is no penalty for breach, why would the company comply?

Some contracts include fines. The Mongolia - Oyu Tolgoi (2009) contract requires the company to pay a penalty if it hires too many foreign employees (Article 8.7):

> *"If the Investor employs more foreign nationals than the specified percentage set forth in Clause 8.4, the Investor shall pay a monthly fee of 10 (ten) times the minimum monthly salary for each foreign national in excess of the specified percentage."*

But contracts may also effectively minimize the sanctions associated with noncompliance. That same Mongolian agreement illustrates this when it says a breach of local hiring requirements will not constitute a breach of the overall agreement and may not be used by the government as a ground for terminating the contract. (Article 8.9).

LOOKING BEYOND THE CONTRACT

It can be a mistake to consider the contract as the sole source of obligations. Legislation, policies, requirements built into community agreements, and comprehensive industry policies and initiatives, are all tools that can also support local content.

Legal and Regulatory Framework

A contract, rather than creating project-specific local content requirements, could instead require the investor to follow the applicable law and regulations. The number of governments that have broad local content legislation, however, is limited.

Indonesia, South Africa and Zimbabwe are amongst those countries that have mining-related national legislation.

Indonesia's 2009 mining law states that companies must give priority to local employees and domestic goods and services in accordance with the applicable laws and regulations. It also has a provision relating to a divestment obligation for foreign shareholdings to local companies. According to that law, after five years of production:

> *"Companies must divest part of [their] s foreign shareholding (if any) to the Government, Regional Government, State Owned Business Entity (Badan Usaha Milik Negara or BUMN), Regional Owned Business Entity (Badan Usaha Milik Daerah or BUMD) or (iii) Private Owned Business Entity (Badan Usaha Milik Swasta or BUMS)."*

In 2013, the government issued regulations clarifying what companies need to do in order to comply with that law.

The 2009 law also includes provisions to encourage local development "downstream", obliging companies "to process and refine mining products in Indonesia," and stating that "the extent of the required local processing and refining are to be specified in the implementing regulations." (Articles 95-112 and 128-133).

More countries, including South Africa, the Philippines and Australia, have tightened their project-approval and regulatory processes in order to promote linkages. Mining companies can be required to produce local content plans that include enterprise and

workforce participation in the mining area and that are integrated into regional economic development plans in order to move forward with their operations.

Some of these efforts are a product of unique country dynamics. For example the Social and Labor Plan referred to in South Africa's Mineral and Petroleum Resources Development Regulation (2002, Ch. 2, Part 2) reflects the broader push in that country for black economic empowerment. A social and labor plan, which is a requirement for mineral or production rights, must include employment statistics and the mine's strategy for ensuring within a specified time frame that 10 percent of the employees are women and 40 percent of management are historically disadvantaged South Africans (HDSAs). The plan must also set out a local economic development program that aims to increase procurement from HDSA companies.

Local Development Agreements

In addition to entering into agreements with the national government, mining companies may also negotiate agreements directly with local communities. These can be either community development agreements (also referred to in the section on Environmental and Social Issues) or local agreements as in Canada and Australia.

Agreements negotiated with the Indigenous Peoples of Canada provide particularly good examples. One is the Benefits-Impact Agreement between Diavik Diamond Mines Inc., Rio Tinto and five neighboring aboriginal groups in Northwest Territories. The agreement requires that contracts between the mining company and local groups within the operation area remain in force for the life of the mine. In legal terms, they are "evergreened," which means that, subject to satisfactory performance, the aboriginal contractor will have the work as long as the mine is in production.

The Raglan agreement between the Inuit in Canada and the mining company is another example. It sets forth those goods and services which must be the subject of "direct contract negotiations solely with an Inuit Enterprise". The contract identifies such work and services as air transport, catering and hotels, road maintenance, diamond drilling, ground transportation of supplies, trucking of concentrate, fuel transportation, handling, distribution, environmental research monitoring, and baseline studies and on-site preparation of explosives.

Company Policy, Industry Initiatives, and other Collaborative Efforts

Even where there are no legal requirements to prioritize the recruitment of local workers or the use of local businesses, many firms have implemented their own local content policies.

Companies are interested in strengthening the skills base of the countries where they invest. The World Business Council for Sustainable Development (WBCSD) National Market Participation Initiative engages local investors and governments in a dialogue to identify shared interests, and to increase the competitiveness of local companies rather than focus on obligations.

Improving skills and entrepreneurial capacity is also an increasing priority for development agencies and intergovernmental organizations. Joint initiatives are emerging, such as the African Mineral Skills Initiative, a private-public partnership including the United Nations Economic Commission for Africa (UNECA), AngloGold Ashanti and AusAID. This initiative seeks to create and support new solutions to fill identified minerals skills gaps.

Indeed, in implementing local content, the most successful countries may be those which create a collaborative environment with investors. Just laying down the law may not align with the interests of either business of the local capabilities. In contrast, through collaborative approaches, governments and companies sit together to establish a realistic timeline for employment, procurement and training.

This happened in Chile. An NGO there convinced the 12 largest mining companies to organize a training program to train future miners. The government then complemented the investment with $30 million in public funds. Copper companies in Chile have since designed a supplier development program which has generated a network of internationally competitive small and medium enterprise suppliers for the mining sector.

A VIOLATION OF INTERNATIONAL LAW?

One caveat here is that local content provisions also need to be reconciled with international trade and investment law.

Members of the World Trade Organization (WTO) are bound by the Agreement on Trade Related Investment Measures (TRIMs Agreement) that limits certain "performance requirements" relating to trade in goods, such as:

- Requirements to use or purchase local goods;
- Trade-balancing requirements;
- Foreign exchange restrictions related to the foreign-exchange inflows attributable to an enterprise; and
- Export controls.

Yet the TRIMs Agreement left many types of performance requirements untouched. These include:

- measures relating to trade in services, not goods;
- requirements to establish a joint venture with domestic participation;
- requirements for a minimum level of domestic equity participation by domestic individuals or entities;
- requirements to locate headquarters in a specific region;
- local employment requirements;
- export requirements;
- technology transfer requirements; and
- research and development requirements.

Some "investment treaties", however, go farther than the TRIMs Agreement and prohibit some of these types of measures, including requirements to form joint ventures, procure local services, invest in research and development, and transfer technology.

While the language may vary from treaty to treaty, an increasingly common pattern among the investment treaties is to ban certain performance requirements outright,

while allowing governments to impose others as long as they provide some type of advantage or benefit in exchange.

Governments seeking to maintain their abilities to use those performance requirements not already barred under the TRIMs Agreement or under the investment treaties they have signed have various options. These include not entering into investment treaties; excluding from new investment treaties any provisions that restrict performance requirements; including exceptions in their treaties designed to allow or exclude only certain types of performance requirements (e.g., maintaining the ability to impose join venture requirements but including restrictions on procurement of local goods); and including exceptions designed to allow or exclude performance requirements only in specific sectors (e.g., carving out mining from the covered sectors).

Restrictions on performance requirements can be found in investment treaties concluded by the United States, Canada, Japan, Colombia, and other countries.

(Investment treaties are also discussed in the chapter, "Dispute Avoidance and Resolution").

UNINTENDED AND UNWANTED CONSEQUENCES

Local content provisions are typically well intended, but can produce unwanted outcomes. These include:

- inflation of the price of the goods and services suddenly procured locally and benefiting from the mining demand;
- disputes and tensions arising from perceptions that certain interests are being favored;
- enhanced corruption risks associated, for example, with having local content decisions aligned with investor or government interests, or local contractors falsifying capabilities so as to be able to meet qualification targets to bid, or even bribing officials to gain certification; and
- creation of dependency on mining demand that can become problematic when the

mine closes.

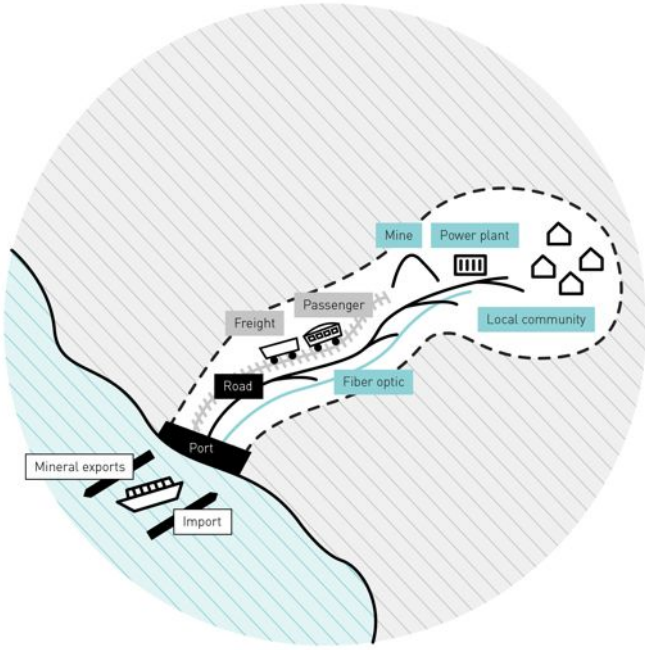
MINING AND INFRASTRUCTURE

Mine development requires good infrastructure. Heavy equipment, supplies and people need to be brought in. Power and water are needed. Ore needs to be transported for processing and/or export. Development of such infrastructure is capital intensive. It forms an ever more significant outlay for mining companies. Mining-related infrastructure cost as a share of mining development cost has gone from 40% to 80% in the last 12 years.

