MINING VISION 2030: MAKING IT A REALITY

Cyprian Christian
Niwa Dwitama
Prakruti Joshi
Eleanor Katz
Alexander Rustler
Eugenia Simo Garcia
Sean Srichankij
Zulpha Styer
Mo Wang

Faculty Advisor : Professor Jenik Radon

School of International and Public Affairs
Columbia Law School

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ABBREVIATIONS

A.N.A.	Autoridad Nacional del Agua (*National Water Authority*)
A.P.R.A.	American Popular Revolutionary Alliance
B.I.T.	Bilateral Investment Treaty
C.D.A.	Community Development Agreement
D.C.M.	Dirección de Concesiones Minera (*Directorate of Mining Concessions*)
E.I.A.	Environmental Impact Assessment
EITI	Extractive Industry Transparency Initiative
F.P.I.C.	Free, Prior, and Informed Consent
F.T.A.	Free Trade Agreement
I.C.C.P.R.	International Covenant on Civil and Political Rights
I.C.E.S.C.R.	International Covenant on Economic, Social and Cultural Rights
ICSID	International Centre for Settlement of Investment Disputes
I.I.A.	International Investment Agreement
I.L.O.	International Labour Organization
INGEMMET	Instituto Geológico Minero y Metalúrgico (*Institute of Geology, Mines, and Metals*)
MINAM	Ministerio del Ambiente (*Ministry of the Environment*)
MINCUL	Ministerio de Cultura (*Ministry of Culture*)
MINEM	Ministerio de Energía y Minas (*Ministry of Energy and Mines*)
OECD	Organization for Economic Co-operation and Development
O.E.F.A.	Organismo de Evaluación y Fiscalización Ambiental (*Environmental Assessment and Inspection Agency*)
ONDS	Oficina Nacional de Diálogo y Sostenibilidad (*National Office of Dialogue and Sustainability*)
OSINERGMIN	Organismo Supervisor de la Inversión en Energía y Minería (*Supervising Body of Energy and Mines Investment*)
P.C.M.	Presidencia del Consejo de Ministros (*Presidency of the Council of Ministers*)
P.F.M	Public Financial Management.
POT	Plan Nacional de Ordenamiento Territorial
SEIA	Sistema de Evaluación de Impacto Ambiental (*Environmental Impact Assessment System*)
SENACE	Servicio Nacional de Certificación Ambiental (*National Environmental Certification Service*)
SDG(s)	Sustainable Development Goal(s)
S.M.B.	Special Mining Burden
S.M.T.	Special Mining Tax

U.N.	United Nations
UNDRIP	United Nations Declaration on the Rights of Indigenous People

DEFINITIONS

Columbia Report 2015	SIPA, *Mining in Peru, benefiting from Natural Resources and Preventing the Resource Curse*, SIPA Capstone Report 2015.
2016 Columbia Report	SIPA, *The Peruvian Mining Sector: Exploring Issues Related to Social License, Corruption, and the Trans-Pacific Partnership Treaty*. SIPA Capstone Report 2016.
2017 Columbia Report	SIPA, *Mining, Social License and Conflict Prevention.* SIPA Capstone Report 2017.
2018 Columbia Report	SIPA, *Community Partnership Agreement: Securing community consent in mining areas in Peru.* SIPA Capstone Report 2018.
Affected Community	A community that is affected by a mining project, usually referencing the social, economic, environmental effects of a project. This definition is not narrowly tailored or limited to a specific geographic location, but rather refers to the proximate cause of specific acts or actions associated with the entire mining chain.
Canon Tax (or also Canon)	The Canon Tax (Canon Minero). All resident companies, i.e. companies incorporated in Peru, are subject to income tax, at a rate equal to 29.5%.[1] As a general rule, 50% of the income tax paid by the mining company is remitted as canon minero by the central government to the regional and local authorities of the place where the mine is located.[2]
Community	A collection or group of people, residences, agricultural areas, and commercial structures that comprise a historically recognized or newly established social structure, inclusive of both rural (*comunidades campesinas*) and indigenous communities.
Community Development Agreement	Agreement entered into between the mining company and local community for the purpose of creating and ensuring an amicable and good relationship between the stakeholders and specifying how the benefits of the mining project will be shared with local communities.
Company	A privately held partnership, corporation, or other legal entity constituted to conduct business, and for the purpose of this Report in the mining sector.
Free, Prior and Informed Consent (or also **Consent**)	The right of accepting (agreeing to or rejecting) the implementation of a project that has more than an insignificant impact on the affected communities that is: • Free, i.e. given without coercion, intimidation, manipulation or corruption; • Prior, i.e. sought before every significant stage of the project; and • Informed, i.e. all parties share information, have ready and easy access to information in a form that is understandable, and have enough information, including on all impacts of the project on the parties, and capacity to make informed decisions.

[1] Ernst & Young, *Peru's Mining & Metals Investment Guide. 2017/2018*, 49 (2017).

[2] *See* Art. 9, *Ley de Canon* (Ley No. 27507).

Government	The executive branch of the Republic of Peru, and all of its ministries, officers and authorized agents and representatives.
Local Government	Municipal government officials, agents, representatives, institutions and other entities.
Peru	The Republic of Peru, comprehensive of its territory in its current extent and political form.
Regional Government	Provincial, regional, or subnational government agents, representatives, institutions, and other entities.
Columbia Report (or Report)	This 2019 Columbia Capstone Report.
Social Conflict	The manifestation (whether violent or otherwise) of a protracted opposition between two or more parties in a defined society, usually stemming from rights, justice, agency, or political power.
Social License to Operate	The concept of social acceptance and approval given by an affected community to a mining company, where the company has the requisite legitimacy, credibility, and trust to begin and/or continue operations.
Stakeholder	A party that has an interest in and/or is affected by mining operations. For the purposes of this Report, there are three main stakeholders: the affected communities, the Central and all levels of government, and the mining companies.

METHODOLOGY

This Report was crafted and developed through extensive literature review and desktop research, interviews in New York and Peru, and collective group discussion, all under the guidance of Professor Jenik Radon, Esq. from late January 2019 to May 2019. The seven graduate student authors from the School of International and Public Affairs (SIPA) of Columbia University, New York, studied large scale mineral and metal mining in Peru using economic, social and environmental frameworks, while the two LL.M. students from Columbia Law School (CLS) of Columbia University, New York, studied the governance and legal framework of mining and foreign investments in Peru.

In March 2019, the Capstone team traveled to Peru for 10 days, where they conducted interviews with key stakeholders in Lima, San Marcos, Arequipa, and Huarmay, including surrounding towns with a strong mining presence. These sites were chosen based on research conducted by the team and recommendations from fieldwork partners. In-country fieldwork consisted of interviews, interactions with and travel to directly impacted communities.

EXECUTIVE SUMMARY

Peru relies heavily on its mining industry for economic growth. The importance of the mining industry for Peru's economy cannot be overstated. It accounts for over 14% of the country's GDP and approximately 60% of exports.[3] Its relative economic weight, compared to other economic sectors such as manufacturing has increased in recent years, increasing the country's dependence on the extraction of mineral resources.[4] Despite the sector's importance, mining in Peru has caused social conflict and environmental despoliation. Unresolved questions around sustainable resource management, community consent, land rights, and corruption have thus far impeded the country's progress towards successful sustainable development.

Peru's Ministry of Energy and Mines has recently launched the laudable Mining Vision 2030, which sets out goals to align social and environmental sustainability by ensuring economic growth through creating an equitable and socially just mining ecosystem. The Columbia Capstone Team approached this Report with a two-fold objective:

(i) Formulate a comprehensive and workable policy implementation roadmap to achieve Peru's Mining Vision 2030; and
(ii) Map relevant indicators and integrate the SDGs into the Mining Vision 2030

To this end, this Report built on the essential work of previous Columbia Capstones, examined the regulatory framework, considered the role of government, mining companies and communities, identified key legal, economic, environmental and social issues, as well as proposed best practices in formalizing policies and practical mechanisms such as social licenses. Understanding that any solution for Peru's development must be formed by Peruvians themselves, we were committed to a multi-stakeholder approach that incorporates the voices of local communities and those most affected by mining activities.

The Mining Vision 2030 sets the ambitious goal that in 10 years mining in Peru will be inclusive; socially, environmental and territorially well-integrated; and operating in a framework of good governance and sustainable development. The Vision seeks to create a mining sector that is competitive and innovative and has the acceptance by society. This Columbia Report is organized according to the seven activities that the Mining Vision 2030 highlights as priorities. Each chapter deals with an individual activity and considers the relevant challenges and SDGS for that activity. The SDGS are listed in order of their relevance to the activity, as assessed by the Columbia Capstone team.

Following this Executive Summary is an outline of short-term recommendations that could be implemented within a year, supported by analysis and longer-term goals in the main Report. A

[3] OECD, *Towards higher economic diversification and productivity in Peru*. In OECD. *Multi-dimensional Review of Peru*. (OECD Publications 2016)
[4] Pablo De la Flor, 'Mining and Economic Development in Peru' (2014). ReVista Harvard Review of Latin America <https://revista.drclas.harvard.edu/book/mining-and-economic-development-peru> accessed 18 April 2019

full list of recommendations is at Appendix 1. The Report emphasizes the mining sector's important role in promoting development-oriented policies that support social and economic progress, and contribute to the realization of the Mining Vision 2030 and Agenda 2030—better mining outcomes, and a more prosperous Peru for all.

NEXT STEPS: RECOMMENDATIONS FOR THE YEAR AHEAD

MINING VISION ACTIVITY	ACTIVITY DESCRIPTION AS PROVIDED IN THE DOCUMENT RELEASED AND RECOMMENDATIONS CONSIDERED IMPLEMENTABLE WITHIN THE SHORT-TERM (APPROXIMATELY ONE YEAR)
Activity 1	**Strengthen the capacities of regional and local governments to improve the State's institutional management of: canon resources, concerted development plans, and land use planning in a participatory manner** • Utilizing emerging technologies and social media platforms to allow for effective communication between governments, at both a horizontal and vertical level, for example by publishing Environmental Impact Assessments to share data. • Develop Public Financial Management (PMF) programs that bring stakeholders together to better manage resources and develop metrics for fiscal accountability
Activity 2	**Disseminate and adopt the best national and international water management practices in the entire mining value chain, mainly to contribute to the integrated management of water resources in the national territory, adopting the highest environmental standards** Create a database of Tailing Storage Facilities (TSF's) locations and attributes in Peru
Activity 3	**Promote R & D & I throughout the productive cycle and the value chain of mining activity** • MINEM should contract an independent mining research body (such as Australian-based Mining) to conduct an economic assessment of value lost through lack of R&D to establish imperative for private investment. • Reform of Peruvian National Award for Innovation in Mining to support Mining Vision and/or Agenda 2030 by setting thresholds for minimum levels of investment in research and development, and reviewing current criteria to align more closely with Vision 2030.

Activity 4	**The State should promote a modern and innovative legal framework, including the promotion of mining exploration, maintaining high environmental and social standards** • Continue the process of granting free land property titles to indigenous communities • Create an expropriation regime and efficient procedure of negotiation between land owners and mining companies with governmental participation. • Recognize the potential role of the Ministry of Territorial Governance as a dispute resolution organ and employ its resources for mediation • Include in BITs obligations for investors related to CSR standards • Open up a channel of communication between SICRECI and the body implementing Prior Consultation to help ensure that SICRECI is in the know of any potential red flags at a stage during which it would be able to render timely advice for managing disputes. • Enhance multi-actor dialogue and formulate strategies for dispute prevention, with facilitation by the SICRECI
Activity 5	**The State should strengthen the process of implementing the comprehensive plan for the eradication of illegal mining and its impacts on the impact of human rights and the environment** • Strengthen MINEM ID and formalization programs to include in-person trainings and workshop on sustainable mining practices • Increase regulation of environmental impact assessments and mine closure plans to include proposal for incorporating ASM in later stages of mine's operation
Activity 6	**Promote clusters, linkages and productive diversification in the territories, fostering a favorable regulatory environment** • Develop a local content policy.

	• Create support mechanisms for small and medium-sized enterprises (SMEs)). • Cooperate and coordinate with mining corporates
Activity 7	**Design and execute a pilot plan to ensure spaces of permanent articulation, that are multi-actor and public-private with a purpose associated, but not limited, to the productive development of the region and the territory** • Launch the "Peru National Mining Award" replicating good practices and accelerating innovation. • Collaborate with local universities and think tanks to provide knowledge-based expertise for monitoring and evaluation.

Main Report

FACULTY NOTE -A VISION IS A MISSION

Natural resource development, in particular mining, is viewed by many, including the business community, as one of the more challenging undertakings, especially in natural resource rich developing countries such as Peru. The reason is simple: mining touches so many people and communities as well as so many aspects of our daily lives; and their interests should, and need to, be taken into account. And taking human concerns into account is not as straightforward as finance or, even engineering, which have a standard analytical framework and approach. People are naturally more complex as they express diverse and varied, admittedly often conflicting ones, viewpoints and perspectives, which nevertheless need to be discussed, debated and, in the end, addressed; and, concerning mining, this means securing community acceptance for mining exploration, development and operations.

Ernst & Young, a recognized international consultancy, describes a license to operate, which, in essence, is an expanded and renamed version of the social license to operate, namely community acceptance of mining operations, as the top business risk in its 2019-2020 annual survey of the business risks of world-wide mining. Earlier, in Ernst & Young's 2014- 2015 mining report, it specifically identified the social license to operate as the third most significant business risk. The Conga mine in Cajamarca Peru was cited as a prime example of this risk, noting that community protests have caused delays in this billion-dollar project. As an explanation for citing social license as a business risk, Ernst & Young ironically, and unbashfully, stated in that report that "local communities and broader stakeholders expect that an operator [mining company] will act responsibly, [and] deliver on their commitments," thereby implying that irresponsible behavior is the accepted norm in mining operations and that keeping one's promises, which is traditionally expressed worldwide as your word is your bond, was in the past not necessary. Moreover, the question of whether having to act responsibly or delivering on commitments raises ethical questions for mining companies and its executives was not even considered.

While the Conga mine only attracted limited worldwide media attention, the mines in Las Bambas have now become, thanks to the ever-growing reach of the world-wide-web (www), a global posterchild, but not for their potential, riches or benefits. Instead, Las Bambas has become synonymous with community conflict, although an open, and too often ignored, secret is that illegal mining is the cause of even more conflict. But, unfortunately, Las Bambas does not stand alone and is not an isolated occurrence. Over 200 mining conflicts in Peru, many of which have their root cause in illegal mining, have been recorded in only the first two months of 2019, a rate of 100 per month. This obviously hurts the economy, development, investment, and, most of all, the Peruvian people, as well as the international standing of Peru, not to mention how it effects Peru's aspiration to join the OECD. However, it does not have to be that way; and the ground breaking and welcome adoption this year, 2019, of Peru's Mining Vision 2030 attests to that.

Mining Vision 2030 seeks to directly address the issues raised by historic, and, unfortunately universally standard, mining practices (e.g. ignoring the need of securing a social license), which, as noted, Ernst & Young now defines as a business risk, although not a moral issue. In

that regard it is helpful to keep some basic concepts about mining in mind. Mining cannot be undertaken as a silo activity as its effects are far reaching. Mining cannot avoid having an environmental impact, and, by its very nature, mining changes the environment, which invariably is a permanent change. The mined land cannot be restored to its original condition, a physical impossibility. Water is intensely used by the mining industry and its use competes with, and limits the use by, among other sectors, agriculture. Rivers and underground water too often become contaminated, especially through the use of chemicals and other pollutants. Waste, or tailings, which are an inevitable and extensive by-product of mining cannot be recycled and must be permanently stored. But storage facilities, namely tailing dams, break, often resulting in environmental and human catastrophe. The collapse of Vale's Brumadinho iron ore *tailings* dam in Brazil, the mining industry's equivalent of BP's Deepwater Horizon Gulf of Mexico disastrous oil spill, with its discharge of millions of tons of toxic sludge, will scar the international mining industry for years. In short, there is no clean mining.

But mining continues to excite the imagination of miners (established miners as well as, unfortunately, illegal miners), surrounding communities and governments. Hernando *de Soto*, a Peruvian economist, estimated that Peru holds minerals worth over $800 billion, almost four times Peru's 2018 GNP. It is therefore not surprising that the discovery of minerals ignites dreams of riches, employment, development and better times. However, the heightened expectations of all must be managed if for no other reason than the fact that mining takes years of planning and building before a mine can become operational. Furthermore, mining requires significant capital investment, is costly to operate and maintain, and must cope with the inevitable market forces of up and down commodity prices, popularly known as boom and bust cycles.

And when mining does start operations, it effects and impacts, on a daily basis, the communities where mining is conducted, a fact that Ernst & Young acknowledges but ironically describes as a risk. People have to move to make way for mining operations; roads become congested; and mining dust spreads into people's homes. Drinking water too often becomes contaminated. Moreover, mining becomes a magnet and attracts people from other regions with the hope of finding jobs, which in turn creates pressures on housing and food supplies in mining communities. In the short term, mining communities experience a boom effect, but in the long term they have, as noted, a bust effect, especially when the price of an ore crashes or the mine has outlived its useful life.

Besides the inevitable environmental pollution, the boom town effect and the market ups and downs, mining has an overlooked or ignored underbelly. Where there is mining, there is corruption: corruption in securing mining licenses; corruption of regulators; and, sadly, corruption of community leaders and representatives. And, as already noted, the lure of riches also attracts illegal entrants. Illegal miners do not follow any standard or best practices and, consequently, cause significant pollution and environmental degradation.