Mining concessionaires have historically resorted to an “enclave approach” to infrastructure development, providing their own power, water, information and communication technologies (ICT), and transportation services to ensure reliable infrastructure for their operations. Contracts typically assured mining companies of rights of access and to construct necessary infrastructure.

Given mining company control of those developments, large investments in physical infrastructure are often uncoordinated with any national infrastructure development plans. A country can therefore miss the opportunity to use mining infrastructure to support more broad-based economic development.

Potentially, port, road and rail investments for mining can catalyze supporting and ancillary economic activity. Hence the concept of "resource corridors" developing alongside mining-related infrastructure. As outlined below, some contracts between governments and investors now include options and requirements that support potential third-party uses of such infrastructure.



Resource corridor of economic development

A CASE FOR SHARED INFRASTRUCTURE

If done well, mining investment can contribute to development of shared infrastructure with both mineral and non-mineral users that will be beneficial for sustainable economic growth.

"Shared use" can entail two different options. First is multi-user, meaning several mining companies in a region develop/use common infrastructure. Second is multi-

purpose, where non-mining users share the infrastructure with the mining company (for example a forestry concession accessing the mining-related power infrastructure, or passengers being transported along a mining company railroad).

Both can offer benefits. The former may lead to economies of scale among the miners, thereby increasing tax revenues to the government. The latter may lead to easier and more cost-efficient access to water, energy, transportation, and telecommunications services – all building blocks for economic development in a region.

Opening up mining-related rails and ports can mean improved and often cheaper access to markets, both local and international. The development of hydropower, where feasible, can be a cost-effective source of energy to support the heavy energy demand for mining operations while ensuring that excess power can be made available via improved and affordable access to electricity for communities and nations. Water treatment facilities developed to serve the water needs of the mine can be designed with surplus capacity to serve surrounding communities with no previous reliable access to potable water. Governments and the private sector can also capitalize on civil works for road and railways to install fiber optic cabling to offer telecommunication services.

Of course, these considerations are more relevant in the context of developing countries where basic infrastructure is often either missing, of limited capacity, or in poor condition.

OWNERSHIP AND ACCESS

The opportunities for "shared use" of the mining-related infrastructure will depend on the ownership model of this infrastructure. If mines inherit existing infrastructure on the concession, or are authorized to build and own relevant infrastructure, they will generally prefer not to share it. This is especially true for infrastructure, such as rail and ports, that are strategic to the mining operation and for which implementing shared use can constrain capacity or bring a high cost of coordination.

Investors tend to be more flexible in considering shared use of non- or less-strategic infrastructure (power, water, roads, and ICT). In fact the business case for shared use can be more straightforward due to obvious economies of scale and scope or a need to rein-

force their social license to operate. Just imagine being a mine with access to electricity and potable water surrounded by a community living in the dark and drinking polluted water. This situation will not be sustainable and will likely result in social unrest sooner or later.

In the alternative ownership model, where the infrastructure is owned by a third party or a state-owned company, the government will likely find it easier to limit exclusive access for the mining company. However, allowing other uses involves trade-offs as well. Typically, mining investors will leverage their expertise and access to capital to build key infrastructure faster and more cheaply than if developed by others. So limiting their control of infrastructure development can delay a project or undermine its potential efficiency. Plus, accommodating government demands for open access to infrastructure will often come at the expense of negotiations around fiscal terms. Foregone revenues need to be justified as a price worth paying.

THE NEED FOR INTEGRATED PLANNING

Ideally, decisions on infrastructure usage, including negotiated commitments in contracts, should be made in the context of a comprehensive planning framework that considers a range of key factors. Each mining project presents different opportunities to build infrastructure linkages to communities, the region and the country, depending on the size of the project, the type of commodity, present and future mining demand for infrastructure, present and future non-mining demand for infrastructure, and the present and future regulatory capacity available to ensure open access of the mining-related infrastructure.

Some examples: bulk commodities such as iron-ore and coal will require development of railways, whereas gold extraction only needs roads or sometimes just helicopters. Conversely, gold extraction will require large access to water sources, whereas iron-ore and coal mines could rely on recycled water. In terms of energy demand, in addition to the commodity type, what will make a difference is the degree of processing: a crushed coal operation will require 500 times less power than a smelted aluminum operation (measured by kwh/ tonnes of product).

Only when this picture is clearly defined can countries negotiate the best contractual in-

frastructure provisions with companies. What if third party access on rails is required, but there is not sufficient projected demand for rail access? Similarly, what if the construction of a mini-grid for the community is negotiated, but the community has no willingness to pay, and no competent institution is in place to ensure operations and maintenance?

Once the government is convinced that shared use will be beneficial to the country, and is ready to incur the related planning and regulatory costs, contractual terms need to be negotiated with close care.

COVERAGE IN THE CONTRACT

Mining contracts typically specify rights to access and construct related infrastructure.

Where there is reference to third party access, it typically comes with many caveats, for example that access only be provided when "the company confirms that excess capacity exists and third party use of such excess capacity does not interfere with operations". This leaves room for interpretation, opportunism and asymmetry of information - making it relatively easy for an operator to justify denying such access.

It is still rare for a contract to make strong demands of investors in terms of third party usage (current or future). Missed opportunities for governments, may therefore include:

- allowing mining companies to develop power plants without requiring the generation of extra electricity to be sold back to the grid. This is a missed opportunity for the country, given that for companies the marginal cost of extra electricity is very low.

- failing to retain government ownership of the right of way of any longitudinal infrastructure such as power lines, slurry pipelines, rails, or roads. This is a missed opportunity for the government to "monetize" the right of way for multi-purpose use.

- failing to include a Build Operating and Transfer model or option that enables the infrastructure to revert back to the government after a set period, by which time other industrial and non-industrial demands may have increased and when there may be a viable option to bid out to third-party infrastructure concessionaires.

Few countries have managed so far to avoid such pitfalls, but the Liberia - Putu (2010) contract has interesting clauses that could serve as models in similar situations. They are unusual in the level of detail they provide and scope of the package of clauses covering access to electricity, to water, to build utilities and facilities integrated with company infrastructure (such as to build telephone lines within the concession area), and to the port and railroad.

For example, the contract requires the power plant for the mine to "*be designed to generate a quantity of electric energy in excess of the electric energy required by the Company for Operations to supply third party users located within a 10 km radius thereof on a 7 days per week, 24 hours per days basis in accordance with third party user demand from time to time*" and "*be designed and constructed so that it can be expanded on a commercially feasible basis to have twice the electricity generating capacity necessary to service Operations.*" (Article 19.3)

The contract additionally provides the company access to water on condition that it *"does not affect the water supplies used by the surrounding population or, to the extent it does so affect water supplies, the Company provides an alternative source of water supply to the affected population."* (Article 19.5)

The contract also states that port and rail infrastructure must be developed in line with the agreed Development Plan. In the case of rail this means:

> *"The Railroad shall be designed so that it can be expanded on a commercially feasible basis to carry on a continuing basis twice as much traffic as is contemplated by the preceding sentence but the Company shall not be under any obligation to build such additional capacity except as it may elect pursuant to Section 6.7(k). Subject to Section 6.7(k), the Government or any third-party may elect to have the capacity of the Railroad expanded to service the requirements of the Government or such third-party, the costs of such expansion to be borne by the Government or such third party, as applicable." (Article 6.7.a)*

In terms of the port, the contract states:

> *"The Development Plan also shall provide for the construction by the Company of the Port, with the capacity to allow for limited general petroleum-handling and general cargo and container berthing spacing, as well as specialized bulk facilities required by the Company's business. The Port shall be designed and constructed such that it can be expanded on a commercially feasible basis to handle twice as much capacity as is contemplated by the preceding sentence. Such expansion capacity shall include the possible construction of an additional 50 meters on the Iron Ore jetty and the driving of iron ore jetty piles at least 5 meters deeper. The Port basin shall be designed to facilitate further large scale development consistent with any expansion of the railroad (e.g., lengthening of primary wharf, room for addition of additional wharf, or adequate protected anchorage)." (Article 6.7.d)*

RESOURCE-FOR-INFRASTRUCTURE SWAPS

The issues discussed above have focused on balancing demands for access to infrastructure within the broader negotiated package of fiscal demands. However, there is an alternative model out there, where governments give access to natural resources in return for construction of key infrastructure (non-mining related). Such "resource-for-infrastructure" deals have gained a lot of attention recently. A number of such contracts have been concluded in different parts of the world, though far fewer have reached implementation stage.