But yet our modern societies need, want and rely on the ores that are produced by mining, whether for construction of buildings and homes, manufacture of equipment and goods, or for pleasure, such as gold jewelry. Ores are exported by natural resource rich countries to fuel their

development. In the case of Peru, minerals account for 60% of Peru's total exports, so mining conflicts will have a direct negative effect on Peru's economy and wellbeing.

So what have I told that is new, not known? Up to now, my synopsis of the mining industry is a summary of known facts. The challenges of mining are well known, even if they have not been adequately addressed. And they have not been adequately addressed because the multiple and different stakeholders, namely mining companies, communities, civil society, and governments, as well as academics and researchers, do not sit at the same table, do not openly and frankly discuss the challenges of mining. The mining companies in pursuit of profits, which is their understandable goal, have not sought ways to create a win-win situation for all, forgetting that minerals are a country's patrimony and lie underneath community and individual property. Moreover, mining companies have viewed and mis-chacterized the concerns and interests of communities as another business risk, rather than as rights, (in fact the top business risk), along with generally accepted business challenges as maximizing portfolio returns, rising costs and fraud. Mining Vision 2030 has creditably changed that as the initiators of the Vision, the Ministry of Energy and Mines, have brought together the different stakeholders, and, moreover, they have already achieved considerable success by having all of these stakeholders jointly draft and agree on a mutual set of core guiding principles. It is of particular note that the Mining Vision in its principles has underscored the importance of furthering research and development in the mining sector, as technological research has been a neglected facet of mining. The mining practices of old, such as rock blasting, removal of topsoil and insertion of a host of chemicals into the ground, are still common practices of today. Moreover, the Mining Vision has also acknowledged the significant (negative) impact of illegal mining, an aspect of mining too often ignored as no country has been able to successfully formalize this sector.

This Columbia Capstone Report has sought to provide recommendations on how to realize and implement the Mining Vision principles in a way that benefits companies and affected/impacted communities alike, now and in the future, as well as Peru overall, all the while giving priority to the preservation of the environment in a sustainable way, an invaluable natural heritage for Peru's present and future generations. We, the Columbia Capstone team, hope and trust that our recommendations will be of use for Peru and Peruvians in the implementation of Mining Vision 2030.

Jenik Radon
Adjunct Professor

INTRODUCTION

Peru relies heavily on its mining industry for economic growth. Despite the sector's significance in Peru's economic and social fabric, mining in Peru has caused social conflict and environmental despoliation. Unresolved issues revolving around sustainable resource management, community consent, land rights and corruption have thus far impeded the country's progress towards sustainable development.

In an effort to achieve the SDGs, Peru's Ministry of Energy and Mines has recently launched the laudable Mining Vision 2030 that sets out goals to align social and environmental sustainability by ensuring economic growth through creating an equitable and socially just mining ecosystem. In this vein, the Government of Peru has commissioned the Capstone Team with a two-fold objective:

> (i) Map relevant Indicators and Integrate the SDGs into the Mining Vision 2030; and
> (ii) Formulate a comprehensive and workable policy implementation roadmap to achieve Peru's Mining Vision 2030.

To this end, this report has built on the essential work of previous capstones, examined the regulatory framework, considered the role of the government, mining companies and communities, identified key legal, economic, environmental and social issues, as well as proposed best practices in formalising policies and practical mechanisms such as social licenses. Understanding that any solution for Peru's development must be informed by Peruvians themselves, the Report follows a multi-stakeholder approach that incorporates the voices of local communities and those most affected by mining activities.

This Report seeks to assist the Government of Peru in its progress towards a sustainable mining industry and the achievement of Agenda 2030.

Overview of the United Nations Sustainable Development Goals

In 2015 the 193 United Nations (UN) member states adopted the 2030 Agenda for Sustainable Development, which includes a set of Sustainable Development Goals (SDGs). The 2030 Agenda and the SDGs represent the world's plan of action for good governance, social inclusion, environmental sustainability and economic development.[5] It follows the shared belief that sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.[6]

Meeting the SDGs by 2030 will require unprecedented cooperation and collaboration among governments, non-governmental organizations, private sector organizations and communities. Achieving the SDGs will require all sectors and stakeholders to incorporate the goals into their own practices and operations.

[5] CCSI, *Mapping Mining to the Sustainable Development Goals: An Atlas*, (CCSI 2016)
[6] Brundtland, et al. *Our common future* (1987).

Within this framework, the mining industry has a duty and an unprecedented opportunity to mobilize human, physical, technological and financial capital to advance the SDGs.[7] Mining is a global industry that is often located in remote, environmentally sensitive and economically less developed areas that are home to many indigenous communities. When managed appropriately, the industry can create employment, education opportunities, spur technological advances, stimulate innovation and bring infrastructure to places where such investments have traditionally been absent.[8]

If managed poorly, mining can also lead to social conflict, ecological degradation, inequality and governance issues, among other challenges.[9] Mapping the linkages between mining and the SDGs represents a core aim of this Capstone Report and serves to demonstrate the potential for all mining-related stakeholders in Peru to contribute to sustainable development by incorporating relevant SDGs into their operations. Success will require substantial and ongoing partnerships, including in the collegial and legal definitions of that term, between governments, the private sector, communities and civil society, as well as close cooperation with universities and learning institutions to support programs and efforts to help unlock mining's potential to contribute to a sustainable future.[10]

While the mining industry is diverse, the scope and nature of mining activities highlight some common opportunities to contribute to the SDGs.[11] This Columbia Capstone Report is intended as an introduction and foundation to the many linkages between mining and the SDGs and emphasizes the growing opportunities of mining in sustainable development, which are assessed throughout the Report and summarized at the end of each chapter.

By linking each of the seven activities in the Mining Vision 2030 to relevant SDGs, the Columbia Capstone team has created a foundation to integrate the role of mining into the broader discussion of sustainable development, while tying Peru's Mining Vision 2030 to Peru's broader national progress to achieving the SDGs. The Columbia Capstone team trusts that this Report will galvanize action that will leverage the transformative power of collaboration and cooperation between the Peruvian government, the mining industry and other stakeholders.

[7] CCSI.

[8] Ibid.

[9] SIPA, 'Mining in Peru, benefiting from Natural Resources and Preventing the Resource Curse' SIPA Capstone Report 2015, <https://sipa.columbia.edu/file/3317/download?token=b5gYZ371> accessed 16 May 2019

[10] CCSI.

[11] Ibid.

1. GOOD GOVERNANCE INSPIRES

Activity 1: Strengthen the capacities of regional and local governments to improve the State's institutional management of: canon resources, concerted development plans, and land use planning in a participatory manner.

Overview

Governments need to operate within a good governance framework – this is an imperative requirement for development. A strong, stable, and fair government reduces social conflict and leads to a more peaceful society.[12] Peru is the world's second largest producer of copper, silver, zinc.[13] Peru has the third largest reserves of copper, zinc and molybdenum reserves and the fifth largest reserve of gold.[14]

In 2018, Peru's annual growth rate was 3.9%.[15] Though the country has found new sources of revenue, poverty remains stubbornly high,[16] especially in the rural areas (44% in rural areas).[17] Strengthening government capacity (especially at a regional and local level) to manage and distribute sources of wealth properly helps create a more just and equitable society. Government capacity building includes a focus on basics: from road maintenance to clean water infrastructure to well-equipped hospitals that can provide services 24/7.

Good governance inspires. It allows ordinary citizens to feel empowered, safe, and free to stake a claim in their communities. What is most challenging is how to give governments the tools and support they need to provide quality services.[18] Giving government the tools necessary to strengthen governance capacity is a first step in rebuilding trust and social cohesion in communities.[19]

Recommendations

1. Ensure EITI standards are met and enforced in order to promote transparency at all levels of government.

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[12] Kenneth Newton, Stolle Dietlind and Sonja Zmerli, 'Social and Political Trust,' *The Oxford Handbook of Social and Political Trust* (Oxford University Press 2018).

[13] 'Peru Is The Second Largest Copper, Silver And Zinc Producer In The World' (*Livinginperu.com*, 8 May 2019) <https://www.livinginperu.com/peru-is-the-second-largest-copper-silver-and-zinc-producer-in-the-world/> accessed 25 May 2019.

[14] 'Peru Is The Second Largest Copper, Silver And Zinc Producer In The World' (n 13).

[15] 'World Bank Data on Peru' <https://data.worldbank.org/country/peru> accessed 29 April 2019.

[16] 'Global Poverty' (World Bank Group 2016) <https://openknowledge.worldbank.org/bitstream/handle/10986/25078/9781464809583.pdf#page=55> accessed 26 April 2019.

[17] Teresa Cespedes and Mitra Taj, 'Peru Poverty Rate Rises for First Time in 16 Years: Government' *Reuters* (24 April 2018) <https://www.reuters.com/article/us-peru-poverty-idUSKBN1HV2L2>.

[18] During a field visit to San Marcos (an area rich in copper), locals described their government as "useless" and instead looked to the mining companies to provide essential services for the community.

[19] Newton, Dietlind and Zmerli (n 12).

2. Utilize emerging technologies and social media platforms to allow for effective communication between governments, at both a horizontal and vertical level, for example by publishing Environmental Impact Assessments to share data.

3. Develop PFM programs that bring stakeholders together to manage resources better and develop metrics for fiscal accountability.

4. Improve local and regional elections by engaging citizen-stakeholders and holding accountable those running for public office. Ensure multiple voices are heard through community outreach efforts designed to target specific communities (i.e., women, indigenous persons, and other marginalized groups.)

Challenges

Implementing these recommendations, many of which have already begun, will require regular and sustained coordination among multiple stakeholders. It will require a give-and-take among different groups, notwithstanding that many of whom have competing priorities. For example, mining companies focus is on profits, while a town mayor focuses on delivering quality services to their constituents.

Arguably, the greatest challenge is how to have everyone reach a mutually beneficial decision. The principles laid out below will help Peru strengthen the capacities of Local and Regional Governments in their oversight of mining activities. Doing so will also ensure the mining sector is held to the highest socio-ecological standards while benefiting all Peruvian citizens, including future generations. Strengthening the capacity of local and regional governments to manage Canon Resources requires improved systems, coordination, and communication between various entities. Below are some of the critical challenges.

Building trust in public institutions

Like other resource-rich countries, Peru is experiencing a public trust deficit towards government institutions. Although low trust is associated with resistance, high trust is associated with cooperative behavior. [20] Lack of trust in existing institutions is a significant impediment in creating a multi-actor partnership. While corruption is perceived to be widespread, with 89% of Peruvians believing it to occur within the government and 82% within businesses, more than 60% of citizens have not lodged complaints about corruption cases because they believe it would be useless or even cause further problems.[21]

Like building a personal relationship, restoring trust in the government requires a step-by-step and sustained approach with clear policy objectives. It takes time and continued commitment

[20] OECD. (2017). "Trust and Public Policy: How Better Governance Can Help Republic Public Trust." Accessed from http://www.oecd.org/governance/trust-and-public-policy-9789264268920-en.htm

[21] OECD. 2015. "Multi-dimensional review of Peru: Volume 1. Initial Assessment," pp.167. accessed from https://www.oecd-ilibrary.org/governance-and-effective-state-capacities-in-peru_5jrs8chg240w.pdf?itemId=%2Fcontent%2Fcomponent%2F9789264243279-10-en&mimeType=pdf

to nurture public confidence. According to the OECD, there are two keys to public trust, which are competence (the ability of government to deliver to citizens the services they need, at the quality level they expect) and values (the principles that inform and guide government action).[22]

Encouraging active and continual citizen participation

Getting citizens involved in government processes is not easy. Peru currently has in place programs to aid citizens,[23] but encouraging individuals to maintain interest needs a separate program. The engagement of new actors that were previously not engaged in political or electoral processes helps keep citizens active and engaged. For example, social organizations representing certain segments (including laborers or farmers) of a population can help ensure these groups fully participate and understand what their rights are.[24] This arrangement is not too dissimilar to a labor union.

A further challenge of this process is ensuring that all groups are equally, equitably or fairly represented in the processes. Women should be as active as men; rural citizens as active as urban citizens; and indigenous populations involved in all decisions that affect them. While an NGO may typically take on this role, creating these organizations at a grassroots level and letting them grow organically is preferable.[25] While governments' role is not to create civil society, it is important that independence and freedom to organize is respected when communities do form representative groups.

Entrenching responsible sustainable finance.

The financing of in-country governance programs and initiatives not surprisingly requires funding. Tax revenues from the mining sector can and should be applied towards this. Too often, however, the process of collecting and managing tax revenues is opaque and unaccountable. Creating a financial management system with the sole purpose of serving the public interests would aid in strengthening local and regional governance capacities.

The OECD has worked on PFM programs for developing countries.[26] PFM aims to bring together various stakeholders to better manage resources; develop metrics for measuring fiscal accountability; and strengthen the accountability of existing institutions.[27] Implementing small steps, over a defined period, can help in creating a culture of accountability and institutionalizing these changes. An additional benefit is that increased compliance and

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[22] OECD, 2017, pp.5

[23] Stephanie McNulty, 'The Fujimori Effect: Political Instability and Paralysis in Peru' [2017] *NACLA* <https://nacla.org/news/2017/12/29/fujimori-effect-political-instability-and-paralysis-peru> accessed 27 April 2019.

[24] Ariela Peralta, 'The Role of NGOs in Strengthening the Governance Environment in Peru: The Case of Fujimori' (World Bank Group) <https://siteresources.worldbank.org/INTWBIGOVANTCOR/Resources/PeraltaPresentationEnglish.pdf>.

[25] Peralta (n 24).

[26] 'Using Country Public Financial Management Systems: A Practitioners Guide' (OECD 2011) <http://www.oecd.org/dac/effectiveness/49066168.pdf>.

[27] 'Using Country Public Financial Management Systems: A Practitioners Guide' (n 26).

engagement with OECD standards increases the likelihood of Peru being admitted as an OECD member.

Addressing corruption

Corruption is a significant concern in Peru. Peru is ranked 105 out of the 180 countries assessed by Transparency International's Corruption Perception Index, with a score of only 35 out of 100.[28] Corruption works against the public good and creates an environment of social distrust and cynicism against all levels of government.[29] In 2014, a Peruvian State Attorney General claimed that officials were investigating 92% of mayors for corrupt practices.[30] Robust public sector governance depends on ensuring everyone respects institutions, including legislature, the courts and the executive.

A holistic approach requires working with multiple stakeholders (including government leaders, private citizens, business, and media) to ensure that corruption can be tackled in a concerted manner by a range of stakeholders and institutions.[31] Addressing corruption issues, at all levels of government,[32] leads to stronger institutions that better serve citizens and their needs.[33]

Supporting analysis for recommendations

1. Ensure EITI standards are met and enforced in order to promote transparency at all levels of government

As part of its effort to strengthen its governance capabilities, Peru agreed to the EITI. However, not all regional and local governments in Peru have adopted EITI standards. To promote transparency, these communities should adopt these standards and hold accountable all companies benefitting from the mining sector. Having local citizens participate in the process of implementing EITI standards would contribute to repairing trust and social cohesion in places that sorely lack them. The engagement of local citizens also leads to community empowerment because it gives individuals a voice in how officials manage their communities. Promoting transparency in government and holding accountable elected leaders and government officials would help repair and establish trust between citizens and the political system.

Many of these mining communities have seen little material benefits (for example, in the form of improved infrastructure or services) from natural resource extraction. According to a 2016

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[28] Transparency International e.V, 'Corruption Perceptions Index 2018' (*www.transparency.org*) <https://www.transparency.org/cpi2018> accessed 25 May 2019.

[29] Lucia Dammert and Katherine Sarmiento, *Corruption in Latin America* (Springer 2018) <https://link.springer.com/chapter/10.1007/978-3-319-94057-1_8#aboutcontent> accessed 26 April 2019.

[30] Dammert and Sarmiento (n 29).

[31] 'OECD Strategic Approach to Combating Corruption and Promoting Integrity' (OECD 2018) <http://www.oecd.org/corruption/OECD-Strategic-Approach-Combating-Corruption-Promoting-Integrity.pdf> accessed 28 April 2019.

[32] Dammert and Sarmiento (n 29).

[33] ibid; Newton, Dietlind, and Zmerli (n 1).

Ford Foundation report, there has been an observable gap between individuals living in extractive areas versus those not living in extractive areas in access to services (i.e. clean drinking water, sanitation services, electricity, etc.).[34] It is vital for citizens of these mining communities to have easily identifiable and accessible information about how the government spends tax revenues from mining operations. Transparency in financial systems leads to stronger social cohesion and trust in government.

Case Study – Operação Lava Jato or Operation Car Wash

A luxury Land Rover was given to former Petrobras director Paolo Costa by Alberto Youssef, an infamous criminal figure.[35] Petrobras is a state-owned company so the gift raised suspicions and led to an investigation that uncovered the largest corruption scandal in Latin America. The scale and audacity of the Operation Car Wash (OPC) was astonishing and at its core, OPC exposed the depths of corruption and greed that plague so many emerging market economies today.

The Brazilian Workers' Party and its partners (which was headed by Paolo Costa) had diverted state funds (value between 1% and 5% of each deal) into a secret fund. Petrobras executives would then use this fund to funnel money to politicians and political parties. The goal was to keep the governing coalition in power. What is even more striking is the scope and complexity of the scheme. The scheme utilized methods from complicated accounting mechanisms to rudimentary money trafficking using human smugglers.

Furthermore, Petrobras is one of the largest companies in Latin America. It has the highest valuation of any Latin American company and provided thousands of jobs across the country. Former Brazilian president Dilma Roussef (who served as its board of directors during the period of the corruption) was impeached and removed from office by the National Congress of Brazil.[36] Overall, the scandal involved approximately USD 9.5 billion in 'dirty' money.