Resource-for-infrastructure swaps are most commonly associated with deals done by Chinese companies operating in Africa. China's demand for resources has been growing fast – it is the world's largest consumer of key minerals, including iron ore, lead and zinc. Africa, in turn, has both a large endowment of under-exploited mineral resources and very immediate infrastructure needs. In such case, both sides could benefit. China gains access to much needed resources to sustain its economy, while African nations get much needed major infrastructure in a comparatively short period of time.

Yet these deals also give rise to notable risks. Above all, it is difficult to adequately determine the value of the exchange. Estimates for both the infrastructure and the minerals can vary significantly. In one instance in Liberia, resource estimates have gone up 10-

fold in 5 years from the start of negotiations. Even more challenging is determining the economic value of the proposed infrastructure, especially because it is not subject to any open competitive process. The bottom line is that it is even harder to assess fairness of a resource-for-infrastructure deal than for a conventional resource-for-revenue agreement.

In addition, the contractual arrangements for resource-for-infrastructure swaps are highly complex – involving mining as well as construction companies. Where there is complexity, there is room for confusion and potentially more avenues for corruption. There is no clear contractual model as yet to guide parties.

Local content requirements are typically not attached to these deals – in fact the investing company's guarantee to provide the infrastructure is often dependent on its assumption of bringing in foreign expertise, equipment, services and even labor. In such instances, the country may not have achieved optimal value for its resources.

LEGAL AND NEGOTIATION CONSIDERATIONS

SO YOU THINK YOU NEED HELP AFTER ALL?

170 YEARS AT THE TABLE : CONFESSIONS OF A NEGOTIATOR

DISPUTE AVOIDANCE AND RESOLUTION

PLANNING FOR TROUBLE

TO PUBLISH OR NOT TO PUBLISH

SO YOU THINK YOU NEED HELP AFTER ALL?

Both parties to a potential project - governments and companies - will need a range of technical expertise. When you are negotiating over assets which could transform the future of your company - or country - you want to have as much information as possible. You want to know the best estimate for the size and quality of the asset, the likely costs involved, what various fiscal structures predict about the size and timing of revenue flows. All parties can benefit from guidance on the dozens of issues raised in this book: dealing with market volatility, local buy-in, environmental impact management, hiring local firms, and more.

A large IMC will have its own geologists, number crunchers, managers and market analysts. It will likely have a mix of in-house and external lawyers, with a range of legal expertise and experience from all over the world.

A government, on the other hand, (and especially a less developed government) typically has less of everything. It has less in-house support and its budget will be limited. Moreover, it is bound by civil service codes and public service ethos, which means it has a hard time paying high fees for international help even if the money is there.

The choice of what external assistance you mobilize can make or break the deal.

DOING DUE DILIGENCE

The first area in which external support may be useful is in doing due diligence on your negotiating partner(s).

The term "due diligence" generally refers to an investigation carried out by a party to learn and verify the full background, history and current situation of the other party(ies) with which it may contract. Due diligence takes time and is expensive, but thorough due diligence will prevent and/or mitigate unwelcome surprises down the road. It is an essential tool in the decision making process of any investor, financial institution or government.

Potential mineral investors will do due diligence on governments, to ascertain the stability of the government, and its political institutions to determine the political and economic risk of doing business in the country. Investors will also look at the stability and independence of the judicial system, the economic (debt) situation, the electoral situation, the human rights situation, and any other issues that could affect the profitability of an investment and the reputation of the investor.

Governments should do similar due diligence of potential investors to ascertain financial stability, expertise, experience, track record on environmental and human rights practices, history of disputes and the like. Not all investors are equal. One would expect a government to do much less due diligence on a well-known international company with public financial statements and a long track record than it would on a little known, privately held company.

Some due diligence of potential mineral investors can be done by governments in-house, but there are many specialized firms that will help governments verify the "health" and "character" of a potential mineral investor. Comprehensive due diligence can involve entire investigative teams comprising lawyers, accountants, fiscal and tax experts, human rights specialists, human relations experts, environmental specialists, experts in corporate social responsibility and more. Their job is to verify compliance with applicable laws, policies, treaties and regulations, as well to find any "red flag" items that could cause problems, immediately or later during the different stages of the mining project.

More specifically, the investigators will look for potential risks which could affect the

company's ability to perform its obligations, such as the company's financial capacity to fund the mining project, its level of expertise and experience and its capacity to reimburse financing. Red flag items could be large unfunded reserves for potential losses, outstanding mass litigation such as asbestos or other product liability issues, ongoing criminal investigations concerning corruption, money laundering or other alleged crimes, allegations of human rights abuses or environmental neglect, and other reputational, financial or legal issues. If a red flag issue is identified, permission will often be requested to interview the company management, auditors and lawyers.

The investigators will draft a due diligence report describing the scope of the investigation and the findings. The final due diligence report should be an important element in deciding whether to entrust a portion of the country's mineral resources to that investor.

Due diligence reports are considered highly confidential and are seldom shared.

CHOOSING THE RIGHT LAWYER

For actual contract negotiations, one obviously needs lawyers.

Most IMCs and governments who work with outside counsel will choose international law firms because they have a good reputation and seem experienced. But even big firms are only as good as the people assigned to the team. Smaller firms with good experience in international investment contracts could be just as capable; some may even be more specialized, cheaper and more available. They are not balancing a diverse client base and are less likely to have conflict of interest issues.

When entering into the process of choosing lawyers, it is useful to draft a narrow mission statement with a breakdown of tasks (three negotiation meetings, comments on first draft of the Mining Development Agreement or Concession Agreement, etc.) and assign budget numbers to each task in light of what the client thinks the work is worth and their overall budget envelope. Giving the law firm a broad mandate such as, "to negotiate the mining project with staffing as necessary," is a blank check best avoided.

Before meeting with any law firm, the mission statement should be sent to all of the

candidates. Interviews should be set up with not only the partner who will manage the deal but with as many members of the proposed team as possible, including the junior members who may be doing most of the work.

The client is entitled to not like certain lawyers and to evaluate independently the skill level of each member of the team. Language skills should also be verified. If the partner speaks French or Spanish, but none of the mid-level associates do, that language skill will become very expensive. Governments can also request foreign firms to partner with local or national firms to train local lawyers.

Big firms are generally expensive firms. Small firms can be just as costly per hour (or, in fact, per six minutes, the basic unit of legal billing) but will generally put fewer lawyers on the team, so the client may still get better value for its money. In either case, it is important for governments to understand how their work will be staffed. They should not be afraid to insist on knowing the skill level of and the charges for each member of the law firm's proposed team, and to know why each person is included on the team.

Sometimes law firms offer to work for a fixed fee. This may seem desirable to a government, but in those cases, the work involved is normally fairly carefully described in the lawyer's fee letter, which can lead to budget overruns when the deal moves in unanticipated ways. And of course, the lawyer needs to understand the client's constraints. It is no good having a brilliant brain in the room that can't relate. And of course, no client should keep a law firm on a job if it is not happy with the work.

ARE LAWYERS ENOUGH?

It is important also to understand that legal skills are not the only skills needed in a negotiation. Some government negotiators believe they may have ended up with adverse results in past negotiations because there was too much concentration on lawyers at the expense of other expertise. For example, many governments have only recently started to look for help in creating financial models that will enable them to evaluate proposed terms and alternative proposals. It can be difficult to find the necessary assistance for financial modeling, as these skills tend to congregate in consulting or investment banking firms that are normally as expensive as law firms.

Some government teams may also feel they lack sufficient knowledge of mine operation and management, and the operation of world mineral markets. For example, a government negotiator may know that the contract should require pricing for royalty and income tax purposes to be done on the basis of arm's length deals, but have no idea what pricing methods to use if the investor is producing primarily for its own use elsewhere. Which of the many transfer pricing mechanisms is most appropriate? How can the government avoid being blind-sided by customary pricing practices that, for example, lead to the appearance of unexpected "discounts" in royalty computations?