The scale of the corruption crossed transnational boundaries and included over 14 countries, including Peru.[37] This case study demonstrates the scope and scale of corruption in Latin America. Rooting out this corruption will not be an easy task, but exposing it is a necessary first step.[38] These recommendations can serve to begin strengthening Peru's government and give its citizens a chance to lead stable and meaningful lives.

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[34] 'Comparative and Descriptive Analysis of the Effects of the Extractive Industry Boom' (Natural Resource Governance Institute 2016).

[35] 'Operation Car Wash' (2018) 4 *The Practice* https://thepractice.law.harvard.edu/article/operation-car-wash/.

[36] Jonathan Watts, 'Operation Car Wash: Is This the Biggest Corruption Scandal in History?' *The Guardian* (1 June 2017) https://www.theguardian.com/world/2017/jun/01/brazil-operation-car-wash-is-this-the-biggest-corruption-scandal-in-history.

[37] These countries included: Argentina; Chile; Colombia; Dominican Republic; Ecuador; Guatemala; Mexico; Panama; Peru; and Venezuela. Joe Leahy, 'What Is the Petrobras Scandal That Is Engulfing Brazil?' [2016] *Financial Times*, <https://www.ft.com/content/6e8b0e28-f728-11e5-803c-d27c7117d132>.

[38] Shruti Sudarsan, 'Operation Car Wash: As Brazil Faces Challenges Ahead, a Silver Lining Appears' (14 September 2018) <https://www.johnson.cornell.edu/businessfeed/2018/09/14/operation-car-wash-brazil-challenges/>.

2. Utilize emerging technologies and social media platforms to allow for effective communication between governments, at both a horizontal and vertical level

New technologies and social media platforms have revolutionized communications and information sharing. Moreover, while the regulatory framework governing social media technologies is still developing,[39] their power can be harnessed for social change and charitable purposes. Many of these platforms can be built upon existing infrastructure network to reduce transaction costs. Utilizing existing social media platforms or creating new ones will connect a higher number of citizens and institutions.

The 2018 Columbia Capstone team recommended a year of service in an underserved community for Peruvian University students entering certain professions. Engaging Peruvian university STEM (science, technology, engineering, and math) students to work with local governments in mining regions to develop, build, connect, and secure these social media systems can support a sound governance framework.

Peru has a program in place called *Municipio al dia,*[40] which allows municipal governments to share information and advice easily and with minimal hassle. This information sharing allows ordinary citizens to read about Peruvian laws (especially mining-related laws) and find pertinent information about upcoming town meetings. Access to up-to-date and accurate information strengthens governance at all levels.[41]

Case Study – Colombia's MinSalud[42]

In Colombia, the Ministry of Health (MinSalud) brought together disparate health information from various platforms in one easily accessible location in a new application known as ClicSalud. ClicSalud was developed and launched in 2015 for Colombians to easily compare drug prices, find out information and locations of Health Promotion Organizations and Health Care Providers, and file complaints.

The primary goals of the application are to promote transparency and accessibility in the complex healthcare sector. The system also allows government agencies to collect reviews of government-funded services from users, which aids government monitoring and evaluation processes for service providers. Users are also provided with information on their rights and responsibilities.

The project was a collaborative effort between numerous government agencies including the MinTIC and the Superintendent of Public Health.

A similar system bringing together various bits of information related to the mining sector in Peru (i.e., company tax rates, how often companies pay taxes, accounting for where and how each level of government spends tax money) would support a strengthening of governance.

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[39] Beth Kewell, Richard Adams, and Glenn Parry, 'Blockchain for Good?' (2017) 26 Strategic Change 429.

[40] 'Municipio al dia' <https://municipioaldia.com/>.

[41] Antonio Vetro and others, 'Open Data Quality Measurement Framework: Definition and Application to Open Government Data' (2016) 33 Government Information Quarterly 325.

[42] 'Digital Government Review of Colombia: Towards a Citizen-Driven Public Sector' (OECD Digital Government Studies 2018) <https://www.oecd-ilibrary.org/governance/digital-government-review-of-colombia_9789264291867-en>.

3. Develop Public Financial Management (PMF) programs that bring stakeholders together to manage resources better and develop metrics for fiscal accountability.

Strong, fiscally sound practices of managing finances are crucial in strengthening the capacity of local and regional governments. Improved financial systems provide a host of benefits, including, but not limited to: facilitate better cash management; better monitoring of outstanding bills and fiscal deficits; and up-to-date data on available finances[43]. Each country is unique in its background and history. However, that should not impede its ability to implement sound financial management practices.

Governments have a responsibility to provide social support for their citizens and encourage economic growth. Political corruption blossomed due to the consolidation of minimally regulated spaces such as the budgetary accountability of regional governments and the continuous lack of regulation of the financing of political campaigns.[44] Strong PMF programs intent on informing citizens of the sources of finances and where funding is allocated are crucial to strengthening regional and local governments.

Peru is part of the Open Government Partnership and as part of the national action plan has developed programs aimed at increasing access to financial information. One of the biggest issues is a lack of space for dialogue between governments, mining companies, and civil society stakeholders about tax contributions and the distribution and use of resources from the mining sectors.[45] Creating a technical platform that is user-friendly and easily accessed would help to solve this problem. Recent data estimated that Peru has 12.1 million smartphone users, and this platform could be leveraged to provide access to this information.[46]

Furthermore, recommendations for creating an independent, citizen-led committee that monitors local tax revenues and how officials spend that money. This body should be demographically representative of the town/region in which it operates (i.e., if a town is made up of 57% women, then approximately 57% of the committee members should be women.). These protocols ensure that all decisions are representative of the community at large. These volunteer citizens should be chosen from the people for a term of three years.[47] Online training programs aimed at giving these citizens the financial tools and knowledge necessary to carry out their duties must also be considered by those responsible for participatory budgeting and local governance measure.

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[43] World Bank, 'Improved Public Financial Management Systems to Support Sustainable Development in Lao PDR' <https://www.worldbank.org/en/news/press-release/2019/05/09/improved-public-financial-management-systems-to-support-sustainable-development-in-lao-pdr> accessed 12 May 2019.

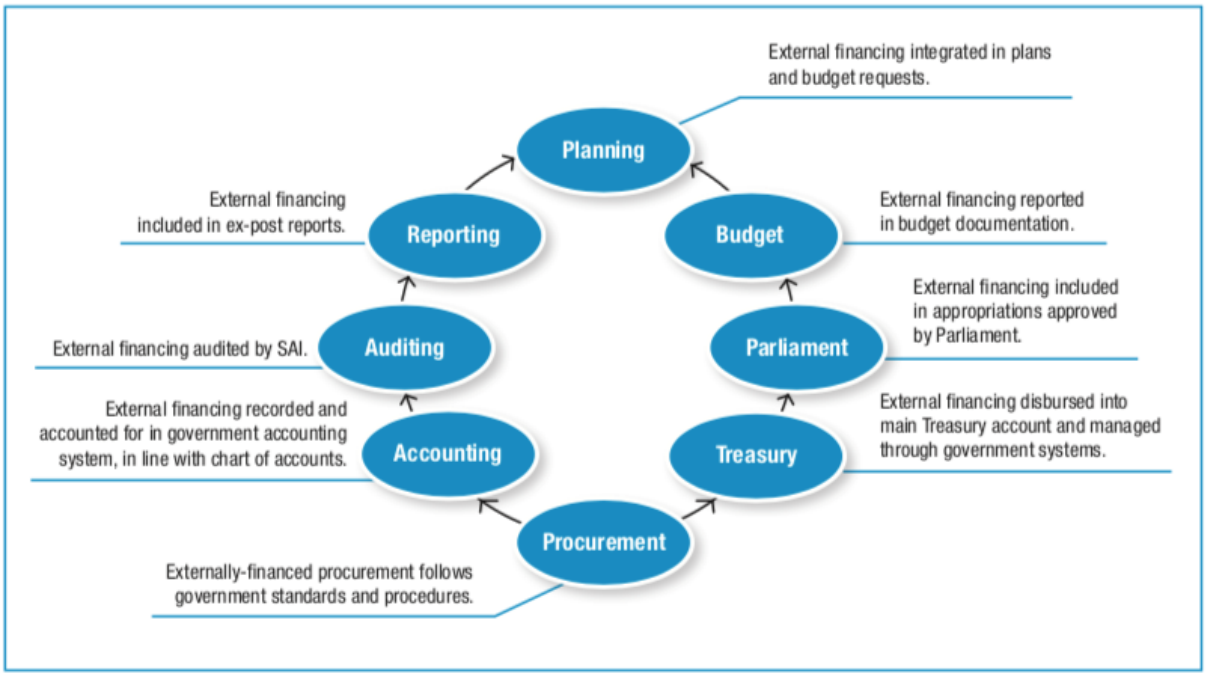
[44] Dammert and Sarmiento (n 29).

[45] 'Open Government Partnership: Peru' <https://www.opengovpartnership.org/countries/peru>.

[46] 'Number of Smartphone Users in Peru from 2014-2020.' <https://www.statista.com/statistics/494630/smartphone-users-in-peru/> accessed 26 April 2019.

[47] Three years is chosen as the length of the term because it allows officials to become acclimated to the governance process while being able to govern effectively and justly.

Figure 1. **Using partner country PFM systems at different stages of the budget cycle**



Source: Derived from Mokoro (2008).

4. **Improve local and regional elections by engaging citizen-stakeholders and holding accountable those running for public office. Ensure multiple voices are heard through community outreach efforts designed to target specific communities (i.e., women, indigenous persons, and other marginalized groups)**

Since 2016 Peru has taken several steps to strengthen its political process and elections. Elections are the foundation upon which democracy rests.[48] They are vital to the democratic process. Voter awareness and trust is foundational to a functional democracy. With technology making it much easier to access information, leveraging this capability is a critical focal point to ensure stronger elections.[49] Social media campaigns and voter engagement initiatives are necessary to increase voter awareness and informed decisions about the electoral process.

The voter registration process can be improved by making it easier for citizens to register their vote. Voter participation is another area where social media technologies can prove useful. Creating a user- friendly mobile app that educates citizens about the process of voter registration and voting would be the first step. Aside from this, citizens should understand that their voice matters.

Peru has a program called the Open Government Plan. This plan trains government officials on open governance principles, how to access policies and laws, and gives them tools on rooting out corruption. Rolling out the Open Government Plan in Peru would go a long way in strengthening governance mechanisms. Educating local governments about this program can

[48] Pippa Norris, *Strengthening Electoral Integrity* (Cambridge University Press, 2017).
[49] Newton, Dietlind and Zmerli (n 12).

progress good governance and a fair election process.[50] Knowledge is power, and providing local government officials with this information would go a long way in ensuring an honest and transparent administration of the country.

Contribution to the SDGs

Good governance and strong democratic institutions are paramount in ensuring the SDGs can be met. Implementing the recommendations above will help to achieve the following United Nations SDGs:

Goal 16. Promote just, peaceful, and inclusive societies

Strengthening local and regional governments to work for their citizens will ensure a society that is more fair, honest, and open for everyone, regardless of their identity. Good and fair governance can help ensure the SDGs are achieved.[51] While "just" and "peaceful" societies are ambitious goals, incorporating the above steps are an important move in the right direction.[52]

Goal 9. Build resilient infrastructure, promote sustainable industrialization, and foster innovation

Focusing on e-governance and utilizing existing technologies in different ways, will help Peru develop their digital (and eventually, physical) infrastructure. *Municipio al dia* is just one example of how this is happening now. Other social media platforms (including the MinSud case study) in existence can be scaled and transformed to help achieve the SDG. Additionally, there is much talk about using blockchain technology to strengthen mining sector supply chains.[53] The adoption of such technologies would greatly help in achieving the above SDGs.

Goal 7. Ensure access to affordable, reliable, sustainable, and reliable energy

Holding mining companies accountable through honest and robust government institutions will lead to energy systems benefitting all citizens. Secure PMF systems that integrate multiple layers of in-country finances will ensure that mining companies and local and regional governments are held to the highest standards. Furthermore, adherence to EITI will hold the government and mining companies accountable by requiring them to be transparent and open in their operations.

[50] 'Open Government Partnership: Peru' (n 45).
[51] Newton, Dietlind and Zmerli (n 12).
[52] By no means are these recommendations exhaustive and future Capstone teams will have ample opportunities to explore these issues further and build upon this Report.
[53] Kewell, Adams and Parry (n 39).

Activity 2: Disseminate and adopt the best national and international water management practices in the entire mining value chain, mainly to contribute to the integrated management of water resources in the national territory, adopting the highest environmental standards

Overview

The development of the mining industry is closely related to environmental issues for the simple reason that all mining activities have an environmental impact. Mining's adverse footprint on the environment cannot be avoided, although it can be significantly minimized. With the continuous expansion of mining, the increased number of projects result in increased mining production. With this increase, resolving environmental issues has become indispensable in order to achieve sustainable social and economic development goals set forth in the SDG framework. The Peruvian Government has come to recognize that it is necessary to formulate a comprehensive, clear and feasible objectives and plans for the environment, as set forth in the Mining Vision 2030, in order to achieve the sustainable development of the mining industry.

Recommendations

5. Continue to promote greater transparency regarding the impact of mining activities on the environment and people's health in order to empower the communities with the ability to monitor any risks or updates. The participation of the community through monitoring in the regulatory and licensing process will facilitate the access of information to all stakeholders, thus building a more trusting relationship that is more viable for all parties involved.

(i) Environmental Impact Assessments (EIA's) must be completed independently without influence from the company or the government. Therefore, the government should implement the use of third-party auditors that are financed by the companies but report their findings to the respective government regulatory entity, thereby mitigating potential conflicts of interest.

(ii) The government should establish an authorized list of trusted and approved external auditors, and the respective regulatory authority will be responsible to assign an auditor for a company.

(iii) Install groundwater wells, which in addition to monitoring water quality and water levels, can be used as an indicator of potential future water conditions.

6. Standardize the costs of pollution in the financial statements of the companies so that neither the state nor the communities bear the associated economic burdens. This will result in companies reflecting such costs in their balance sheets and incentivize companies to address social and geographical factors in order to decrease such costs. This should also have the additional benefit of having companies contribute to the country's sustainable development

through long-term investment in other forms of capital (namely human, physical, and natural).

(i) Financial disclosure of potential liabilities from Tailing Storage Facilities and the probability of their failure.

7. Incorporate adaptive and data-driven metrics in the existing regulatory system in order to improve environmental outcomes, lessen potential conflicts, and decrease the risk of cumulative (negative) effects/impacts in water quantity and quality

(i) Use statistical and scientific approaches to identify trends in water quantity and quality as it relates to mining activities, including scoring the potential future risks associated with the failure of mining systems.

(ii) Create a database of Tailing Storage Facilities (TSF's) locations and attributes in Peru.

Challenges

In order to achieve the sustainable development goals for environment and mitigate confrontations between mining companies and local communities, the Peruvian government needs to address and resolve the following key challenges:

Lack of effective management over, and clear allocation of rights for, water resources

Peru is South America's most water-stressed country. Water running from the Andean highlands serves as a water tower that supports the downstream population and agricultural activities[54]. Additionally, mining companies also need to access and use this water, including in areas where there is limited precipitation, during their production processes and operations.

Since 2005 mining's adverse impacts on water quality and quantity have become quite contentious[55] as there is, among other things, considerable acid drainage as well as the escape of other ancillary products during the production process. It has been estimated that each year mining releases over 13 billion cubic meters of pollutants into Peru's waters[56] (Figure 1). Moreover, according to a recent report by the Peruvian NGO Cooperaccion, despite the relatively low overall use of water by mining operations (1.3 percent of total water use in Peru), in certain watersheds mining uses a very significant proportion of the water available. The discrepancy is because the national figure includes the Amazon basin, which holds 95 percent of Peru's water[57] (Figure 2).

Figure 1:

[54] Fiorella Triscritti. (2013). *Mining, development and corporate-Community Conflicts in Peru.* Community Development Journal, Vol.48 (3), 437-450

[55] Ibid.

[56] Anthony Bebbington, Mark Williams. (2008). *Water and Mining Conflicts in Peru.* Mountain Research and Development. Vol. 28 (3/4). 190-195

[57] Carlos Monge. (2016). *Water management, Environmental Impacts and Peru's Mining Conflicts.* https://resourcegovernance.org/blog/peru's-troubled-mining-sector-civil-unrest-copper-conflict-and-watersheds

The 15 most polluted rivers in Peru

[1] Tumbes	Río Puyango	Actividad minera.
[2] Piura	Río Chira	Residuos sólidos y poblacionales.
	Río Chipillico	Minería informal.
[3] Cajamarca	Río Tingo	Pasivos mineros y aguas residuales poblacionales.
[4] La Libertad	Río Moche	Pasivos mineros e industriales.
	Río Parcoy	Pasivos mineros e industriales.
[5] Áncash	Río Santa	Residuos poblacionales, actividad minera y pasivos mineros.
	Río Aija	Residuos poblacionales, actividad minera y pasivos mineros.
[6] Junín	Río Mantaro	Pasivos poblacionales y residuos sólidos.
	Río Yauli	Pasivos poblacionales y residuos sólidos.
[7] Pasco	Río San Juan	Pasivos poblacionales y residuos sólidos.
[8] Huancavelica	Río Huachocolpa	Pasivos mineros y actividad minera.
	Río Escalera	Pasivos mineros y actividad minera.
[9] Arequipa	Río Chili	Aguas residuales.
[10] Madre de Dios	Río Madre de Dios	Minería artesanal e informal.
	Río Huepetuhe	Minería artesanal e informal.
	Río Las Piedras	Minería informal.
	Río Tambopata	Minería informal.
	Río Malinowski	Minería informal.
[11] Ucayali	Río Abujao	Minería informal.
[12] Puno	Río Ramis (parte alta)	Minería informal.

Source: Cooperaccion

Figure 2:

Estadísticas de derechos otorgados por Autoridad Administrativa del Agua

Autoridad Administrativa del Agua	Cantidad de Derechos	Volumen Total (hm3)	Volumen por tipo de Uso (hm3)									
			Agrario	Acuícola	Energético	Industrial	Minero	Pecuario	Poblacional	Recreativo	Turístico	Transporte
Caplina – Ocoña	56938	2858.37	1867.84	4.09	764.17	15.02	66.23	0.03	140.76	0.23	0	0
Chaparra – Chincha	32953	750.82	712.64	0	0	12.69	247	0.54	22.45	0.01	0.02	0
Cañete – Fortaleza	52550	13144.91	1942.86	9.73	9508.18	113.25	39.17	0.68	1523.51	7.54	0	0
Huarmey-Chicama	60656	6320.02	1697.09	30.52	4474.23	17.77	13.97	0.89	84.6	0.57	0.37	0
Jequetepeque – Zarumilla	183806	4882.79	3519.47	104.92	1094.9	82.33	1.44	0	79.52	0.22	0	0
Marañón	6796	2463.92	513.93	19.76	1558.5	210.19	50.18	1.34	109.97	0.01	0.04	0
Amazonas	423	171.09	51.45	4.74	1.59	13.09	58.31	0.23	39.3	2.34	0	0.06
Huallaga	4443	649.14	331.52	16.55	248.38	1.36	0.01	0.61	49.23	1.45	0.03	0
Ucayali	988	2985.19	17.72	0.82	2931.56	2.58	0.78	0.39	30.27	0.1	0.97	0
Mantaro	21274	11945.9	149.57	102.22	11370.07	25.95	137.36	1.4	159.09	0.23	0	0
Pampas-Apurímac	645	282.54	131.19	4.14	109.25	11.71	2	3.82	20.31	0.12	0	0
Utcubamba – Vilcanota	1523	864.24	553.41	1.67	255.88	4.12	1.15	0.06	47.76	0.02	0.17	0
Madre de Dios	433	701.21	6.49	0.39	630.72	1.22	6.58	0.18	55.57	0.06	0	0
Titicaca	2449	263.62	205.07	10.31	0	0.03	7.55	0.64	40.01	0	0	0
Total	425877	48283.76	11700.25	309.86	32947.43	511.31	631.73	10.81	2402.35	12.9	1.6	0.06
Porcentaje		100.0%	24.2%	0.6%	68.2%	1.1%	1.3%	0.0%	5.0%	0.0%	0.0%	0.0%

Fuente: ANA, 2014

Source: Cooperaccion

The pollution of water along with poor waste management by mining companies has led to increased mistrust in the local communities. Opposition to mining projects, especially those located in headwater areas, is a result. This is compounded by other factors, including weak state regulation and inadequate water assessment systems, which have made local communities also distrustful of governments.[58] For example, In Cajamarca, a history of negative impacts on water supplies has been the source of longstanding conflicts between local populations and a Yanacocha-owned mining project in the Rio Grande basin. Similar distrust has led local rural populations in the Celendin and Bambamarca provinces to oppose new projects owned by Yanacocha[59]. Currently, there are diverse and acute social conflicts among water users. The conflicts include disputes concerning water volumes, quality of water bodies, water rights and water resources.

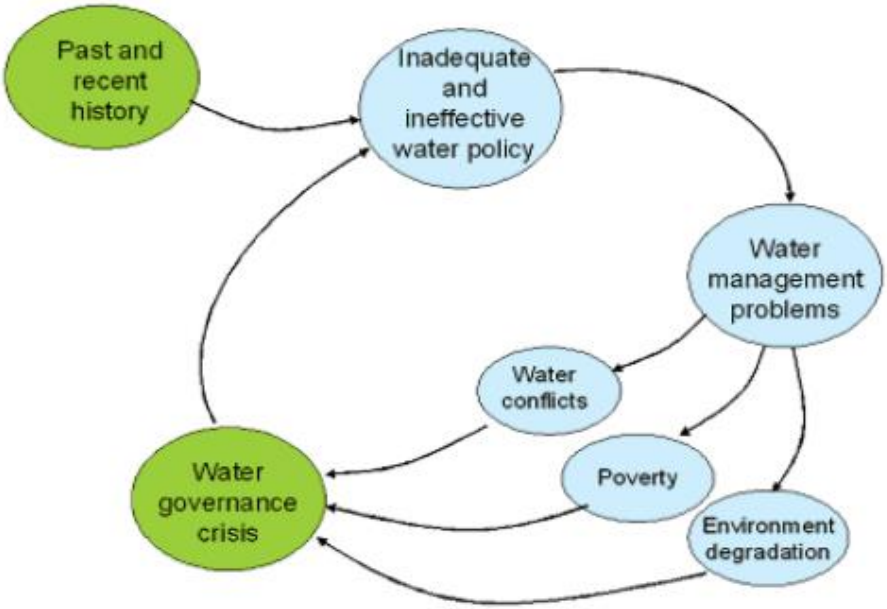
[58] Supra note 56

[59] Ibid.

The inadequate and ineffective water policy, which has deep historic roots, has resulted in water management problems. Moreover, the allocation of water rights by the National Water Authority (ANA) is unclear since information on watershed water availability as used by the State is woefully outdated; it is more than 20 years old.[60]

This worsens water governance conditions, in turn, causing water policy to remain inadequate and ineffective, and creates a vicious cycle shown by Figure 3 [61]:

Figure3:



Source: see footnote 24

Lack of accurate information on the environmental and other risks posed by tailings and inadequate regulatory enforcement to ensure tailings dam construction compliance

Tailings are the toxic waste resulting from the extraction of minerals and metals. If tailings are not properly contained, they contaminate food chains, drinking water and the environment.[62] Tailings are disposed in various ways but the most common practice is to deposit them as slurry[63] in impoundments behind dams.[64]

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[60] Supra note 57

[61] Julio F. Alegria, M. Sc. (2016). *The Challenges of Water Resources Management in Peru.* http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.485.8798&rep=rep1&type=pdf

[62] Marta Roca, Alex Murphy, Louise Walker, Sergio Vallesi. (2019). *A Review of the Risks Posed by the Failure of Tailing Dam.* https://tailingsdams.info/wp-content/uploads/2019/01/BE-090-Tailings-dams-R1-Secured.pdf

[63] Mine tailings are usually produced from the mill in slurry form, which is a mixture of fine mineral particles and water.

[64] Paulina Concha Larrauri, Upmanu Lall. (2017). *Assessing Risks of Mine Tailing Dam Failures.* Columbia Water Center. pp.2

The failure of a tailing dam can have disastrous consequences for nearby, as well as distant, communities and the environment, as well as for the mining companies. Companies may face significant financial and reputation costs as a consequence of a dam burst. In 2015, the breach, for example at the Samarco mine in Minas Gerais, Brazil resulted in 19 fatalities and was, at the time, declared the worst environmental disaster in Brazil's history. After the breach, the company entered into an agreement with the Brazilian government and other public authorities to remediate the impact of the disaster. The company had to recognize a US $2.4 billion provision for potential liabilities.[65]

Peru has a very specific geology with topographic, seismic and climatological extremes with the consequence that the construction and management of tailing dams is a particular challenge. The risk of a tailing dam failure is consequently high. This risk is increased by the fact that the tailing dams were not designed properly which resulted in poor construction. The design did not consider many geological factors stemming from the lack of adequate monitoring and appropriate environmental regulatory frameworks.[66] In Peru, tailing dams and other tailing deposits are considered environmental mining liabilities, "Pasivos ambientales mineros" in Spanish (hereinafter, "PAMs"), which are defined as those installations, effluents, emissions, remains and waste deposits produced by mining operations currently abandoned or inactive that could cause a permanent risk to the population, the environment and property.[67] The types and subtypes of PAMs are shown as Table 1:[68]

Type	Subtype
Works	pitheads, chimneys, ditches, open pits, etc
Tailings	tailings deposits, tailings dams, leaching dumps
Infrastructure	camps, offices, workshops, processing plants, etc

The National Water Authority identified 113 tailings dams in operation in Peru in 2015, but this figure corresponds to only 15 percent of the total dams identified in the country.[69] OSINERGIM[70] identifies in its interactive map 183 tailings deposits, their current status and the types as shown in Figure 4:

Figure 4:

[65] Ibid.

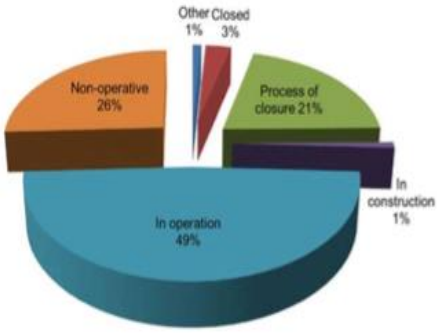
[66] Supra note 62

[67] This definition is based on Article 2 of Law 28271 of Peru. Law 28271 is the Regulation Law of Environmental Mining Liabilities which was established in 2004 and modified in 2005 and 2008.

[68] Source: Extracted from Chavez (2105)

[69] Ministry of Agriculture and Irrigation & National Water Authority (MAR & ANA). (2015). *Inventory of dams in Peru*

[70] Supervisory Body for Investment in Energy and Mining (OSINERGMIN) is a public institution attached to the Presidency of the Council of Ministers of Peru and is responsible for overseeing the compliance of electric, fuel and general mining companies in Peru. It was created in 1996.



Type of tailing (% of solids)	% of Tailings
Slurry (35-55%)	52
Paste (65-75 %)	1
Filtered (>70%)	9
Filtered and slurry	2
Coarse tailings	2
Mixed	2
No data	32

Source: OSINERGIM website

A regulatory system to mitigate the environmental negative impact of mining activities was established in 1990s and rules for the closure of mines and liabilities for environmental damage were created in the early 2000s. Although Law 28271 establishes mechanisms to identify responsibility and the financing and remediation operations of PAMs, the main challenge for the Peruvian government is addressing the environmental liabilities left from mining sites abandoned by companies or from bankrupt companies. This was in large measure due to insufficient enforcement monitoring and regulatory oversight of a mining company's operations.[71]

MINE developed a plan in 2001 to alleviate environmental mining risks and in 2010 designed a methodology to manage those PAMs based on four stages:

- Stage 1: Update of current situation
- Stage 2: Identification of parties responsible for tailing deposits
- Stage 3: Development of technical studies
- Stage 4: Implementation of relevant works

The two main challenges are identification and implementation. It is noted that public information about PAMs is still insufficient as the activities associated with a PAM are not recorded by the public institution[72]. The total number of tailing dams in Peru is unknown, while MINEM has updated the National Inventory of PAMs and registered 8794 liabilities in 2017[73]. According to the MINEM 2018 annual report, half of the liabilities are considered very high risk. However, because of insufficient information for proper identification and the lack of enforcement, the Peruvian government has failed to mitigate the risks stemming from tailings.[74] In 2015 none of the identified PAMs, for example, had executed and completed a closure plan.[75]

[71] Supra note 62

[72] Chavez, M. (2015) *Environmental Mining Liabilities: Diagnosis and Proposals.* http://www.muqui.org/images/PUBLICACIONES/ pasivosambientales2015.pdf

[73] Supra note 62

[74] Supra note 72

[75] Ibid.

Absence of standardized, reliable, and real public-participation based environmental impact assessment (EIA) mechanism

Environmental Impact Assessment (EIA) is a common tool adopted not only by many countries around the world, but also multilateral development banks, bilateral donor agencies and United Nations agencies. In Peru, EIAs were first used in 1990, when the Peruvian government implemented legal and economic reforms to attract foreign investment, and the oversight of EIAs was entrusted to the Ministry of Energy and Mines.[76] In 1994, the National Environmental Council (CONAM) was established (Law No. 26410) and in 2001, the Law of the National System of Environmental Impact Assessment (SEIA) was passed. Despite CONAM's role in governing the SEIA, responsibility for the approval of EIAs was decentralized.[77] The EIAs became a permit system that prioritized compliance with procedural requirements without improvements in the quality of environment and natural resources.[78] Shortcomings of EIAs included the lack of standardization and uniformity in the content and scope of EIAs as applied by different ministries, lack of effective public participation which meant that government decision was not subject to public scrutiny and weak enforcement.[79]

EIAs also suffered from lack credibility since local communities felt that the public authority's intention to apply environmental protection measures was undermined by its mandate to further economic growth.[80] Moreover an EIA only needed to be approved by the Ministry of Energy and Mines, rather than also by other affected institutions[81], with the consequence that the transparency and credibility of EIAs was undermined. This lack of trust led to a spiral of conflicts, further negatively affecting the credibility of the EIA system.[82] In Peru, it is the lack of trust in mining companies and the state that has led to an emphasis on transparency. This is why even when some mining companies such as Minera Yanacocha were trying to produce more information in various forms (such as newsletter, magazines, radio shows, internet resources, participatory monitoring programs, workshops, etc.), their efforts did not correspond with an increase in trust. Instead, for many people, the question still remains: what does transparency conceal?[83]

Further in communities affected by mining activities, people often feel that the very processes that elicit their participation actually disempower and exclude them.[84] In these cases, people

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[76] Fabiana Li. (2009). *Documenting Accountability: Environmental Impact Assessment in a Peruvian Mining Project.* Political and Legal Anthropology Review. Vol.32 (2). 218-236

[77] Mariano Castro, Ernesto Sanchez-Triana, Fernando Loayza, Juan Albarracin-Jordan, Ana Luisa Lima. (2014). *Environmental Impact Assessment Reform in Peru.* http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.568.841&rep=rep1&type=pdf

[78] World Bank. (2007). Republic of Peru. *Environmental Sustainability: A Key to Poverty Reduction in Peru.* Country Environmental Analysis. Washington DC: World Bank

[79] World Bank. (2009). *Program Document for a Proposed Environmental Development Policy Loan in the Amount of US$ 330 Million to the Republic of Peru.* Washington DC: Sustainable Development Department, World Bank.

[80] Supra note 77

[81] In Chile, EIA not only have to be approved by the Ministry of Mining, but also by agricultural and water authorities.

[82] Supra note 77

[83] Supra note 76

[84] Ibid.

seek alternative ways to voice their opposition, even with radical and violent approaches, not infrequently resulting in confrontations between protesters and the police. For example, communities, and their supporters, near the Yanacocha mines fault the company's lack of transparency and inadequate processes of community consultation.[85] Many people believe that the EIA process only provides them with an opportunity to ask questions and make comments, but not with the right to stop, or disapprove, a proposed project.[86]

Weak regional and local administrations and limited fiscal capacity leads to the poor quality of environmental public services

Mining royalties ("regala minera"), the canon tax ("Canon minero"), the tax on dividends, the special mining tax (SMT), the special mining burden (SMB), and the "derecho de vigencia" fee (paying for land use) are all part of the complex Peruvian fiscal regime applicable to mining. This revenue is not always shared with regional and local governments, and when it is, it is not necessarily used effectively.[87]

Peruvian regional and local governments have limited administrative capacity. This hinders their ability to design and implement regional and local policies, which is compounded by the fact that they lack fiscal autonomy, and are reliant on the national government for financial transfers. However, these transfers are made without adequate performance standards and lack monitoring. Moreover, the transfers are primarily made to municipalities which have extractive industries.[88]

Moreover, instead of paying the taxes in cash, the mining companies often make a commitment to fund public environmental infrastructure, such as a running water system, water purification plant, and an agricultural irrigation system. These practices are known as "Work For Taxes"[89], which has overall been considered a success.[90] However, this is not without problems. The company determines the location where it will build the infrastructure in order to correspond to its necessities, which may not correspond to the public interest. This is a consequence of the fact that the national government issues its approvals on an ad hoc basis without the discipline of havinga national infrastructure plan. Accordingly, areas most in need of development do not necessarily benefit from this Work for Taxes practice. Further, the law does not recognize certain expenses which disincentivizes many companies and limits participation in "Work For

[85] Ibid.

[86] Ibid.

[87] Peru 2018 Capstone Team of Columbia University. (2018). *Community Partnership Agreement.* Columbia University. pp.7-8

[88] OECD. (2016). *Public Governance Reform in Peru.* https://www.oecd.org/gov/public-governance-review-peru-highlights-en.pdf

[89] "Work For Taxes" mechanism, which created in Peru in 2008, is an approach to accelerating infrastructure investment. It allows private companies to "pay" their income taxes in advance through the execution of public works projects. [See Activity 7 below]

[90] EM Compass. (2018). *Peru's Works for Taxes Scheme: An Innovative Solution to Accelerate Private Provision of Infrastructure Investment.* http://www.ifc.org/thoughtleadership

Taxes" to larger companies.[91] Overall, these practices have weakened regional and local governments' administrative capacity and responsibility to provide public services.