Finally, governments may want access to people who regularly track industry developments. Sometimes negotiations can be affected by something as simple as failure to keep up with the industry press. One negotiator remembers how he succeeded in getting his government to withdraw an offer to one company after finding out something they had done in another country in the region.

IS THE RIGHT SUPPORT AVAILABLE?

Some government processes have a distinct impact on how help is hired. Most sizeable pieces of work will naturally pass through public procurement procedures, which will most likely restrict bidders to companies of a certain size. And then there is always the question of cost; professional fees may be seen as prohibitive, even if they would help a government raise substantially more revenues in the deal.

There has been a surge of interest among international institutions in recent years in providing support on the government side, in recognition of the fact that there are high stakes for economic development and even political governance. The Vale Columbia Center on Sustainable International Investment (VCC) and the Humboldt-Viadrina School of Governance (HVSG) have compiled the details of many such initiatives, which are available on the VCC's website. Many governments have welcomed these initiatives, but there are limitations to the nature of their support, and accessing their support can take time. It may take up to two years or more for a regional development bank or international financial institution to finance and deliver such support.

For some low-income countries, support for negotiations may be available on a reduced fee or pro bono (free) basis. For instance, the International Senior Lawyers Project (ISLP)

has provided high quality legal assistance on a pro bono basis to a number of eligible governments negotiating mining contracts.

170 YEARS AT THE TABLE: CONFESSIONS OF A NEGOTIATOR

Some of the authors of this book have spent more time negotiating than they often care to admit. About 170 years in fact. This chapter runs through some tips that have been hard won out of hundreds of hours facing off, digging in, insisting, listening, and coaxing.

THE DIFFERENCE BETWEEN POSITIONS AND INTERESTS

Negotiators too often state their positions as opposed to their underlying interests. For example, an IMC will state that it will not pay income tax above a certain rate and it will not agree to a cap of deductible costs. Meanwhile the government will state that a large front-end payment is mandatory and that taxes are payable on the date of a commercial discovery.

If they were talking about their respective interests, the IMC would explain that it needs a minimum Internal Rate of Return (IRR) on its capital to get approval from its Board of Directors, failing which its investment committee will not approve the project. The government would state that it needs income as fast as possible, or it could face mounting political pressures. When interests are clearly expressed, it is easier to see where the

parties can compromise.

WHERE IT HAPPENS COUNTS

At some stage "negotiations" need to happen face to face, and here too there is a variety of practice. Sometimes governments have companies come to them. Others choose a neutral (albeit enjoyable) city, though this can be both a financial and psychological burden for the government negotiators. They might be in a great city, but they are not on familiar ground and are in the offices of a foreign law firm. There are even times when substantive issues are affected by the need to catch a plane.

On the other hand, government negotiators may be able to give the negotiations their full attention if they are taken out of their home country and normal work flow. At home, the lead negotiator might get a phone call from the President's office, for instance, and just need to step out for "15 minutes." Then you don't see her again for the rest of the day.

To avoid the appearance of favoring one party or another, the parties may agree in advance to rotate the negotiations among different locations.

TIMING AND PACE

Timing and pace are always important but never more so than at the face-to-face stage, when one or both parties might have travelled half way around the planet. The parties should set up a schedule ahead of time which allows for any internal consultations. There is a natural tendency to treat and describe everything as urgent. But if you give in to that urge, it becomes harder to know which decision in the negotiation is important for what reason. Parties will often say they do not have the authority to make a certain decision. Sometimes that's true, sometimes it is only a ploy to gain time to consult.

If the way each side's decisions need to be made is not discussed up front, it can lead to frustration. IMCs often feel government decision-making is too slow. On the other hand they may not fully understand how many stages of consensus building government representatives have to go through. If it is explained, at least the company representatives

understand the reasons for the delay and can sometimes help, by offering to move to other questions while waiting for a response on a particular issue.

Likewise, when the government negotiators don't understand IMC processes, such as requirements for Board of Directors or investment committee decisions, they can start to mistrust the IMC's intentions. Maybe the IMC has developed cold feet but just isn't saying so? Maybe it has decided to look for a better asset down the road?

BALANCING COST AND BENEFITS/TRADE OFFS AND COMPROMISES

When should you compromise? When should you hold firm? These are impossible questions to answer in the abstract. But if you are clear about your time schedule and priorities, it becomes a lot easier to find places to offer compromise without yielding on the issues that are important to you. Before a negotiation session, it is valuable to have a list of the issues expected to come up, and to make sure that the members of the negotiating team are agreed on the positions to be taken and on the alternatives, if any, that might be offered to reach agreement. Creating a chart of issues and alternatives will keep the team focused on the negotiations and on point. It may also avoid individual members of the negotiating team going off on an undesired frolic and detour.

Sometimes, though, consensus itself can be a problem. When the seven people on the team all need to agree on everything, things can take a while, particularly when a new point, not on the chart, drops on the table.

People employ all different kinds of techniques. Although a popular image is of tough stand-offs between the parties, all great negotiators listen carefully and usually respectfully to what their counterparts are saying even if there are sharp disagreements. In terms of timing and technique, some prefer not to move on from any given area until every point in it has been agreed. Others will try to pick off the easy ones, and leave more time to focus on the difficult ones. Others seek out some non-essential points to concede early in order to gain the trust and confidence of the other party. Negotiations can also be isolated by groups of related subject matters, such as fiscal issues, permit timing, local development requirements, or reporting requirements.

Whatever the method, the negotiating technique should be discussed and understood among the negotiating team.

GETTING PAST ROADBLOCKS

Negotiating parties are likely to find themselves at an impasse at some point in the negotiation. There are a number of ways to get out of it.

At the beginning, it is critical not to spend too long arguing about the point once the nature and magnitude of the disagreement is clear. People can become so emotionally committed to one point that they can not bring themselves to back down. If at all possible, leave the issue for a while and continue negotiating other points.

Most blocking points are resolved by trading off compromises on different parts of the mining agreement. If the parties are blocked on, say, the royalty, they might consider trading a community development undertaking. Or, if they are blocked on the timing of permits, and duration, they could trade off on fiscal measures. Another approach is to leave blocking points until the end so as not to get stuck and lose confidence during the process.

If no compromise can be found, each party can pass the issue up the chain. Sometimes there are even preexisting separate negotiation teams comprised of high-level officers in the Government and in the IMC mandated to find compromises to blocking points.

WHO IS AT THE TABLE

The make-up of the negotiating team is discussed in some depth in the chapter, "The Negotiating Table". The best outcomes usually involve a matrix of actors which include both local and national officials, local populations, NGOs and the IMC concerned. But this doesn't mean everyone can be at the table. Governments have the delicate task of negotiating in an effective manner while providing sufficient information to domestic actors to assure them that their interests are not being ignored. At times, governments have considered bringing civil society directly to the table, but as far as we are aware, it has not happened yet.

Secrecy of negotiations of course is a sensitive issue in terms of transparency. The authors of this book support the concept of contract transparency. In fact, we have outlined how governments can actually avoid negotiations altogether by using a strict licensing system and defining all terms in non-negotiable law. Or, the legal framework could leave limited aspects of the deal to negotiation or to competitive bids.

Nevertheless, when negotiations do take place, it is hard to see how, from a strictly logistical point of view, they could proceed with total, real-time transparency. Every seasoned negotiator has an example of how leaks at crucial stages impacted a negotiating position, usually for the worse. In one case, a government hardened its fiscal demands after one of its team picked up a home country company press release, presumably directed at potential investors, detailing just how promising the asset was. On the government side, political leaders sometimes grandstand around single issues, which pushes their negotiating teams into a corner. It seems as though a certain amount of confidentiality, for a certain time, is what allows negotiators to negotiate.

Lastly, there is no such thing as too much information and knowledge. Big IMCs are well-financed knowledge machines with rigorous standards of excellence across a wide range of disciplines. Governments are often at a resource - and therefore a knowledge - disadvantage, even when they have statutory access to much of the same information. For example, even though a government's geological survey might have the right to obtain and access surveys carried out by the IMC, they may have less capacity to interpret the data they see, or to connect it to the latest trends in world markets.

DISPUTE AVOIDANCE AND RESOLUTION

Mining contracts - like any other legal bond - can fall apart. The parties, the project, the economy, and other forces and factors can turn a once-happy marriage into a strained relationship and even wind up in divorce.

Disputes can arise over many issues, including compliance with performance obligations, failures to meet social or environmental obligations during the development phase, and interpretation of issues relating to mine closure.

How do the government and mining company handle disputes? There are a variety of contract tools available to help keep things running smoothly.

TALK IT OUT – ALLOWING FOR REVIEWS AND CONSULTATION

One option is to insist on "obligatory" periodic contract reviews that force the parties together to deal with changed circumstances. If there is dissatisfaction, the parties can negotiate to modify the financial and other terms of the deal in order to maintain the balance the parties had intended. Having scheduled consultations can minimize frustration and ease tensions if one of the parties feels that the deal is no longer fair, preventing rash judgments that might lead a company to pull out of a country or a government to nationalize a mine.

As an example, Article 31 of the Liberia-Putu (2010) agreement states that the Government and company "shall meet once every five (5) years after the date hereof or earlier, if one party reasonably considers a Profound Change in Circumstances to have occurred, to establish whether or not a Profound Change in Circumstances has occurred."

Some contracts contain other forms of negotiation and mediation obligations that bring the parties to the table when disagreements arise. They encourage the parties to address their issues - either alone or with the assistance of a neutral mediator – and so avoid the need to escalate the dispute.

Article 32 of the Afghanistan-Qara Zaghan (2011) contract states:

> *"Either party to the contract should try to manage and resolve conflicts arising from disagreement in the interpretation of the contract, via negotiations, mutual agreement and other non-confrontational means. Both sides should resolve their conflict within sixty (60) days after receiving written notice of an issue related to the contract."*

WHEN TALKING FAILS - FORMAL MEASURES FOR RESOLVING CONTRACT DISPUTES

When regular renegotiations or mediations do not work, contracts provide for other formal methods of dispute resolution. Dispute resolution provisions typically have at least two important components: the law that will govern the dispute and the method of resolving the disputes. The law governing the mining agreements can be totally independent from the method used to resolve disputes.

There are two major ways to formally resolve a dispute: either through domestic courts or international arbitration.

Which Law Applies?

The issue of applicable or governing law can be hugely important. The following scenarios help illustrate why:

Scenario One - a contract requires the government to ensure that the concessionaire has access to land necessary for its operations. After the government starts taking action to remove indigenous people from the land, those affected communities pursue legal action in domestic court, which rules that the government's contractual promise violates domestic and international human rights law, and bars the government from taking further steps to make way for the mining project. The company sues the government for breaching its obligation to secure access to the land. Under applicable law, is the government excused from having to comply with its contract promise?

Scenario Two - a contract includes an environmental "freezing" provision. The government has amended its environmental law, providing private citizens with new rights to sue companies, and strengthening pollution standards. As a result of the new law, the company has been ordered to pay significant sums to local communities. The company argues that by enacting the new law, the government has breached the contract, and now owes the company damages amounting to its litigation fees and the sums owed to the private parties. The government defends itself by arguing that the broad stabilization provision in the contract is void and unenforceable under domestic contract law because it is inconsistent with public policy and unconstitutional. Under applicable law, will the government be bound by its promise?

These examples show why governments generally want their own law to be the one that governs all aspects of a mining project, as it will give them the greatest control over the shape the project, the contract, and the parties' rights and obligations under it. For mining contracts, which can pose major opportunities and challenges for the government, countries naturally want to leave as little to chance as possible. Reflecting this concern, many contracts state that the law of the country hosting the mine will govern operation of the project, interpretation and application of the contract, and the parties' rights and obligations.

For example, Article 39 of the AKNR-Afghanistan contract states:

> *"This contract is subject and governed by all applicable Laws and Regulations of the Government of Afghanistan."*

Similarly, but more comprehensively, Article 20.2 of the Liberia-Putu contract states:

> *"This Agreement and the rights, obligations and duties of the parties hereunder shall be construed and interpreted in accordance with Liberian Law."*

While states gain certainty by using these types of provisions, they may cause an equal measure of uncertainty among investors nervous about being at the mercy of the host state's law - particularly if relations between the parties eventually sour. Concerns about corruption or a lack of judicial independence can intensify an investor's desire to find a decision maker that is insulated from domestic pressures. In order to ease those concerns, investors sometimes get the government to agree to resolve disputes in the courts of the investor's home country, or they push for arbitration. But if the country has an efficient and independent judiciary, it may be difficult to insist on arbitration and/or shifting the litigation overseas.

Even when it is agreed that national law does apply, investors have certain legal tools at their disposal to protect themselves against government action. While falling outside the contract, bilateral or multilateral investment treaties can be used to further define the parties' rights and obligations under the deal. These are discussed at the end of this chapter.

Arbitration versus Litigation

Once it is clear what law applies, there is then the question of whether to pursue the path of arbitration or litigation in the courts. This choice of procedure is important. There are a number of major differences between arbitration and litigation. These relate to the identity of the decisionmaker, the powers of the decisionmaker, the location of the proceedings, the procedures and rules of evidence that apply, the ethical rules that will apply to the attorneys and the decisionmaker, the openness of the proceedings and the ability of non-parties to access and participate in them, the speed and cost of the proceedings, and the finality and enforceability of awards or judgments.

Arbitration proceedings have many features that parties may see as advantageous. Such proceedings are typically confidential. There are many good international arbitrators to choose from, as opposed to taking chances before a judge who may or may not be knowledgeable, independent or honest. And there are special rules of finality and enforceability of arbitral awards in arbitration rules, domestic laws, and inter-

national treaties (discussed further below) that are designed to both speed the process of getting a final award and ensure that, once that award is issued, the victorious party can enforce it.

But there are some disadvantages. They are expensive, are slower than some would think, and their finality can be a disadvantage given that the parties only have one chance to make their case before the arbitral tribunal. The grounds for appeal or to request a state not to execute an arbitral award are particularly narrow. Moreover, the closed nature of the proceedings - and sometimes their outcomes - are often criticized as being inconsistent with principles of good governance, accountability, and transparency.

If courts are used, the rules and procedures regarding which particular court will take the case and how it will handle it are generally spelled out in the law.

In contrast, in arbitration, the parties and the arbitrator(s) have much more freedom to decide just how they want to do things. Contracts - intentionally or inadvertently - sometimes leave those issues open. This means that the parties will have to resolve them when they are already embroiled in their dispute. Some contracts do at least try to settle as many questions in advance as possible by specifying the procedural rules that will apply and the "seat" of the arbitration.

The Path of Arbitration

There are various sets of preestablished procedural rules for arbitration, including those of the London Court of International Arbitration (LCIA), the United Nations Commission on International Trade Law (UNCITRAL), the World Bank's International Centre for Settlement of Investment Disputes (ICSID), the International Chamber of Commerce (ICC), and Stockholm Chamber of Commerce (SCC). These contain provisions on a host of issues including the qualifications of the arbitrators, the number of arbitrators that will resolve disputes, the methods of appointing arbitrators, the powers of arbitrators, the conduct of the proceedings, the confidentiality or transparency of the dispute and its outcome, the type of relief or compensation that can be awarded, the force of awards, and the fees and costs of the arbitrations. If a contract specifies one of these sets of rules, the parties will get that package. A defining feature of arbitration, however, is that the parties to the dispute generally retain a lot of freedom before and during the dispute to agree to modify the rules and shape the proceedings as they see fit.

As an example of an arbitration clause, the AKNR-Afghanistan agreement states:

> *"If unable to reach a solution, as per the Mineral Laws, then both sides hereby agree to refer their disagreement to arbitration which shall be the International Court of Arbitration as the independent arbitrator."*

In this case, the reference to the International Court of Arbitration is not very clear as there are several International Courts of Arbitration (London, Paris, etc.), each of which has its own rules of procedure. It seems to imply that the parties only want one arbitrator (as opposed to three, which is more typical under many rules), but this too is not very clear.

The Liberia-Putu agreement (Art. 27) is more specific on these issues, stating:

> *"Where the mediator's recommendation(s) are rejected by either of the parties and it is evident that further direct negotiations will not resolve or settle the dispute, controversy or claim, the matter shall be submitted to arbitration pursuant to Section 27.2....*
>
> *Any Dispute between the Government and the Company not settled pursuant to Section 27.1 shall be referred to and finally resolved by arbitration conducted in accordance with the UNCITRAL Rules. Any such arbitration shall be administered by the LCIA."*

Some contracts then add even more detail about the exact procedures and powers of the arbitrators, whether doing so in order to better set the applicable rules in stone, or to modify those rules so as to best suit their needs.

The "Seat" of the Arbitration

Arbitration is often described as being "de-localized" meaning that it is a proceeding that can be largely divorced from and independent of background principles of law that might otherwise apply to the proceedings. If, for example, the contract states that UNCITRAL rules of arbitration will apply in a dispute, those rules will govern irrespective of whether the arbitration hearing happens in Santiago, Nairobi, London, Paris, or New York.