Further the national government is cautious in making transfers to local governments as they lack adequate financial management and internal control mechanisms with a corresponding lack of transparency and accountability. This moreover increases the risk of money entering and influencing regional and local politics and the consequent capture of local administrations by vested interests.[92]

Corruption and lack of transparency

Corruption has been identified as the greatest problem to doing business in Peru[93]. According to the 2018 IMF Peru report, Peru's fiscal governance appears particularly vulnerable in the following areas[94]:

- Public investment such as infrastructure
- Governance at the subnational level
- Poor tax administration
- Transparency of financial arrangement

In respect of public investment, the IMF assessment found key weakness in management effectiveness including the evaluation and selection of projects and coordination/monitoring of subnational governments.[95]

Supporting analysis for the Recommendations

As noted in the previous section, Peru's mining sector suffers from several challenges, which the recommendation seek to address. The first three recommendations focus on the need for improved and effective water regulation. The next two recommendations offer solutions for the lack of accurate information and insufficient regulatory enforcement concerning the risks of. All of the recommendations have an underlying objective of increasing the transparency and communication needed to build trust with the local communities. This should also lead to improve the environmental integrity of the mining industry and help advance Peru's agenda in achieving the goals of the SDGs as well as Mining Vision 2030.

5. **Continue to promote greater transparency regarding the impact of mining activities on the environment and people's health in order to empower the communities with the ability to monitor any risks or updates. The participation of the community through monitoring in the regulatory and licensing process will facilitate the access of information to all**

[91] Ibid.
[92] Supra note 88
[93] World Economic Forum Global Competitiveness Index, 2017
[94] IMF. (2018). *Peru-IMF Country Report. No. 18/225.* https://www.imf.org/~/media/Files/Publications/CR/2018/cr18225-PeruBundle.ashx
[95] Ibid.

stakeholders, thus building a more trusting relationship that is more viable for all parties involved.

(i) Environmental Impact Assessments (EIA's) must be completed independently without influence from the company or the government. Therefore, the government should implement the use of third-party auditors that are financed by the companies but report their findings to the respective government regulatory entity, thereby mitigating potential conflicts of interest.

Though mining companies are subject to inspections and audits performed by environmental authorities, the inspectors often lack the capacity to confirm the mining companies' findings. Water contamination audits, for example, that are conducted by mining companies are products of internal research departments or privately contracted auditors that report directly to the companies. This information is then shared with local communities in good faith and in the spirit of transparency. Nevertheless, independent external environmental audit reports should be prepared to evaluate a company's environmental performance.

It is critical that the auditors are neither paid nor responsible/report to the companies which they audit in order to ensure the independence of the auditors. Around the world, governments use third-party audits to monitor compliance with regulations in health, safety, finance, and the environment. In cases where auditors are compensated by and report to the company they are auditing there is an a conflict of interest.[96] Auditors hired by companies may an incentive to distort their reporting to maintain business in such a system. Furthermore, if auditors do not report accurately, there is no reason for the parties being regulated to comply, since the regulators will not have the information necessary to punish any violators.[97] Addressing and resolving this conflict of interest is accordingly necessary for a host of reasons, including receipt by the e environmental regulators of good and reliable information about pollution levels so that they hold companies accountable.

The government should establish an authorized list of trusted and approved external auditors, and the respective regulatory authority will be responsible to assign an auditor for a company As already noted, mining companies find it convenient to directly hire environmental auditors or undertake internal investigations themselves. Such procedures are often flawed and biased, which undermines their credibility in the eyes of the public. Therefore, the government should periodically issue an official auditor directory that sets forth, among other things, the credentials of the auditors. The purpose is simple: to instill greater transparency and accountability in the auditing procedures and reports.

The listed auditors listed should be certified by the respective regulatory authority. Any such certification should include an ethics examination. Moreover, it is important that the auditor

[96] Duflo, Esther, et al. "Improving Third-Party Audits and Regulatory Compliance in India." *The Abdul Latif Jameel Poverty Action Lab*, www.povertyactionlab.org/evaluation/improving-third-party-audits-and-regulatory-compliance-india.

[97] Ibid.

not be local to the community in order to make a more objective evaluation and does not have any ties with the companies to be audited.

(ii) Install groundwater wells, which in addition to monitoring water quality and water levels, can be used as an indicator of potential future water conditions.

The mining sector is a large water user and produces large volumes of wastewater. According to the national water authority (ANA), in 2012 mine wastewater accounted for up to 81 percent of all authorized discharges.[98] Monitoring of water quality is therefore essential to the viability of the country's water resources.

A well-designed and executed monitoring plan for water is critical to foster dialogue, consensus, and trust between the mine and the community. All monitoring procedures need to be executed in a transparent, publicly available, and inclusive manner.[99] Moreover, the monitoring plan should be structured so that it can adapt to any changes in mining operations. Changes invariably occur when mining operations expand. Still a monitoring plans, as well as any changes, also need to be subject to an independent and external verification program.

The monitoring plan needs to apply to all phases of mining operation, including prior to commencement of operations, which is an overlooked phase. Such an approach will provide certain benefits:

- Baseline information on water quantity before mining activities begin will provide data on natural or pre-existing conditions.
- Comparison of current conditions of water quantity and quality with baseline information will provide a quantitative assessment of the impact of mining.
- Changes in groundwater quality and quantity can often be observed in monitoring wells before changes occur in stream waters, providing an "early-warning system," with the consequence that remediation activities can be initiated prior to any impact on surface waters and/or down-gradient groundwater aquifers.[100]

6. **Standardize the costs of pollution in the financial statements of the companies so that neither the state nor the communities bear the associated economic burdens. This will result in companies reflecting such costs in their balance sheets and incentivize companies to address social and geographical factors in order to decrease such costs. This should also have the additional benefit of having companies contribute to the country's sustainable development through long-term investment in other forms of capital (namely human, physical, and natural).**

[98] "OECD Environmental Performance Reviews: Peru 2017 | READ Online." *OECD Library*, read.oecd-ilibrary.org/environment/oecd-environmental-performance-reviews-peru_9789264283138-en#page294

[99] Bebbington, Anthony, and Mark Williams. "Water and Mining Conflicts in Peru." *Mountain Research and Development*, International Mountain Society, 2008, bioone.org/journals/Mountain-Research-and-Development/volume-28/issue-3/mrd.1039/Water-and-Mining-Conflicts-in-Peru/10.1659/mrd.1039.full.

[100] Ibid.

(i) Financial disclosure of potential liabilities from TSFs and the probability of their failure

Liabilities associated with TSF's must be included in the balance sheets of mining companies and included in asset cleanup and reclamation costs. They should, be annually disclosed to the regulatory authorities.

At present, there is no reporting standard for the total anticipated costs of closure. When a mining company has several mining projects, closure liabilities are aggregated on the balance sheet, which means the costs of individual projects are not identified. Further certain costs are not detailed on a company's balance sheets so that shareholders cannot determine which expenses are to be allocated, for example, to tailings impoundments or the expected loss in the event of TSF failure.

A more informative approach is one that identifies the probabilities of possible failures and the corresponding TSF's liabilities. This would incentivize the mining companies to improve their TSF designs and the management of TSFs. However, it is important to note that an outstanding challenge to this approach is the ability to maintain consistency in the asset and reporting of TSF liabilities across mining projects and companies. Nevertheless, with stringent oversight, that is a challenge that can be met.

Case Study : Brazil

The lack of understanding of the possible financial benefits, admittedly all long term, of avoiding a TSF failure creates ambivalence in a mining company's management on whether to invest in better monitoring and adopt appropriate management practices. The reason is that any potential returns/savings are uncertain and not subject to quantification. However a disaster in Brazil offers an instructive lesson. A tailing dam owned by Samarco Corporation, a Brazilian mining company, collapsed in 2015. This resulted in a massive wave of toxic mud that spread into the Doce River killing 20 people and adversely affecting biodiversity across hundreds of kilometers of river, riparian lands, and Atlantic coast101. In addition to the serious toll on human lives, the Ecology Society of America estimated the regional cost of environmental services to total approximately $521USD million per year. These costs amount were six times greater than the fine imposed on Samarco by the Brazilian environmental authorities. In order to address such potential liabilities and consequent costs, the costs of satisfying potential liabilities from TSF's should be professionally estimated, the and probability of their occurrence determined, all of which should be set forth in a public TSF database. Such disclosure would incentivize companies to institute solid TSF preventive practices.

Moreover, it is also critical that in the event of the occurrence of such disasters, mining companies ensure works and communities are resettled and adequately and fairly compensated. How disasters are managed by companies are often more

[101] Freitas, et al. "Mining Dam Disasters: Lessons from the Past for Reducing Current and Future Risks." *Mining Dam Disasters: Lessons from the Past for Reducing Current and Future Risks | PreventionWeb.net*, 2019

critical to the ensuring a good long-term relationship with the community than the event itself. The more transparent, proactive, and fair companies are in dealing with the affected communities is the pivotal factor in determining whether they will trust a company (as well as others) again in the future.

Consequently, this tragedy highlighted the need for more stringent regulation to be imposed on companies to assess the risks of their operations and supply chains. Mandatory due diligence, which would requires companies to identify and mitigate such risks, is already law in France, and under consideration in many other countries. This would, among other things, allow victims to have criminal and civil actions pursued if companies are negligent. 102

7. Incorporate adaptive and data-driven metrics in the existing regulatory system in order to improve environmental outcomes, lessen potential conflicts, and decrease the risk of cumulative (negative) effects/impacts in water quantity and quality

(i) Use statistical and scientific approaches to identify trends in water quantity and quality as it relates to mining activities, including scoring the potential future risks associated with the failure of mining systems.

(ii) Create a database of Tailing Storage Facilities (TSF's) locations and attributes in Peru.

Knowledge of the risks associated with TSF is a direct result of the lack of informative data. Though several countries have taken the initiative to launch programs to disseminate information regarding tailing dams (e.g. Chile, Brazil, British Columbia Canada, Ireland, the United States, and the European Union), the information in their databases are not standardized. Moreover, a rudimentary data base has been created by the International Commission of Large Dams (ICOLD), which has a registry of more than 50,000 dams around the world. It provides for updates of the details concerning their characteristics but does not include tailing dams[103].

Such a proposed TSF database should provide certian minimum information: mine name/owner, type of ore, TSF coordinates, current and design height, information about rises (year and height), year of construction, projected life, current and design storage capacity, type of construction (e.g. upstream, downstream, centerline), material of construction, information about the nature of tailings (inert, acid rain generating, toxic, etc.), status (active, closed, abandoned), and information about any past incidents.

A TSF database would enable the permit the followings:

[102] Ibid.

[103] "Water Management in Mining: A Selection of Case Studies." *International Council on Mining and Metals*, 2012.

- ❖ Qualitative exposure analyses of different uses and scales (e.g. asset, portfolio, regional, country, or global).
- ❖ Initial stages risk assessment
- ❖ Informing communities about the potential risks posed by TSFs.
- ❖ Improve the existing methodologies to estimate probabilities of failure modes.[104]

Contribution to the SDGs

It is imperative that mining companies in collaboration with the Peruvian government and civil society stakeholders strategically integrate the objectives listed by the United Nations' Sustainable Development Goals (SDG's). The recommendations set forth concerning environmental oversight apply to a number of numerous SDGs, in particular SDG 6 (Clean Water and Sanitation); SDG 12 (Responsible consumption & production); SDG 13 (Climate Action).

Goal 6: Ensure availability and sustainable management of water and sanitation for all

The issues of water scarcity, viable production, and climate change mitigation are essential to the continued economic growth of Peru both in the short and long-term. Many Peruvians suffer from lack of access to safely managed water supplies and sanitation facilities. Increasing water efficiency and improving water management are vital to balancing the competing and increased water demands from the mining sector and others alike.[105]

Goal 12: Ensure sustainable consumption and production patterns

Finding a sustainable balance for economic growth and increased mining production is a challenge that many countries face. Nevertheless, equitable policies and transparent oversight can create an environment for social, economic, and physical progress that includes all stakeholders while limiting the negative impacts of mining.[106]

Goal 12: Take urgent action to combat climate change and its impacts

As the world experiences rising sea levels, extreme weather conditions, and increasing greenhouse gases, it is the responsibility of environmentally- detrimental industries, such as mining, to take all the necessary steps to protect the integrity of this Earth.[107]

[104] ibid.
[105] CCSI, *Mapping Mining to the Sustainable Development Goals: An Atlas*, (CCSI 2016)
[106] ibid.
[107] ibid.

3. PERU'S MINING SECTOR COULD BE WORLD-CLASS

Activity 3: Promote R & D & I throughout the productive cycle and the value chain of mining activity

Overview

Adequate and timely investment in research and development activities facilitate growth and improvements. However the mining sector globally has lagged behind other industries, including the oil and gas industry, in its financial investment and corporate commitment to research and development. Peru is uniquely positioned to benefit from improved technology and methods in mining, and could become a leader in the development of mining innovations by leveraging foreign interest and reassessing the investment and tax incentive structures for firms. There are promising indications that artificial intelligence, geospatial mapping, and integrated use of data could benefit the mining sector. However, the mining sector faces cultural and personnel hurdles in order to achieve a consistent and long-term investigation into these opportunities.[108]

Recommendations

8. Contract an independent mining research body (such as Australian-based Mining3) to conduct an economic assessment of value lost through lack of R&D to establish an imperative for private investment.

9. Support ICMM registration for Peruvian mining companies or foreign companies with significant operations in Peru by creating a learning/sharing platform for ICMM-accredited firms to assist other firms (with associated tax incentives or rebates for participating firms).

10. Reform Peruvian National Award for Innovation in Mining to support Mining Vision and/or Agenda 2030 by setting thresholds for minimum levels of investment in research and development, and reviewing current criteria to align more closely with Vision 2030.

11. Implement a regulatory structure that incentivizes investment and compliance.

12. Establish a joint center for mining R&D&I research with contributions from mining companies through voluntary or mandatory funding mechanisms, including carve-outs to the existing tax obligations. This could be based at an existing Peruvian institution such as a university or be purpose built with a focus on providing a strategic framework for R&D and sharing improvements across the sector, including with linkages.

13. Review the mandate and operations of Instituto de Seguridad Minera.

[108] Alistair MacDonald and Rhiannon Hoyle, 'Miners Say They Dig Artificial Intelligence but the Gold Rush Hasn't Come' *Wall Street Journal* (26 December 2018) <https://www.wsj.com/articles/miners-talk-about-artificial-intelligence-but-do-less-11545825601> accessed 15 April 2019.

Challenges

Building trust in public institutions

A 2013 McKinsey study of the competitiveness found that Peru's mining sector was at a crossroads. While Peru offers high quality mineral resources and significant opportunities paired with a globally attractive cost structure and CapEx intensity, its institutional framework and the social environment poses significant challenges.[109]

The importance of the social license to business investment decisions was recently stressed by Ernst and Young, which found that a license to operate is a key risk to the extractives industry.[110] Therefore, it is difficult to develop a research and development strategy without first achieving progress in governance and reducing social conflict. The legacy of ongoing incidents such as the Las Bambas conflict may not only deter firms from mining in areas of Peru but the lack of stability will also prevent existing and future mining investment from considering optional research and development opportunities. Where the financial and reputational risk associated mining operations in Peru continue to be high and unpredictable, research and development will remain an optional rather than essential aspect of industry's planning.

Significant and sustained investment in R&D requires a favorable risk assessment that the Peruvian authorities are able to monitor and manage the incentive scheme appropriately, and that social conflicts will be avoided. It is difficult to establish attractive investment structures when mining conflicts such as Las Bambas appear to be escalating. Investment in research and development will remain a 'nice to have' rather than a sensible business choice while social conflicts are salient and trust in government is low. See Chapter 1 for a detailed analysis of good governance.

Culture of the mining sector

Mining companies invest far less in research and development than other sectors, and this trend has continued for a number of decades. The sector puts only 0.9% of its revenue a year toward research and development activities, compared with 3% to 5% for oil and gas companies.[111] Research and development initiatives are often done expediently where innovations can reduce cost, increase profits, and prevent liabilities.

In Peru, companies already engage in beneficial R&D&I to ensure their corporate and economic interests, and meet regulatory standards. This was seen clearly in the drop in copper prices in 2015, when more cost-effective blasting technology was adopted by many companies to make their operations more viable in the changing market environment. However, the drivers of R&D&I continue to be ad hoc in the absence of significant drivers for investment. There would

[109] McKinsey and Company, May 2013 An Assessment of the Competitiveness and Health of Peru's Mining Industry, May 2013, https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/Metals__and_Mining/PDFs/Competitiveness_and_health_of_the_Peruvian_Mining_Sector-vf.ashx.

[110] 'Top 10 Business Risks Facing Mining and Metals 2019-20' 16.

[111] Supra note 108

be need to be a relatively stable and productive period where the cost-benefit of R&D is demonstrated, and its value is made clear to sustain the financial commitment.

Additionally, recruitment of the necessary research and development expertise to pursue innovation is challenging. Mining is not a natural sector choice for the professionals who are equipped to develop innovations such as artificial intelligence, digitization, and other forms of technological improvement.

Supporting analysis for recommendations

8. **MINEM should contract an independent mining research body (such as Australian-based Mining3) to conduct economic assessment of value lost through lack of R&D to establish imperative for private investment.**

There is not sufficient evidence about the tangible benefits of mining R&D in Peru to justify large-scale investment. While artificial intelligence and increased digitization of mining technologies have the potential reduce operating costs and improve productivity, targeted research and reporting should be undertaken to better understand the economic gains that could be realized.

New technologies offer opportunities to increase the collection of time-sensitive data to inform management and investment decisions related to inefficient processes, machinery functionality, and identify further exploratory sites. A recent Accenture report estimated that innovation could provide an additional $32 billion to the mining industry over the next 10 years. The Accenture report includes a focus on robotics but estimates that only $11 billion of that will come from artificial intelligence or other forms of advanced analytics.[112]

Mining3 is a mining-specific research hub, with direction from mining industry members to 'develop and deliver transformational technology to improve the productivity, sustainability, and safety of the mining industry.'[113] Mining3 is recommended because it is an independent organization, relative to the Peruvian industry, and its findings are likely to be respected and treated credibly by other mining firms.