That said, the governing law of the "seat" of arbitration is important. The "seat" has a special meaning. While the term "seat" implies that it is the place of the arbitration, as noted above, it is not necessarily the actual place where the arbitration is conducted. It is entirely possible for arbitrators to hold hearings in Singapore but for the arbitration to have its "seat" in the Netherlands. The "seat" is important because the law of the seat will fill in gaps left by arbitral rules, impact the role of courts with regard to the role of arbitrators, and might even override certain arbitration rules. The law of the seat can even influence the ultimate enforceability of any resulting award.

Because of the importance of the seat, many contracts specify what it will be. While the government will often want its jurisdiction to play that role, a foreign investor will frequently have other ideas.

The Mongolia - Oyu Tolgoi agreement illustrates the levels of specificity now frequently

provided. In Article 14.2 it clarifies that UNCITRAL Rules will apply in case of arbitration, that there shall be 3 arbitrators, the language of arbitration shall be English, the arbitrators will apply the laws and regulations of Mongolia to interpretation of the agreement, but the place of arbitration shall be London, and the arbitral proceedings administered under UNCITRAL Rules by the London Court of International Arbitration.

Enforcement

Once arbitrators issue an award, the winning party can take it to court to collect its winnings. Two treaties make this relatively easy for victors by narrowing the grounds for challenging or resisting enforcement of any award. These treaties are the 1958 Convention on the Recognition and Enforcement of Foreign Arbitral Awards (the "New York Convention") and the 1965 Convention on the Settlement of Investment Disputes between States and Nationals of Other States (the "ICSID Convention"). Each has roughly 150 member states. One key difference between the two treaties is that the New York Convention permits awards to be challenged if they are inconsistent with public policy. The ICSID Convention does not.

There is currently no similarly broad multilateral treaty that makes for easy enforcement of judicial awards. The Hague Convention on the Enforcement of Judgments in Civil and Commercial Matters provides mechanisms to enforce judicial judgments before domestic courts, but has not yet entered into force due to a lack of ratifying states. The Brussels Convention on the Enforcement of Civil and Commercial Judgments is a similar treaty and is in force, but has a limited scope: It helps winning parties domiciled in European Union (EU) member states enforce judgments in other EU states. It does not have the broad reach that the New York Convention and the ICSID Convention do.

Extra-Contractual Protections for Investors and Restrictions on State Power: The Role of Investment Treaties

Perhaps the most important extra-contractual legal protection for foreign mining companies is what is known as an "investment treaty". Investment treaties are agreements between states in which each state party promises to provide certain types of treatment to investors from the other state party. States commit to treat foreign companies "fairly and equitably"; to pay compensation if the government expropriates any foreign company's property; to treat foreign companies as well as domestic companies and companies from other countries; to provide companies' investments "full protection and security"; and to permit foreign companies to freely transfer money in and out of the country. Some investment treaties also contain provisions restricting governments' abilities to impose conditions and requirements on foreign companies, such as joint venture requirements, requirements to procure goods or services locally, and requirements to transfer technology.

Importantly, in addition to providing these protections for foreign companies, investment treaties give foreign companies a strong procedural tool: the ability to enforce those protections. With few exceptions (e.g., in certain human rights treaties), most types of treaties only allow states to initiate disputes and seek remedies for breach of the treaty. But in a notable departure from that pattern, investment treaties allow foreign companies to sue their host governments directly and seek compensation for harms they have suffered as a result of the treaty breach. The cases are decided in arbitration.

If a foreign investor is covered by one of these treaties - of which there are now over 3000 worldwide - it thus gets an extra layer of protection.

To show what this means: If a government passes a law expropriating the mine, and a local court determines that the government does not need to pay the company any compensation for that "taking", the company could potentially use the investment treaty to sue the state and seek compensation from the government for an expropriation.

To date, companies have used investment treaties to challenge a number of government actions and inactions, many of which relate to disputes arising in mining and other extractives projects. These include cases arguing that:

- the government expropriated a company's property when it revoked the company's operating permit;
- the government expropriated a company's property and failed to treat it "fairly and equitably" when it sought to require backfilling of the mine;
- the government imposed impermissible "performance requirements" on a company when it required it to invest in research and development;
- the government discriminated against a company when it took enforcement action against it for violation of environmental requirements but did not take similar action against other companies;
- the government violated the "full protection and security" obligation because it failed to protect the investment from losses and disruptions caused by local citizens; and
- the government expropriated a company through a law requiring mining companies to sell equity interests to historically disadvantaged groups.

Compliance with domestic law is not a defense to a breach of an investment treaty (or international law more generally). Even if the government's action is entirely consistent with its own law, it may still be inconsistent with the investment treaty.

PLANNING FOR TROUBLE

A host of tricky legal issues can arise during lifetime of a project. Contracts try to account for such eventualities through a variety of relatively standard clauses. This chapter briefly explains some of these clauses and what to look for.

TRANSFER/ASSIGNMENT OF RIGHTS AND OBLIGATIONS, AND CHANGE OF CONTROL

The contract needs to address which party can transfer its rights and obligations to whom, when and under what conditions. Do you need the other parties' prior approval? Prior notice only? Veto right? First of right refusal?

Parties that do not include a provision that covers these issues could find themselves stuck with a partner they do not know and do not like. Moreover, such a provision is a necessary precondition to allow the government to tax the profits of a sale of assets; without rules on transfers, and corresponding fiscal tools, investors have been able to sell their mining rights for millions or billions of dollars without paying any taxes on the sale to the state.

More recently, some governments are also requiring information about beneficial ownership up the chain. This is both an anti-corruption measure and an aid in detecting and asserting tax obligations when off-shore gains are taxed.

Transfer fees or capital gains taxes are discussed in the chapter, "Fiscal Regimes".

ACCOUNTING, AUDIT AND REPORTING OBLIGATIONS

A mining contract provides for many different types of payments to be made over a long period of time. And in countries that have yet to develop comprehensive mining regulatory regimes that include reporting requirements, the mining contract may include such reporting requirements. It is important that the contract is clear about payments to be made (assuming such information is included in the contract rather than legislation), including when, where, how and how much, and the contract should be clear about the content and timing of required reports.

A careful government will normally seek regular operating reports giving quantitative information as to the progress of a company's operations, plus quarterly financial statements and audited annual financial statements. If the parent IMC is not a public company with readily available financial information, the government may want to require its financial statements as well, particularly if it is a guarantor of the obligations of its local subsidiary. The contract should also have provisions that give the government the right to review data underlying payment computations or operating reports.

TERMINATION

When parties sign a mining agreement, they are in a sense getting married. Those that marry may need to divorce.

Thus, mining agreements should specify which parties can terminate the mining agreements and under which circumstances. There is always a provision that permits termination by one party if the other party is in default in the performance of its obligations under the contract, although that is often heavily qualified by various provisions requiring the defaulting party to be given notice of the default and an opportunity to cure the default. But sometimes the parties fail to consider the consequences of a default termination: who owes what to whom, and what happens to the mine assets, if any, already in place.

The parties may also agree on the situations in which a party may itself terminate the contract and walk away -- in a sense, a no-fault divorce. In this case, they still need to specify what happens to the mine assets and whether (and when, if at all) the decision

to walk away should trigger any payment obligation.

Termination clauses are essential and rarely discussed until the very end of negotiations and yet, they will determine the end of the marriage. All parties should think carefully and discuss how they can "get out" of the marriage, and make sure that the mining contract clearly sets forth all of the possibilities and the consequences of termination for each type of termination.

SOLVENCY OF THE MINING COMPANY

Most IMCs conduct their mining operations through companies that have no assets other than the relevant mining license or contract, the mine operating assets, and, perhaps, the contracts for sale of the mine output. The parent IMC is not a party to the mining contract, and the company's cash needs are covered by funds from the parent company, normally provided on an as-needed basis.

This means that if the operating company gets in trouble, or falls behind on payments to the state, the state has no access to funds unless the IMC chooses to continue funding its operating subsidiary. Governments deal with this risk by requiring the parent company to guarantee the liabilities of its subsidiary. The amount of such guarantees, and the conditions under which they can be called upon, involve fairly complex legal issues relating to actions that must be taken in order to call upon a guarantee. Governments should not attempt to negotiate such terms without lawyers experienced in such matters.

Often, particularly with smaller IMCs which may have weaker financial structures, governments insist on receiving guarantees (often in the form of letters of credit) from solvent financial institutions. The amounts of such guarantees are negotiable but usually represent a percentage of the overall estimated value of the contract. Again, such instruments involve a highly technical corner of the law and expert legal skills are essential.

A government may also consider what would be the consequences for the mine assets under local law should a mining company declare bankruptcy. In many cases, the mining company will have given its lenders a mortgage on the mine assets in order to finan-

ce mine construction. It may be necessary for the government to consent to such a mortgage in order to enable the construction of the mine, but if it does so, it should require, in the mining contract, that the lenders cannot dismantle the mine and sell off the assets piecemeal without the consent of the state.

A good lawyer and a wise banker can help the government negotiators think through these issues.

CORRUPTION

Despite increasing attention to the issue, corruption remains a challenge in many jurisdictions. In the last few years, many countries have followed the lead of the United States Foreign Corrupt Practices Act, and have passed and have begun to enforce laws that levy heavy penalties on companies that participate, directly or indirectly, in bribery of government officials. For this reason and business reasons, the large mining companies subject to such laws have become much more careful about the people with whom they do business and the way they conduct business.

As a result, if a license is issued to a smaller company and the surrounding circumstances suggest corruption, the licensee may find it impossible, after it makes a discovery, to bring in a partner with the financial capacity needed to develop the mine even if corruption cannot be proven. This may mean that the state has a valuable mineral asset held by a company that is not technically in default under its license, but which is also unable to go forward with mine development.

The moral, of course, is that governments may need to consider more carefully than they sometimes do the nature of the persons to whom they are issuing mining licenses and awarding mining contracts - not always easy to do in a mining regime in which priority is determined by time of filing a claim.

In regimes which require exploration or mining contracts, this is somewhat easier to deal with if the contract form requires representation that the contract recipient has not carried out any corrupt activities (which can be described in some detail) in connection with obtaining the contract. Breach of this representation can give the government the right to terminate the contract.

TO PUBLISH OR NOT TO PUBLISH?

Traditionally, mining contracts have been shrouded in secrecy. In some cases, they are not even shared within government. Even agencies with responsibilities relating to mining operations are sometimes not able to see the underlying contract. Certainly those not party to the agreement can only guess at the terms. This is in line with traditional standard practice going beyond the extractive industries sector. Yet the merits of keeping deals confidential are increasingly questioned by governments and civil society, and even by some companies. Governments are becoming more and more open about their procurement and contracts with private parties. This trend is extending to mining, where transparency is increasingly the norm.

EVOLVING BASES FOR DISCLOSURE

A growing number of governments now publish mining contracts, including Liberia, Peru, DRC, Guinea and Afghanistan. Some have legislated to require disclosure. For example, Liberia's Extractive Industries Transparency Initiative (LEITI) law mandates LEITI to "*serve as one of the national depositories of all concessions, contracts, and licenses and similar agreements and rights granted by the Government of Liberia to individuals and companies in respect of the logging, mining, oil, forestry, agriculture and other designated sectors; and to grant members of the public access to such concessions and agreements in keeping with their status as public documents.*"

The law goes on to state that:

> *"For the purpose of this Act, contract transparency shall mean (1) public accessibility of material concessions/licenses and agreements related to the sectors within the scope of the LEITI as per Section 5.4 hereof; and (2) the post-award review and/or audit of the process by and through which concessions, contracts, and licenses are awarded for exploration and/or exploitation of minerals, forests and other resources in order to ascertain that each award was made in compliance with applicable laws."*

A few governments disclose in accordance with broader constitutional or freedom of information commitments. For example, Article 150 of the constitution of Niger states:

> *"Les contrats de prospection et d'exploitation des resources naturelles et du sous-sol ainsi que les revenus versés à l'État, désagrégés, société par société, sont intégralement publiés au Journal Officiel de la République du Niger."*
>
> *[Contracts for exploration and exploitation of natural resources and the sub-soil as well as income paid to the State, disaggregated, company by company, are published in full in the Official Journal of the Republic of Niger.]*

Some, such as Guinea and DRC, simply publish pursuant to voluntary commitments, not backed by any law. In some countries, mining agreements are ratified by Parliament and therefore should automatically be in the public domain.

Some contracts also become publicly available via the investor. Most commonly, these are revealed through filings with regulators, such as those in Canada and the United States, by firms listed on Toronto and New York stock exchanges. These will include contracts that may not have been made public by the government. For example, the mining company SEMAFO has three separate contracts filed under the Canadian securities database SEDAR (System for Electronic Document Analysis and Retrieval), including their contract with the government of Burkina Faso.

It remains rare for the contract itself to specify that it will be disclosed. However, in countries that have adopted contract transparency, you will find an absence of confidentiality clauses or even language specifying publication in newer agreements. For exam-

ple, the Liberia- Western Cluster agreement states in Article 33:10 that "The Government shall make public this Agreement and any amendments or written interpretations of this Agreement."

Such clauses align with the recommended language in the MMDA states at section 30.1 (a):

> *"This Agreement and the documents required to be submitted under Section 2.4, by any past and present parties is a public document, and shall be open to free inspection by members of the public at the appropriate State office and at the files designated in the following subsection (e), and at the Company's office in the State during normal office hours."*

Similar language is now being incorporated into individual country model agreements.

IS DISCLOSURE A BREACH OF CONTRACT?

How is publication of existing deals reconciled with the existence of confidentiality clauses? When examined closely, the idea that current agreements must remain secret is a myth. Most governments could publish their mining contracts without risk of legal consequence.

Confidentiality clauses may be more nuanced than expected. Typically, restrictions are limited to "information and data" and not necessarily the contract itself. For example, the Australia-McArthur River Project agreement specifies (Article 24) that:

> *"Except to the extent otherwise required by law or the Stock Exchange Listing Rules, the Territory and the Company agree that a party shall not make public any confidential information provided by the other party pursuant to this Agreement without first obtaining the consent of the other party."*

The Sierra Leone - Sierra Rutile contract similarly notes:

> *"The Government will keep confidential all information provided to it by the Company, whether before or after the date of this Agreement and confirms that it shall not disclose such information to any third party without the Company's prior written consent."*

There is certainly no shortage of data generated in relation to a modern mining operation – seismic, geological, drilling and trading data. Much of this may be justifiably proprietary or commercially sensitive. Yet such information does not surface in mining contract documents.

Where disclosure has occurred, it has not tended to generate opposition from either party. Even where the law does not require disclosure, as in Guinea, the government has disclosed agreements retroactively without issue.

Moreover, many contracts are already available if you are able and willing to pay to access high-cost commercial databases. These are typically used within industry. So, despite the legal grey area, companies are regularly accessing agreements of competitors, which questions the validity of alleged concerns about disclosing commercial sensitivity. The real issue is asymmetric access to contract data-- not the unavailability of such data.

How to Do it?

As with many newer trends, the nuts and bolts of the process are still being tested. In countries where contract transparency is required, there can be ambiguities as to the "what, when, where, who and how" of disclosure. Neither relevant legislation nor the contract itself may specify when the contract should be made publicly available. It may not specify where contracts will be available – published in newspapers, in the national gazette, on a dedicated government website? In some cases, only a summary of key terms is made available (this remains an option for companies in projects with IFC investment). But who determines what is "key"?

In Liberia, contracts are published on the multi-stakeholder LEITI website. In Guinea, the government created a dedicated website to post all contracts with annotations of key provisions to facilitate understanding of the key terms (contratsminiersguinee.org).

Why Publish?

Perhaps the real question should be "why not"? Putting contract terms in the public domain can be reassuring to investors and local stakeholders alike. Officials negotiating on behalf of their governments may be even more careful to ensure they protect the public interest when they know the resulting deal will be made public. Publication can help build trust between contracting parties and society. It can avoid misperceptions around the contents of the agreements. This is important for government, but also for the mining company, which may become a local presence for decades. Publication enables broader analysis of the deal. Above all, it can facilitate more effective monitoring of contract implementation both by government and by third parties. For example, civil society groups are actively monitoring compliance with particular contractual obligations in countries as diverse as Peru, Burkina Faso, Afghanistan and Canada. Companies, too, are also keen to analyze deals awarded to competitors and are often the most vigilant in noting possible indications of corruption.

Such motivations help explain why contract disclosure is now recommended good practice according to the World Bank and the International Monetary Fund. The IFC requires the disclosure of the principal contract for mining projects in which it invests. A number of companies, such as Rio Tinto, have stated that they have no objection to contract disclosure. It is in line with ICMM's principles. The new EITI standard encourages participating countries to disclose contracts or to explain the basis for non-disclosure. This is prompting additional countries, such as Senegal and Mozambique, to commit to making mining contracts transparent, going forward. The Open Contracting Partnership, a new multi-stakeholder effort, is developing a standard for release of contract information, including an adaptation for extractives contracts.