9. **Support ICMM registration for Peruvian mining companies or foreign companies with significant operations in Peru by creating a learning/sharing platform for ICMM-accredited firms to assist existing firms (with associated tax incentives or rebates for participating firms).**

Membership of the International Council on Mining and Metals is a prestigious accomplishment. ICMM currently only has 26 member companies and 35 associations.[114] The only Peruvian member firm is Minsur, who joined ICMM in 2018.[115] Leveraging the standards and processes of the ICMM is a valuable option for the Peruvian mining sector because it represents an international and independent standard. Such accreditation has intrinsic value to

[112] Supra note 108

[113] 'Transforming Mining - Breakthrough Innovation & Technology' (*Mining3*) 3 <https://www.mining3.com/> accessed 23 May 2019.

[114] 'ICMM • About Us' <https://www.icmm.com/en-gb/about-us> accessed 23 May 2019.

[115] Supra note 114

many firms particularly if they would like to operate beyond Peru or establish their credentials. The relevance of sharing new approaches and business models is demonstrated by the case study of the Mina Justa project in Chapter 7, which MinSur is significantly involved in.

10. **Reform of Peruvian National Award for Innovation in Mining to support Mining Vision and/or Agenda 2030 by setting thresholds for minimum levels of investment in research and development, and reviewing current criteria to align more closely with Vision 2030.**

The Peruvian National Award for Innovation in Mining is a means of identifying, recognizing and celebrating the achievements of the sector. It fosters healthy competition between firms and suppliers operating in Peru.[116] See Chapter 7 for more detailed analysis on the use of the award for piloting projects, and increasing the alignment with the Mining Vision 2030.

11. **There is an imperative for Government to implement a regulatory structure that incentivizes investment and compliance. Models vary from creating corporate liability for failing to prevent environmental degradation by using outdated or under-developed mining infrastructure and technology, to providing tax rebates for appropriate research and development activities.**

Subject to the development of significant trust in government capacity and the stabilization of mining related social conflicts, the Peruvian government should consider what incentive or regulatory structures would work best to foster R&D in Peru. This is a longer-term policy initiative that should canvas international approaches and the Peruvian context.

Case Study – Australian R&D tax incentives

The Australian Government provides the Research and development (R&D) tax incentive to encourage firms to engage in R&D activities that benefit Australia that would not otherwise be undertaken by firm.[117] The scheme also seeks to improve the incentives for smaller companies to engage in R&D where the cost implications may otherwise present a barrier. The scheme provides a tax offset for eligible activities. The current R&D tax incentive replaces the earlier version, which took the form of a R&D tax concession introduced in 1 July 2011. The scheme offers either a 43.5% refundable tax offset for companies with a less than $20 million turnover a year, or a 38.5% non-refundable tax offset for all other eligible companies.[118]

In January 2019, it was reported that Australian Mines Ltd received a $1.91 million rebate from the Australian Taxation Office for its R&D expenditure in FY2018. This was in addition to the $295,765 R&D tax rebate received by the company in October 2018. The company's flagship project is its Sconi Cobalt-Nickel-Scandium Project in Queensland, and it boasts making R&D a central aspect of its approach. Notably,

[116] TOMRA SYSTEMS ASA, 'Peruvian National Award for Innovation in Mining Received' (*Tomra*) <https://www.tomra.com/en/sorting/mining/mining-news/2017/peruvian-award> accessed 23 May 2019.

[117] Australian Taxation Office, 'About the Program' <https://www.ato.gov.au/business/research-and-development-tax-incentive/about-the-program/?default> accessed 23 April 2019.

[118] Ibid.

Australian Mines has partnered with United Kingdom-based technology company Metalysis and the Amrita Centre for Research and Development's Centre of Excellence in Advanced Materials and Green Technologies, in India.

12. **Establish a joint center for mining R&D&I research with contributions from mining companies through voluntary or mandatory funding mechanisms, including carve outs to the existing tax obligations. This could be based at an existing Peruvian institution such as a university or be purpose built with a focus on providing a strategic framework for R&D and sharing improvements across the sector, including with linkages.**

To foster R&D, it is necessary to promote high-levels of research capabilities through higher education and R&D programs. In order to increase Peru's economic productivity and drive the fruition of alternative economic sectors parallel to the extractive industry, the government is advised to include education and R&D components in the local content policy framework (see Chapter 6 for more detail on local content).

Peru has established institutions for the primary purpose of attracting private investment in R&D, innovation, and higher education, which should be leveraged to promote joint research centers and programs between the private sector and universities. Overall, the government is encouraged to aim to increase the effectiveness in the dialogue with academia, sub-national authorities, local communities, international actors and the private sector in the identification of new sectors and the pre-conditions for their development.[119]

According to the OECD, "[g]reater investment in innovation is needed to increase economic diversification and competitiveness in Peru, which in turn support higher survival rates for new product exports outside the mining sector and for micro, small and medium-sized firms".[120]

As such, the promotion of targets for education and R&D programs as a share of the mine's revenues is particularly essential for the creation of upstream linkages because of their dual benefit for both the private and the public sector – as well as broader economic development. Given a lack of interest in horizontal linkages for the direct economic profitability of the mine, however, such linkage creation must receive additional public funds.[121]

13. **MINEM should review the mandate and operations of Instituto de Seguridad Minera.**

In in its broadest sense, research and development also includes improvements outside the traditional mining processes. This can include enhancements to the value chain, improving worker safety and reducing the risk and cost of accidents. Chapter 6 discusses the broader application of R&D to the mining value chain.

R&D&I should also be interpreted to mean innovations in corporate social responsibility activities and considering better engagement between governments, firms and communities. Investments in community engagement, the implementation of genuine

[119] *OECD*
[120] OECD
[121] GIZ

participatory planning and budgeting, and government capabilities are critical aspects of improving the stability and beneficial reach of mining operations in Peru.

Occupational safety

The mining sector provides significant employment opportunities for Peruvians and expatriates. However, the labor-intensiveness and risk involved in mining operations makes it imperative that mining firms, regulators, and personnel are vigilant about occupational health and safety. The inherent nature of the risks in the work has meant that the mining sector has been an industry leader in Peru for setting occupational safety standards and reporting mechanisms, and mortality rates are decreasing each year.[122] However, mortality rates remain higher than in more established mining countries[123] and the informal sector poses a significant risk, and continues to contribute significantly to mining-related deaths in Peru.

MINEM records indicate that in 2018, the Peruvian mining industry reported the deaths of 27 miners, which was 10 less deaths than the year before. However, mortality rates have fluctuated depending on the establishment of new mines or expansion of existing operations.[124]

Overall, there has been a significant reduction from the 73 deaths in 2002 and has been facilitated by improved regulation and safety initiatives taken by governments and firms. Mining firms have made a concerted effort to implement preventative and precautionary measures to protect workers. Peruvian firms, Volcan and Bunaventura have invested in improved drainage and ventilation, as well as shoring up existing tunnel roofs in underground mines. [125]

From 2000 to 2007, the majority of the 433 fatal accidents and 499 fatalities in the mining sector were caused by rockfalls in underground excavations [126]. Cave-ins, explosions or falls are also significant contribution factors to deaths. [127] As a high risk activity, mining workers are provided with additional insurance coverage through the Complementary Insurance for Hazardous Work (CIHW), which includes accidents at work and occupational diseases to workers [128].

Occupational risks and hazards are even greater in the informal mining sector, where regulations and safety standards are rarely, if ever, observed. The risk posed to workers are yet another reason why strong action on illegal and informal mining operations is needed. In April 2019, eight men died from gas asphyxiation in an underground gold mine in Cerro El Toro in the province of Sánchez Carrión. This follows an accident in February where seven died after a cave-in at an informal mine in the Puno region. These are considered some of the worst

[122] Ismael Cruz and Raul Huerta-Mercado, 'Occupational Safety and Health in Peru' (2015) 81 Annals of Global Health 568.

[123] Wilson S Iramina and others, 'Fatal Accidents and Rockfalls in Peruvian Underground Mines' in Carsten Drebenstedt and Raj Singhal (eds), *Mine Planning and Equipment Selection* (Springer International Publishing 2014) <http://link.springer.com/10.1007/978-3-319-02678-7_57> accessed 15 April 2019.

[124] BNamericas - Peru Mining Deaths Rise amidst Industry Expansion' <https://www.bnamericas.com/en/news/peru-mining-deaths-rise-amidst-industry-expansion> accessed 15 April 2019.

[125] 'BNamericas - Accident at Informal Mine Kills 8 in Peru' <https://www.bnamericas.com/en/news/accident-at-informal-mine-kills-8-in-peru> accessed 15 April 2019.

[126] Supra note 124 and 126

[127] Ibid.

[128] Supra note 122

accidents to occur in Peru's mining sector in more than a decade.[129] See Chapter 5 for further consideration of the illegal and artisanal mining sector.

Contribution to the SDGs

Increasing the competitiveness and innovativeness of the Peruvian mining industry could contribute significantly to the achievement of the following SDGs by increasing employment conditions, contributing further to Peru's economic growth, and increasing employment opportunities for women in the sector.

Goal 8: Decent work and economic growth

Effective R&D investment and projects can unlock higher levels of economic productivity through technological improvements and innovative approached. For the Peruvian labor force this could be particularly beneficial if there is increased capacity for local employment in roles with a high-value add and labor-intensive sectors.
A renewed focus on increasing safety and mines will naturally provide better protection for workers, and mitigate mining-related deaths.

Goal 9: Industry, innovation and infrastructure

Bolstering the R&D investment levels could lead to an increase in the number of research and STEM-related roles in the mining sector. Given the size and value of the sector to Peru's economy, this investment could represent a substantial growth in the number of employees engaged in research and development across the public and private sector. Partnerships between government and firms will also increase the portion of R&D spending being made in Peru.

Goal 5: Gender equality

Given the relatively small size of the R&D sector in mining overall, a concerted effort to increase R&D could provide a unique entry point for women to begin to more fully participate in the economic benefits of mining. Mining continues to be a male dominated industry, but R&D policies may provide a new opportunity to reevaluate the gender balance in the industry and how greater equality could be achieved

[129] 'BNamericas - Accident at Informal Mine Kills 8 in Peru' (n 70).

Picture 1: The village of Huaripampa in San Marcos, a region in the Andes where mining is prevalent.

4. PERU'S LEGAL FRAMEWORK FOR MINING – REALIZATION OVER RED-TAPE

Activity 4. The State should promote a modern and innovative legal framework, including the promotion of mining exploration, maintaining high environmental and social standards

Overview

Promotion of mining and economic development in Peru is possible with the contribution of foreign investment in the mining industry. It is however imperative to create a legal framework that balances the goal of investment promotion, protecting the rights of foreign investors on one hand, and securing human rights, protecting the environment and utilizing natural resources prudently, on the other. To this end, this chapter addresses both the national and international legal framework of Peru especially in relation to investment protection and the process of obtaining mining concessions and licenses.[130]

Recommendations

National level

I. Taxation System

14. Create an independently run foundation aimed at funding development in rural areas, utilizing the proceeds from taxes paid by mining companies.

15. Reform the scheme of taxation to include the requirement that part of a companies' profits go to the development of the communities.

16. Draft a national development plan with cooperation between the central government and all the local governments that ensures inclusion of regions that do not have substantial mining resources.

17. Incentivize mining companies to participate in Obras por impuestos and organize it to align company expenditure with development plans.

II. Fighting corruption

18. Professionalize the National Police of Peru to make it a trustworthy institution & strengthen the role of Contraloria General as an institution to aid the judiciary in fighting corruption.

19. Create a professional administrative body to ensure continuity with the government officers dealing with mining companies.

III. Land related reforms

[130] Environmental and certain regulatory aspects are discussed in detail in Chapter 2 and 5 of this Report respectively.

20. Define the land rights regime to account for its discrepancies.

21. Continue the process of granting free land property titles to indigenous communities.

22. Facilitate access to the land records registry by creating an accurate cadastre in mining areas and conducting a comprehensive land survey.

23. Create an expropriation regime and efficient procedure of negotiation between land owners and mining companies with governmental participation.

24. Recognize the potential role of the Ministry of Territorial Governance as a dispute resolution organ and employ its resources for mediation.

IV. Mining concessions and licensing process

25. Give provincial governments a seat at the table while making a decision to grant mining concession.

26. Lend a local flavor to the concession process by taking into account the reports of provincial governments informed by public sentiment generated in response to the publicity of a mining project.

V. Social license to operate and consulta previa

27. Conduct a comprehensive identification exercise with respect to target affected communities.

28. Conduct Consulta Previa after exploration permit is granted and repeat such community consultation throughout the lifecycle of a mining project.

29. Emphasize the need for Prior "consent" and not just prior consultation.

30. Combine EIA and Consulta Previa.

International level

VI. Substantive Issues at the International Level

31. Include public policy exceptions in BITs for regulation in the areas of environmental protection and the protection of human rights.

32. Include in BITs obligations for investors related to CSR standards.

33. Continue the effort of terminating existing first-generation BITs.

34. Issue interpretative statements regarding ambiguous standards of treatment found in BITs and for ensuring human rights and environmental rights instruments are hierarchically superior to IIAs.

35. Use provisions in FTAs to enable securing environmental rights.

VII. International Investment Dispute Resolution issues

36. Open up a channel of communication between SICRECI and the body implementing Prior Consultation to help ensure that SICRECI is in the know of any potential red flags at a stage during which it would be able to render timely advice for managing disputes.

37. Enhance multi-actor dialogue and formulate strategies for dispute prevention, with facilitation by the SICRECI.

38. Strengthen domestic administrative and judicial bodies.

39. Insert provisions in International Investment Instruments to reduce damages after considering the investor's conduct, if State is found liable.

40. Introduce procedural safeguards in treaties and international investment agreements with State entities.

41. Insert an exhaustion of local remedies (ELR) and fork in the road clauses in treaties and international investment agreements with States.

42. Mandate mediation and negotiation before commencement of adversarial proceedings and provisions for encouraging settlement even after proceedings commence.

Challenges

National Level

Challenges with respect to taxation issues

The tax regime in Peru is designed to compensate the regions that have mining resources by giving them, among others, 50% of the corporate tax collected in those regions. However, this taxation regime does not provide for a certain percentage to go specifically to the indigenous communities that are present in most of these areas. Further, due to flaws in the fiscal distribution system, the proceeds received from taxation of mining companies does not reflect in the pace of development of the areas to which these proceeds are designated.

Challenges to Fighting corruption

The lack of sufficient strength of the Contraloria General del Estado, if rectified would be a significant step towards transparency.

Challenges to land rights and mining concessions

The lack of valid property titles or the existence of conflicting titles gives rise to difficulties in tracing the owner of the land of which the corresponding subsoil is sought to be explored for mining projects. The lack of an efficient and accurate land registry exacerbates this issue. Further, there is no regulated procedure for the negotiation of access to the land so as to guarantee the respect of the owner's and indigenous communities' rights. Lastly, there is no forum to entertain possible claims from owners that are not directly affected by the mining activities, but whose land is situated over the underground mining resources

These challenges are discussed in greater detail in the section below, with a view to contextualize the corresponding recommendations.

Challenges in the process for granting licenses

Capacity building of Local Governments and provisions for strict sanctions to ensure a corruption-free process are crucial. Further, the process of deliberation for granting licenses has room for efficiency as MINEM, MINCULT and the Territorial Governance Ministry currently operate as silos, which operation tends to prevent free exchange of information. Further, rather than equipping communities with an effective veto, they seem to be engaged merely in order to "cross off" a compliance. As regards environmental licenses, imposition of a laundry list style compliance mechanism serves neither the community nor the companies. Currently, obtaining concessions and requisite licenses lead to just the initial phase of setting up a mining project span across nearly half a decade – with evolving realities not accounted for.

Challenges in conducting consulta previa

Ever since the law of prior consultation came into force in Peru, some of the basic challenges to prior consultation remain – When to consult, whom to consult and what should be the ideal level of involvement of each ministry? A discussion on some of these first principles is necessary. As expounded in the discussion below, the main challenge faced by MINEM and MINCULT is classification or designation of groups as "indigenous" for the purpose of prior consultation. Currently, 55 groups are designated as indigenous, but by no means are these groups the only ones impacted by the project.[131]

International Level

The crucial role of Investment Treaties in promoting sustainable foreign investment in the mining sector

[131] In Peru there are 55 indigenous peoples who are located mainly in the Andean and Amazonian areas of our country – Blog of the Ombudsman's Office, Peru https://www.defensoria.gob.pe/blog/que-es-la-consulta-previa/

The main challenge in the field of substantive content of IIAs is utilizing them to promote "sustainable investment." Sustainable investment is one where investors bring economic growth and development to the host countries in a manner aligned with the SDGs. Responsible investor behaviour is thus fundamental to achieve this objective.

Amending BITs to account for regulatory space of States or to impose additional procedural safeguards is sometimes construed as favoring excessive resource nationalism, in view of the prevailing dynamic between emerging economies and developed countries. This may be overcome by possibly issuing an explanatory guideline that defines the position of the State on sustainable development.

Supporting analysis for recommendations

National level

I. Taxation System

Taxation of mining companies is one of the main tools the government has to redistribute the wealth of these companies in the areas where the resources they exploit are located. This redistribution of financial resources has the potential ability to raise the necessary funds to aid rural development in Peru. In practice, however, this remains a challenge for both the central and local governments.