APPENDIX

GLOSSARY

(Terms as used in this book)

AMORTIZATION

Process of decreasing an amount owed over a period. It refers to paying debt consisting of interest and part of the principal by making regular payments over a period of time.

BIOME

Major ecological community type often referred to as an ecosystem.

BROWNFIELD

Investment in existing infrastructure.

CAPITAL EXPENDITURE (CAPEX)

Money invested to buy or upgrade a fixed asset (e.g., building or machinery) that will create future benefits that extends beyond the tax year. Its counterpart, operating expenditure (OPEX), is the cost of running it. The purchase of a photocopier, for example, would involve CAPEX, while the paper and toner represents OPEX.

CONSORTIUM

Business agreement where parties agree to participate in a common activity or pool their resources in order to achieve a common goal. Each party retains its separate legal status and the consortium's control is limited and delineated in the contract.

DEPRECIATION

Decrease or loss in value because of age, wear or market conditions. In accountancy, it refers to two aspects of the same concept: (a) the decrease in value of assets, and (b) the allocation of the cost of assets to periods in which the assets are used. It can be used as an income tax deduction that allows a taxpayer to recover the cost or other basis of certain property.

DOUBLE TAXATION PRINCIPLE

Refers to income taxes that are paid twice on the same source of income. It occurs when corporations are considered separate legal entities from their shareholders and both pay taxes (corporations over their earnings and shareholders over the dividends). It is often mitigated by tax treaties between countries.

DUE DILIGENCE

Investigation carried out by a party to learn and verify the full background, history and current situation of a party with which it may contract or an asset it may acquire.

ECONOMIES OF SCALE

Occurring when the cost per unit of output diminishes with the increasing scale of the project as fixed costs are spread out over more units of production.

ECONOMIES OF SCOPE

In the context of a mining and related infrastructure operation, such economies of scope will arise when the outputs of one type of infrastructure can be used as the inputs of another type of infrastructure.

FLY ROCK

Rocks blown up or broken apart by explosives.

FREE ON BOARD (FOB)

Trade term requiring the seller to deliver goods on board a vessel designated by the buyer. It means that the supplier/seller pays for transportation of the goods.

FREE PRIOR AND INFORMED CONSENT (FPIC)

Principle that indigenous communities have the right to give or withhold their consent to proposed projects that may affect the lands they customarily own, occupy or otherwise use. In the context of mining, is increasingly being advocated to include other communities that will be affected by mining projects.

GREENFIELD

Investment in new assets (mine or infrastructure) with no pre-existence.

HEDGING

Investment position intended to offset potential losses/gains that may be incurred by a companion investment. In simple language, a hedge is a technique used to reduce any substantial losses/gains suffered by an individual or an organization.

HOME COUNTRY

Country where an investor is resident.

HOST COUNTRY

Country where an investment is made. Often referred to when the investment is made by a foreign investor.

INTERNATIONAL MINING COMPANY (IMC)

Used to refer to foreign mining companies.

INVESTMENT TREATY

Agreement between states in which they commit to provide covered foreign investors special substantive and procedural protections. An investment treaty may be a bilateral investment treaty (BIT), multilateral investment treaty, or investment chapter that is part of a bilateral or multilateral free trade agreement.

JOINT VENTURE (JV) AGREEMENT

Agreement where two or more companies agree to share profit, loss and control in a certain project. This is common where the project is too big for a single company to finance on its own. Partners can be from both the public and private sectors.

LONDON METALS EXCHANGE

Center for industrial metals trading and price-risk management. More than 80% of global non-ferrous business is conducted here. Its prices are used as the global benchmark.

NATIONAL MINING COMPANY (NMC)

Sometimes used to refer to a state-owned mining company.

OPERATING EXPENDITURE (OPEX)

Ongoing expense that a business incurs for performing its normal business operations. Its counterpart CAPEX is the cost of buying it. The purchase of a photocopier, for example, would involve CAPEX while purchase of the paper and toner represents OPEX.

OPPORTUNITY COST

Value of the best alternative forgone in a situation in which a choice needs to be made between several mutually exclusive alternatives (e.g., extract or not).

RENT

Revenue stream that accrues above and beyond a normal economic return on activity or profit. The concept was first developed by economists Adam Smith and David Ricardo in the 18th and 19th centuries. It dominates the economics of the global mining industry because of sharply varying cost of production for a commodity sold at roughly the same price. Economists differentiate between rent and a normal return on capital, or profit, and argue that it should be treated differently. Rent encourages rent seeking, an integral part of the concept of Resource Curse.

RIGHT-OF-WAY

Type of easement granted or reserved over the land for transportation purposes.

SOCIAL LICENSE TO OPERATE

Concept expressing the ongoing acceptance of the project by the surrounding community.

TAILING

Material left over after the extraction of ore.

TRANSFER PRICING

Price at which divisions of mining (or other) companies transact with each other. Transactions may include the trade of supplies or services among the parties. This price is below the market price.

WASTE ROCK

Rock that must be removed in order to gain access to the desired mineral.

LIST OF COMMONLY REFERENCED CONTRACTS

Afghanistan: Qara Zaghan Gold Project Contract between Krystal Natural Resources Company and the Ministry of Mines of the Islamic Republic of Afghanistan (January 10, 2011) ("Afghanistan - Qara Zaghan (2011)")

Australia: McArthur River Project Agreement between the Northern Territory of Australia and Mount Isa Mines Ltd. (May 4, 2007) ("Australia - McArthur River Project (2007)")

Democratic Republic of the Congo: Avenant No. 1 à la Minière Amendée et Reformulée du Septembre 2005 entre République Démocratique du Congo et La Générale des Carriéres et des Mines et Lundin Holdings Ltd. et Tenke Fungurume Mining S.A.R.L. (December 11, 2010) ("DRC - Tenke Fungurume (2010)")

Ecuador: Contrato de Explotacion Minera Otorgado por Ministerio de Recursos Naturales no Renovables a favor de La Compañía Ecuacorriente S.A. (March 5, 2012) ("Ecuador - Ecuacorriente (2012)")

Guinea: Convention de Base Entre La République de Guinée et BSG Resources (16 Decembre 2009) ("Guinée - Zogota, (2009)")

Guinea: Convention de Base Entre La République de Guinée et Alliance Mining Commodities (Juin 2010) ("Guinée - Koumbia (2010)")

Guinea: Convention de Base Entre La République de Guinée et Simfer SA La Société Pour L'Exploitation des Gisements de fer de Simandou (26 Novembre 2002) ("Guinée - Simfer (2002)")

Liberia: Mineral Development Agreement between the Government of the Republic of Liberia, China-Union (Hong Kong) Mining Co., Ltd. and China-Union Investment (Liberia) Bong Mines Co., Ltd. (January 19, 2009) ("Liberia - China Union (2009)")

Liberia: Exploration Agreement between the Government of the Republic of Liberia and African Aura Resources Limited (February, 27, 2004) ("Liberia - Africa Aura Resources (2004)")

Liberia: Amended Mineral Development Agreement between the Government of the Republic of Liberia and Mittal Steel Holding A.G. and Mittal Steel (Liberia) Holdings Ltd. (December 28, 2006, amending the agreement of August 17, 2005) ("Liberia - Mittal (2006)")

Liberia: Iron Ore Appraisal and Exploration Agreement for the Putu Range between the Republic of Liberia and Mano River Iron Ore (Liberia) Inc. (May 18, 2005) ("Liberia-Mano River-Exploration (2005)")

Liberia: Mineral Development Agreement between the Government of the Republic of Liberia, Putu Iron Ore Mining, Inc., and Mano River Iron Ore Ltd. (September 2, 2010) ("Liberia - Putu (2010)")

Liberia: Mineral Development Agreement between the Government of Liberia and Western Cluster Limited, Sesa Goa Limited, Bloom Fountain Limited, Elenilto Minerals & Mining LLC ("Liberia - Western Cluster (2011)")

Mongolia: Investment Agreement between the Government of Mongolia and Ivanhoe Mines Mongolia Inc. LLC and Ivanhoe Mines Ltd. and Rio Tinto International Holdings Ltd. (Oct. 6, 2009) ("Mongolia - Oyu Tolgoi (2009)")

Sierra Leone: Agreement between the Government of the Republic of Sierra Leone and Sierra Rutile Ltd. (November 20, 2001) ("Sierra Leone - Sierra Rutile (2001)")

Sierra Leone: Draft Model Mining Development Agreement (July 2012) ("Sierra Leone MMDA (2012)")

Model Mine Development Agreement 1.0 (April 4, 2011) ("MMDA")

COLOPHON

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