14. **Create an independently run foundation aimed at funding development in rural areas, utilizing the proceeds from taxes paid by mining companies**

Impact of attempted de-centralization of the Peruvian Territory its Fiscal Distribution System

Peru is currently a unitary state that is divided in 24 departments and the constitutional province of El Callao. This division is a recent phenomenon in Peruvian politics - in an attempt to decentralize the state and end the economic and social inequalities between the capital, Lima, and the rest of the country. However, creation of political divisions has not achieved the intended results.[132] This is mainly because of the lack of capacity of the local governments.[133] The consequences of this resonate in very diverse areas of politics. Taxation and revenue distribution are an example of this. The lack of capacity of local governments translates into a misuse of the resources and a lack of development of underdeveloped and impoverished areas.[134]

Case Study: A case of failed local management of taxing revenues—the swimming pool in Echarate

[132] Sandy Melgar, La red de la Bestia: la construcción de redes de corrupción en los gobiernos subnacionales, el caso de César Álvarez en Áncash, pg. 142, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwi8zaGR_LviAhVj8OAKHWTsD50QFjABegQIAhAC&url=http%3A%2F%2Frevistas.pucp.edu.pe%2Findex.php%2Fcienciapolitica%2Farticle%2Fdownload%2F19971%2F19989&usg=AOvVaw1pqatMtg2FMfSMtjVJDErF

[133] Ibid.

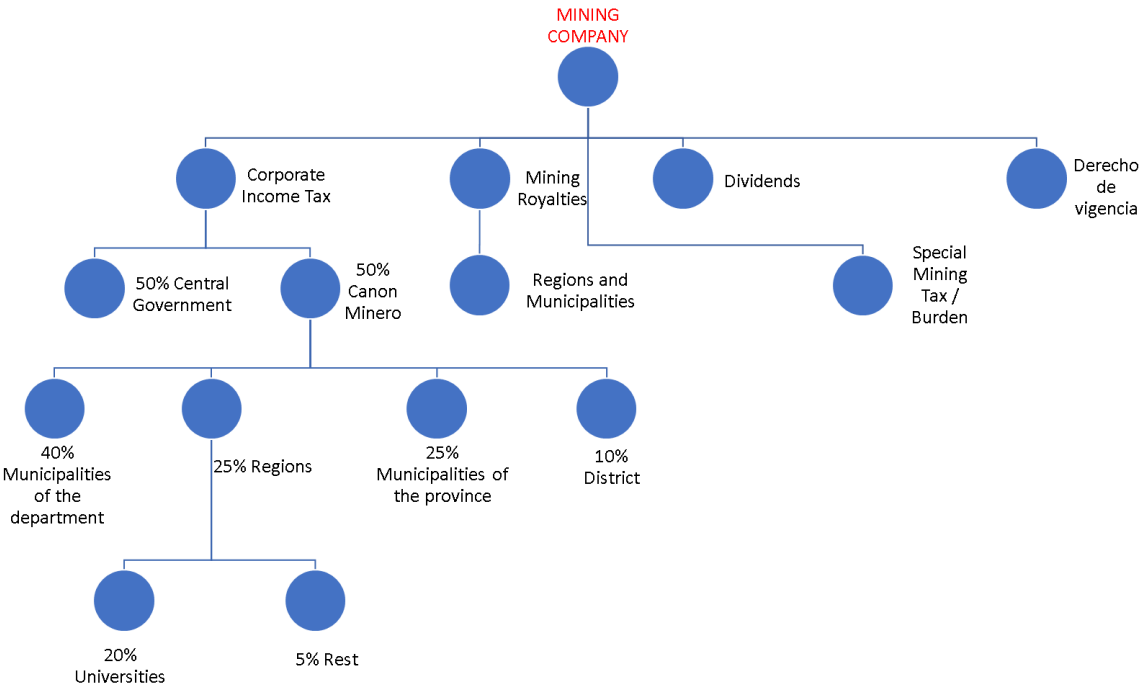
[134] Ibid., Meeting with Oscar Benavides on March 21, 2019, Meeting with Rafael Molina on March 18, 2019.

Echarate has the largest gas natural project in Peru, Camisea. As such, it also receives millions of dollars as income from the tax regime mentioned above and it is one of the wealthiest municipalities in the country. However, this has not translated into greater development for its people because of the inefficient manner in which proceeds of taxation have been utilized and distributed. A clear example of this is the decision to build the biggest and most sophisticated municipal swimming pools in Peru, despite the city not having potable water services!

Creating an independent foundation that would act as an "escrow" and assist in distribution and management of funds would help better utilization of revenues – aiding local governments to fully integrate efficient fiscal distribution systems.

15. **Reform the scheme of taxation to include the requirement that part of a companies' profits go to the development of communities**

In the area of mining, local governments receive a substantial amount of funds collected as a result of the taxes imposed on mining companies. Article 77 of the Peruvian Constitution provides that local governments are entitled to revenues from their natural resources. In the mining sector, this translates to the following tax regime:



The tax regime in Peru is designed to compensate the regions that have mining resources by giving them, among others, 50% of the company tax collected in those regions. Even though identifying communities in such regions for the purpose of distribution of taxation is a difficult task (see section on Consulta Previa below), at least those communities that are subject to Consulta Previa currently should receive more income coming from the mining resources that

are situated in their ancestral land which is a right recognized in ILO 169 and the UN Declaration on the Rights of Indigenous Peoples to which Peru is a party.
Accordingly, we recommend that the distribution of tax revenues could oblige the regions to allocate at least 10% of the *canon minero* to the indigenous communities. Since these communities sometimes lack the administrative capacity to receive these revenues, obliging the regions to do so (paired with a mechanism that ensures compliance, such as an effective Contraloria) could be a viable first step.

16. **Draft a national development plan with cooperation between the central government and all the local governments that ensures inclusion of regions that do not have substantial mining resources**

Despite rural regions receiving a considerable part of taxation revenue, development of these areas is still not at a desirable rate. The overall development of Peru is disparate. The lack of capability of the local governments to spend in meaningful and impactful areas is one of the root causes of the disparity between financial capacity and tangible development. [135] During our field trip in Lima, most stakeholders agreed that revenues coming from mining taxation in the mining regions are not being used correctly. As a result, even where mining regions receive a significant piece of the pie when it comes to income tax as a result of being rich in natural resources, there remain areas which do fall within the zone of operation of mining companies, and consequently do not witness development due to poor allocation of resources. By drafting a plan that takes account these realities, the Government can take the first step to resolve resentment in underdeveloped areas as a result of the economic incongruency.

17. **Incentivize mining companies to participate in Obras por impuestos (Work for Taxes) and organize it to align company expenditure with development plans**

A way of dealing with corruption and lack of capacity gap is the "Obras por Impuestos" program. This program was created through Law No. 29230 with the aim of making foreign investment more efficient.[136] Between 2009 and 2018, the mining sector contributed S/ 1.850 million to this program[137]
Drawing from the success of this program, the Government should consider expanding it by reforming the tax system so that a minimum percentage of the taxes paid by the mining companies goes to specific projects in the regions that are not currently adjudicated under Obras por Impuestos. This, in addition to the voluntary Obras por Impuestos aspect would aid in the development of the regions. For additional recommendations, see Activity 7 below.

II. Fighting Corruption

Case Study: Antamina and Obras por Impuestos[138]

[135] Ibid.
[136] Proinversion Peru, List of Obras por Impuestos Projects, available at https://www.obrasporimpuestos.pe/0/0/modulos/JER/PlantillaStandard.aspx?ARE=0&PFL=0&JER=24
[137] Andina, Sector minero invirtió más de S/ 1,850 millones en Obras por Impuestos, available at https://andina.pe/agencia/noticia-sector-minero-invirtio-mas-s-1850-millones-obras-impuestos-727285.aspx
[138] Supra note 136

Antamina has been the leader in the mining sector in relation with its contribution to the Obras por Impuestos Program. With its S/ 216 million contribution Antamina has financed projects such as:

- The construction and improvement of streets in Huarmey and Huaraz
- The improvement of the water sanitation system in Yurma and Huaraz
- The improvement of the health service in Palmira

Corruption is currently one of the main problems Peru faces from a legal, social, and political perspective. In fact, the high level of corruption in Peru is the main hinderance to development.[139] Corruption has an incidence in all of the legal aspects this Report has dealt with. Corruption affects the mining sector acutely since mining regions have to consistently engage with regional governments, where corruption has a greater incidence.

In recent years three former presidents of Peru have been implicated in the largest corruption scandal in Latin America, the Odebrecht scandal.[140] In addition to that, Odebrecht admitted paying USD 29 million in bribes to Peruvian public officials between 2005 and 2014.[141] The implication of Peru in the scandal has taken a toll in its economy with some economists estimating that it has lowered its GDP up to 1.5 points between 2017 and 2018.[142]

Case Study: The Odebrecht scandal and its economic impact[143]

In 2014 Odebrecht officials admitted having paid USD 29 million in bribes to public officials between 2005 and 2014. As a result, numerous suspended projects and annulled contracts have reduced the Peruvian GDP in approximately 1.5 percentage points. In addition, approximately 150,000 jobs have been lost and at least 147 companies are inevitably led to bankruptcy. This is one of the clear examples of how corruption takes a toll on developing nations with some experts affirming that Peru could be a landmark case to illustrate the consequences of corruption on development.

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[139] Jane S. Jaquette, Abraham F. Lowenthal, Peru's Biggest Political Challenges Today, available at https://www.pacificcouncil.org/newsroom/peru's-biggest-political-challenges-today

[140] Marta Rodriguez Martinez, What is the Odebrecht corruption scandal in Latin America, and who is implicated?, available at https://www.euronews.com/2019/04/18/what-is-the-odebrecht-corruption-scandal-in-latin-america-and-who-is-implicated

[141] Sandy Melgar, La red de la Bestia: la construcción de redes de corrupción en los gobiernos subnacionales, el caso de César Álvarez en Áncash, pg. 142, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwi8zaGR_LviAhVj8OAKHWTsD50QFjABegQIAhAC&url=http%3A%2F%2Frevistas.pucp.edu.pe%2Findex.php%2Fcienciapolitica%2Farticle%2Fdownload%2F19971%2F19989&usg=AOvVaw1pqatMtg2FMfSMtjVJDErF

[142] Anthony Faiola, The corruption scandal started in Brazil. Now it's wreaking havoc in Peru, available at https://www.washingtonpost.com/world/the_americas/the-corruption-scandal-started-in-brazil-now-its-wreaking-havoc-in-peru/2018/01/23/0f9bc4ca-fad2-11e7-9b5d-bbf0da31214d_story.html?noredirect=on&utm_term=.ef756c62ce13

[143] A Brazilian construction giant was leveled by a $3.5 billion bribery fine, and the scandal is rippling through Latin America, Business Insider, Feb. 3, 2017: https://www.businessinsider.com/afp-billion-dollar-odebrecht-scandal-engulfs-latin-america-2017-2

The Peruvian legal framework in relation with corruption has both international and domestic instruments:

In the international context: Peru is a party to the United Nations Convention against Corruption and the Inter-American Convention Against Corruption. In addition, it has reiterated in different international contexts its commitment to the fight against corruption, such as the OECD, the Asia-Pacific Economic Forum, the Community of Latin-American and Caribbean States, among others.[144]
In the domestic context:

- Notably, the fight against corruption is considered a constitutional mandate pursuant to articles 39, 41, and 44 of the Constitution according to the Constitutional Court.[145]
- The Penal Code includes the following offences: (i) extortion; (ii) bribery; (iii) money laundering; (iv) bribery of foreign officials; and (v) embezzlement. In addition, the Penal Code has been reformed in recent years to include the following:
  - The possibility of seizing an amount equal to the one gained with the crime (Law No. 30076)
  - The introduction of sanctions for public servants that commit corruption crimes (Law No. 30111)
  - The obligation to pay civil damages to the state in cases of corruption (Law No. 307737)
- The Public Service Code is a law addressed to civil servants that seeks to address ethical issues arising in the activity as a public official. In addition, regarding civil servants, Supreme Resolution No. 120-2010-PCM provides for the recognition of those civil servants who stand out as ethical professionals.
- Law No. 27658 sets the general framework for the modernization of the state.[146] This Law has been developed by two recent government regulations:
  - Supreme Decree No. 092-2017-PCM which creates the National Policy for the Fight Against Corruption
  - Supreme Decree No. 042-2018-PCM which creates measures to strengthen public integrity and the fight against corruption
- Ministerial Resolution No. 292-2012-PCM which sets the obligation of elaborating trimestral reports regarding corruption investigations.

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[144] United Nations Convention Against Corruption, available at https://www.unodc.org/documents/brussels/UN_Convention_Against_Corruption.pdf, Inter-American Convention Against Corruption, available at http://www.oas.org/en/sla/dil/inter_american_treaties_B-58_against_Corruption.asp, Mildred Valdivia, Reflexiones en torno al rol de la Contraloría General de la República a la luz de la crisis de corrupción que enfrenta el Estado Peruano, available at http://prometheo.pe/reflexiones-en-torno-al-rol-de-la-contraloria-general-de-la-republica-a-la-luz-de-la-crisis-de-corrupcion-que-enfrenta-el-estado-peruano/

[145] Ibid.

[146] Law No. 27658 available at http://www2.congreso.gob.pe/sicr/cendocbib/con4_uibd.nsf/BCE7AB2E6434B55305257B890053B271/$FILE/02A08.pdf

- Ministerial Resolution No. 443-2018-EF/41 develops the current National Plan against Corruption 2018-2021.[147]
- Finally, Law No. 30424 came into effect in 2018 imposing corporate liability for corruption related crimes for the first time.[148]

18. **Professionalize the National Police of Peru to make it a trustworthy institution & strengthen the role of Contraloria General as an institution to aid the judiciary in fighting corruption**

Despite the extensive legal framework being apparently sufficiently robust, reality presents a different picture. In 2018, Peru ranked 105 out of 180 countries in Transparency International Corruption Perception Index.[149] A recent survey conducted by the INEI concluded that 49.5% of Peruvians believe that corruption is the primary problem affecting the country's development and well being. In addition, corruption is currently affecting almost all aspects of the political life:[150]

- A majority of Peruvians believe that the judiciary is corrupt
- A majority of companies doing business in Peru believe the police is corrupt
- A majority of companies doing business in Peru believe basic public services are corrupt
- A majority of companies doing business in Peru believe that the tax administration and its tribunal (SUNAT) are corrupt

19. **Create a professional administrative body to ensure continuity with the government officers dealing with mining companies**

The lack of continuity of administrative officers is perceived as a major issue for companies investing in Peru. The lack of political certainty is perhaps the root cause. In a sector where communication with the government is central, corruption bears a great impact on the mining sector. In addition, as shown below, corruption affects other areas related to mining, such as land rights, tax, licensing, illegal mining, etc. To resolve this, we recommend a mechanism to ensure that officers who interact with mining companies operate independently and with integrity. A possible solution is creating a professional administrative body to ensure continuity with the government officers dealing with mining companies

Case Study: Corruption in Ancash[151]

Ancash is a mining region that received considerable amounts of revenue from the canon minero. In 2014 a special commission in the Peruvian Congress concluded an investigation that discovered that César Álvarez, the governor of

[147] Ministerial Resolution No. 443-2018-EF/41, available at https://www.smv.gob.pe/Uploads/PlanSectorialCorrup_20192021.pdf

[148] Law No. 30424, available at http://www.leyes.congreso.gob.pe/Documentos/Leyes/30424.pdf

[149] Transparency International, Peru, available at https://www.transparency.org/country/PER

[150] GAN Business Anticorruption Portal, Peru Corruption Report, https://www.business-anti-corruption.com/country-profiles/peru/

[151] Ancash records more than 3 thousand cases of corruption, El Comercio: https://elcomercio.pe/peru/ancash/ancash-registra-3-mil-casos-corrupcion-noticia-518123

Ancash, had created a criminal organization that undertook corrupt practices and involved members of the judiciary and the police to ensure impunity. After César Álvarez, two other governors were also found guilty of corruption and are currently in prison, which makes three governors in the region being condemned in a period of four years. As of May 2019, the region of Ancash has registered more than 3,413 corruption cases that are currently being investigated by the Anticorruption General Attorney. These cases have involved more than 200 government officials.

III. Land Related Reforms

The Land rights regime in Peru is marked with obscurity and paradoxes – different rules govern the exploitation and ownership rights attached to surface land on one hand and sub-surface minerals on the other. The Land rights framework poses an issue that affects the mining industry because of the need to explore and extract resources that are underground and distinct from the territorial surface. This affects the property rights of rural landowners and indigenous communities because of the location of these resources. In fact, 93% of the current mining concessions in Peru are located in areas of inhabited land.[152]

20. **Define the land rights regime to account for its discrepancies**

The Peruvian legal framework affecting land rights and rights over mining resources is composed of both private and public law sources. On one hand, land rights are governed by the Peruvian civil code. Particularly relevant to land rights in the mining industry is the provision of the civil code that provides that the owner of a piece of land has rights over both, the surface land and sub-soil.

On the other hand, public law deals with the property and the rights of exploitation over mining resources. Article 66 of the Peruvian constitution provides that natural resources are property of the State, and that the State has sovereignty over its exploitation. This idea was developed in Law 26821 on the Exploitation of Natural Resources. Pursuant to this law, in order for someone to be able to exploit mining resources in Peru, the government would need to grant him the right to do so. In the case of mining this would need to be done through the granting of a concession (article 7 of the General Mining Law (D. S. No 014-92-EM). This concession gives the holder the right to use and enjoy the mine and the property of the resources that are extracted from it.[153] However, Peruvian law provides for a division in the right to property in the surface land and that granted under the concession. According to article 9 of the General Mining Law the mine is a different property than the land situated above.

<u>Tracking surface and sub-surface land ownership</u>

As the General Mining law creates a distinction between surface land and underground mineral resources, with the concession only granting the latter to mining companies, these companies

[152] Meeting with Oscar Benavides on March 21, 2019

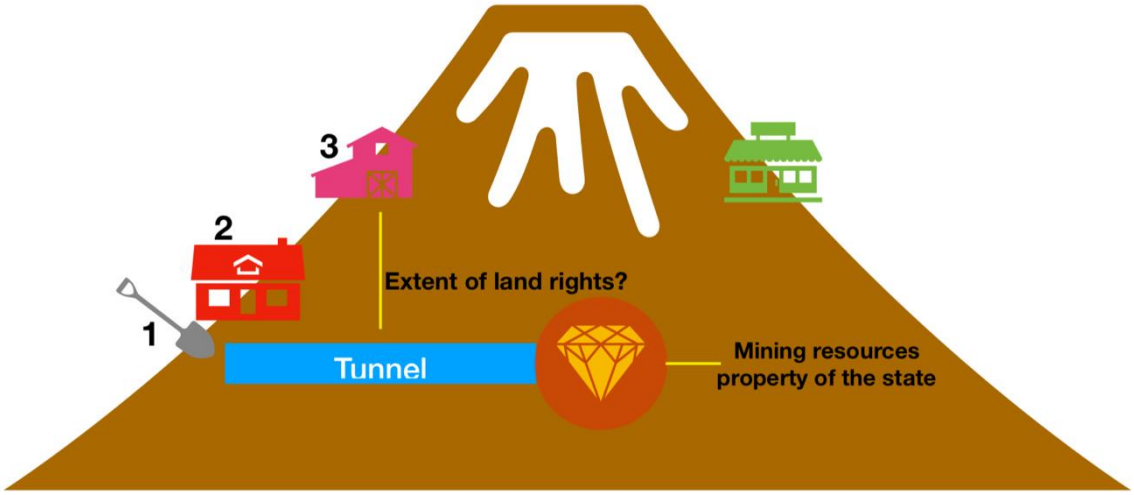
[153] Law No. 26821, article 23, and General Mining Law, article 7

proceed to engage with local owners of land in order to explore and extract the resources that are situated under their property.

The process of engaging with the owners of these lands is not straightforward since locating the rightful owner of the land becomes extremely difficult at times. On the one hand, in areas inhabited by indigenous communities, ownership is not recorded in a valid document (or title) despite them being the rightful owners. On the other hand, even when a valid title exists, these are generally not registered in an accurate and reliable land registry. This forces mining companies to find the owner by other means which opens the door to corrupt practices taking into account the lack of governmental intervention.

Moreover, this legal framework is applied in a very particular context since these resources are mainly located in rural areas where indigenous and rural communities live. This brings international human rights into an already complicated legal conflict, since indigenous communities have a right to their ancestral land and the right to prior consultation. The latter makes a force seizing of the land unlawful under human rights law.

The conflict regarding land rights is described in the illustration below:



1	Need to contact the owner of the surface	→	Exploration needs to be done from the surface	→	Lack of information regarding owners
2	Need to use the land	→	No expropriation Consulta previa	→	Negotiation without government participation

3	Non affected owners may claim rights over underground resources		Land rights extend to underground		No extent defined by law or jurisprudence

Difficulty in finding the rightful owner of the affected land—the lack of valid property titles in indigenous communities

As mentioned above, a lot of mining resources are located in areas owned by indigenous communities. One of the issues arising from this fact is the lack of valid documentation of the property rights of these people over their ancestral land. This leads to legal uncertainty for these communities. In some of these areas, indigenous communities do not have any documents that prove their ownership title. In other cases, some indigenous communities received property titles from the Spaniards in the 16th century, but these conflict with other titles.[154] In addition to this, indigenous communities do not have the 'individual' perspective on property that western civilization has. Most of the property in these areas is owned by the whole community, in contrast with the individualist conception of property.

In order to bring legal certainty among communities and guarantee their right to ancestral land, various initiatives have been developed. The new government of Peru in conjunction with different NGOs propagated a series of projects whereby free legal titles are given to indigenous communities. This project is expected to bring a positive development for all stakeholders involved:

- Indigenous communities will have the possibility to prove their property rights and to register it in the land registry;
- Mining companies will have the possibility of avoiding the costs of investigating the rightful owners of the affected land and avoiding any conflict between apparently valid titles; and
- Reducing business costs will make Peru more attractive for investors, thus bringing growth and development if done sustainably.

21. **Continue the process of granting free land property titles to indigenous communities**

The region of Loreto is the one situated in the Amazon in Peru. 1182 indigenous communities have been recognized in the area, nonetheless, only 807 communities have legal certainty over their property. To provide a solution for this, the regional Government of Loreto has started giving property titles to indigenous communities with the aim of ensuring that these communities are the owners of their ancestral land and can develop their projects on it. This action is situated in the framework of the Cadaster, title, and registration of rural lands in Peru (PTRT3).[155]

[154]Meeting with Viceminister of Territorial Governance, Rafael Molina, on March 18, 2019

[155] Loreto: Regional Government will deliver titles to more than 60 native communities, SPDA Actualidad Ambiental, May 20, 2019: https://www.actualidadambiental.pe/?p=56080

22. Facilitate access to the land records registry by creating an accurate cadastre in mining areas and conducting a comprehensive land survey

As in other neighboring countries, such as Colombia, one of the problems Peru is facing in relation with land rights is the lack of a proper registration of: (i) land estates; and (ii) owners and right holders over the land estates.[156] In principle, article 914 of the Peruvian civil code gives a preferential treatment to those owners that have registered their properties in the land registry.[157] However, this does not solve the problem in rural areas where land registration is not common or even a reality at all.

As pointed out, the problem is twofold. On the one hand, the state does not have a proper registry of all the land estates in the country that describes their size, location, characteristics, etc. In Peru, as in most civil law jurisdictions, this registration is done through the institution of the cadastre. The cadastre is essentially a government registry that includes all of the land of the state, its divisions, characteristics, value, among other variables.

On the other hand, Peruvian landowners in rural areas have not traditionally used the land registry. The Peruvian land registry is not based on the cadastre and is based on the declaration the title holders make regarding their land when registering their property. This follows the model of other countries, such as Spain, where the registry was traditionally assembled by creating land estates as described in the deeds presented by the alleged owners in the registry. The system is based on the concept of "fe publica." In short, the law protects those owners that have contributed to the registry and leaves out those who have not, without any recourse for protecting their property. In practice this means that if a conflict arises between to owners that claim to have a valid title over the same estate, the one who has registered her property will prevail.[158] Despite the fact that registered owners have a preferential treatment pursuant to the civil code, registration of land is not common in rural areas and therefore the land registry cannot serve its purpose of compiling an accurate picture of land property.

The problem with land rights and their registration has tried to be addressed by the government with the enactment of different regulations.[159] However, despite the efforts, these regulations have not had the sufficient impact in rural areas.[160]

Thus, the problem regarding land rights is a broad and complex one. Our recommendations listed above therefore focus on land areas that are affected by the mining industry. In this regard, an interesting approach is the one adopted in Spain to bring greater certainty to newly registered estates. Similar to the case in Peru, the Spanish land registry was also based on the holders' declarations. In 1996 however the legislator enacted Law 13/1996 whereby newly registered estates required a certification of the cadastre to prove their existence. In addition, from 2015 any modification to an estate also requires this certification from the cadastre. This simple reform will aid in bringing legal certainty in relation with land rights where mining resources are located without completely reforming the system. Accordingly, the reform would need to follow the steps described below:

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[156] World Office Forum, ¿Por Qué Funcionan Mal El Catastro O Los Registros De La Propiedad? (Perú Y Colombia), available at https://worldofficeforum.com/catastro-registros-propiedad-peru-colombia/

[157] Peruvian Civil Code, article 914, available at http://spij.minjus.gob.pe/notificacion/guias/CODIGO-CIVIL.pdf

[158] Ibid.

[159] Decree Law No. 667, Special Cadastre Project, available at http://minagri.gob.pe/portal/especial-iv-cenagro/70-marco-legal/titulacion-agraria-en-el%20peru/414-el-pett

[160] Jaime Portuguez Arias, El catastro rural y el registro de predios en el Perú, available at http://www.catastrolatino.org/documentos/Cartagena/PONENCIAS/Portuguez_peru.pdf

1. Identifying the areas where mining resources are located and where exploration is expected
2. Conducting a study and survey to properly identify the division between estates: this study can be done in conjunction with the handing over of titles to indigenous communities.
3. Incorporating the results into an updated cadastre: the cadastre will define the exact location, surface, and description of the land.
4. Publishing the final result and opening public hearings for interested people to make amendments in line with valid property titles: Informing local and indigenous communities is of paramount importance in this stage. In addition, the effort undertaken by documenting all of the property rights of the indigenous communities will be helpful in this stage.
5. In connection with initiatives as the one described above, facilitating access to the land registry with the given titles and ensuring coordination between the land registry and the cadastre.

23. Create an expropriation regime and efficient procedures for negotiation between land owners and mining companies with governmental participation

The Peruvian 1993 Constitution restricted the possibility of seizing property so that the only beneficiary of an expropriation could be the State (and not private entities such as mining companies), under certain very special circumstances.[161] As a result, mining companies can no longer request the expropriation of these lands even if the extraction of these mining resources could be in the benefit of Peru as a whole.[162] In 2014 legislation was enacted to include the possibility of setting "special procedures" to obtain property over affected lands. These procedures have not yet been designed. As a result, mining companies are faced with the burden of negotiating with the owner of the land. As pointed out by stakeholders during our meetings in Lima, mining companies are thus forced to engage with the local communities to negotiate with land owners in an informal process which causes issues for both, the companies and the landowners.[163]

The concept of a procedure for expropriation of these lands may seem contrary to the communities' interests; the truth however is that a procedure that respects the right of indigenous landowners would be beneficial for all stakeholders involved. This special procedure would not be a forced seizure of the lands as is widely perceived, but a voluntary negotiation process overseen by the government to ensure that the mining companies pay a fair and sufficient compensation to the communities and that their rights are respected throughout the process. The existence of a clear and transparent procedure is beneficial to mining companies since they will be able to know what to expect from the negotiation process and will avoid the cost of corruption that is present in rural areas and that surfaces in some of these negotiations. A reliable legal framework will also have attract foreign direct investment that has the potential of bringing economic growth and development to these areas and the country as a whole.

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[161] Ramón Alberto Huapaya Tapia, Lucio Andrés Sánchez Povis, The Legal Regime Of Forced Expropriation In The Peruvian Administrative System. Normative Evolution And Current Perspectives, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&cad=rja&uact=8&ved=2ahUKEwjXh_bahrziAhWzBGMBHZt-A8wQFjACegQIARAC&url=https%3A%2F%2Fdialnet.unirioja.es%2Fdescarga%2Farticulo%2F5989809.pdf&usg=AOvVaw2atoaZDp8nX1Vy9Bw4jXjf

[162] Ibid.

[163] Meeting with Oscar Benavides on March 21, 2019

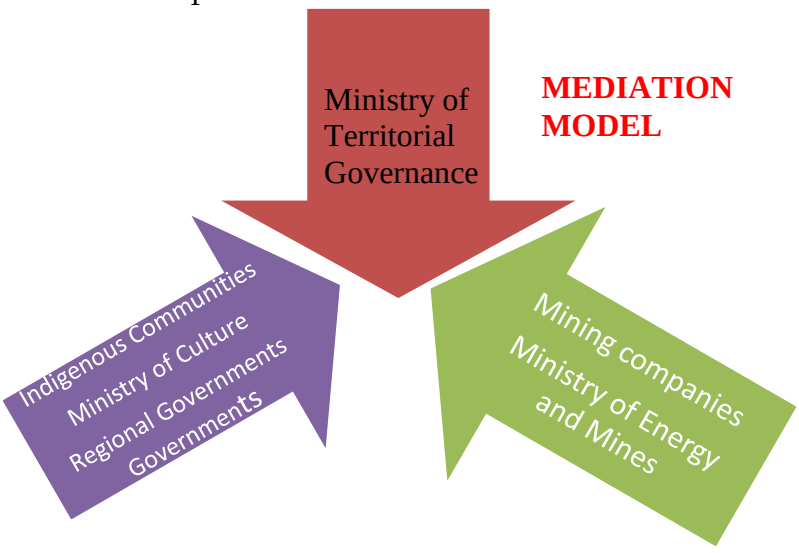
24. **Recognize the potential role of the Ministry of Territorial Governance as a dispute resolution organism and employing its resources for mediation**

As explained above, Peru is a unitary state that is divided in 24 regions. This division was undertaken in 2001 through which the political power was compartmentalized in three levels: (i) national; (ii) regional; and (iii) local. The main objective of decentralization was to end the socio-economic between Lima and the rest of the Peruvian territory. Another objective of decentralization of the state was to create more strong governmental systems after the Fujimori era. However, this process has not had desired results due to:

- The lack of capability of regional governments to face the challenges of their citizens and to manage the revenues coming from their resources; and
- The increased corruption in the regions.[164]

These problems are outlined in other sections of this Report.

Additionally, the relationship between national, regional and local authorities is tensed, given the existence of some opposing interests. In the specific context of the mining sector, the Ministry of Energy and Mines has an approach that tends to favour the establishment of mining companies to promote the development of the country as a whole, while regional governments and the Ministry of Culture are more mindful of the rights of the communities living in the mining regions.[165] This leads to the complication of social conflicts that arise in the mining sphere. A viable solution that may be explored is officially designating the Ministry of Territorial Governance the mediator between these the various arms of government to achieve better and certain solutions for all parties involved.



IV. Licensing Procedures

[164] Sandy Melgar, La red de la Bestia: la construcción de redes de corrupción en los gobiernos subnacionales, el caso de César Álvarez en Áncash, pg. 142, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=2ahUKEwi8zaGR_LviAhVj8OAKHWTsD50QFjABegQIAhAC&url=http%3A%2F%2Frevistas.pucp.edu.pe%2Findex.php%2Fcienciapolitica%2Farticle%2Fdownload%2F19971%2F19989&usg=AOvVaw1pqatMtg2FMfSMtjVJDErF

[165] Meeting with the Viceminister of Territorial Governance, Rafael Molina, on March 18, 2019.

Sources of Mining Law and Implementing Authorities

Mining activity in Peru is governed by laws and regulations (hereinafter collectively referred to as "Mining Laws") issued by the National Congress and the Executive branch of the Government. The applicability of these Mining Laws extends throughout the Peruvian territory. The mining industry is regulated by MINEM, the Geological Mining and Metallurgical Institute (INGEMMET) and the National Environmental Certification (SENACE), which is the authority in charge of the approval of Category III detailed environmental impact assessments.

Grating of permits, supervision and governance at the regional level to some extent, is carried out by regional authorities, including the Provincial and District municipalities. Local governments also have the power to enact mining regulations, which apply to their respective jurisdictions - as long as such regulations are not in conflict with national laws and regulations.

Regulatory Stability

The general mining framework is stable and is not susceptible to frequent change. This is a result of the conscious effort of the Peruvian State to guarantee economic and legal stability as an increased incentive for investment in the mining sector. Further, even when changes in legislation are initiated, they often do not materialize due to lack of political and social support in the Congress.

Case Study: Making the Mining Vision a reality within the current Regulatory Framework at Regional and National levels

The Mining Vision is sought to act as a guiding document for regulatory and governance reform. The tone of our recommendations, in the same vein, focus on preserving the abovementioned regulatory stability and seek to recommend changes towards a robust *implementation* within the available resources. From our interactions with the Vice Minister of MINEM and Director General of Sustainable Development,[1] we understand that although the discussions of the Mining vision were held at a "Central" level, MINEM recognizes the key role of local governments in regulating as well as supervising mining activity. The next step therefore would be increased involvement of the authorities in relevant Departments Provincial and District municipalities in executing reforms.

The Licensing and Operations Regime

Licensing in the mining industry largely operates within the following legal framework:

- The Peruvian constitution: Setting out that the Peruvian State owns all renewable and non-renewable natural resources in Peru[166]

[166] Chapter II of the Peruvian Constitution

- The Single Unified text of the General Mining Act, approved by the Supreme Decree 014-92-EM; the Regulations of the General Mining Act, approved by the Supreme Decree 03-94-EM and Mining Proceedings Regulations, approved by the Supreme Decree 018-92-EM; Law Governing the Granting of Mining Concessions in Urban Areas, Law 27015
- Environmental Laws: The General Environmental Law, Law 286111 & Environmental Regulations for Mineral Exploration Activities, approved by Supreme Decree 010-2008-EM; National Environmental Impact Assessment Law, No. 27446 as approved by Supreme Decree No. 019-2009-MINAM (2009)
- Investment Promotion: Regulations on the guarantees and measures for mining investment Promotion, approved by Supreme Decree 024-93-EM

<u>The process for grant of concessions and nature of the ensuing rights:</u>

A brief summary of the different classes of rights that may be requested by prospective concessionaires and their corresponding requisites are as follows:

i. **Mining concession (for exploring and exploiting mineral resources) -**

Application filing to INGEMMET with the location co-ordinates, information and an affidavit of the Petitioner (*Compromiso Previo* i.e, prior commitment) → Processing by INGEMMET → Decision

ii. **Beneficiation Concession (for processing, purifying, melting, refining, minerals etc.)** –

Application as described in (i) above, along with a Water Use License issued by the National Water Authority, detailed plans, the Environmental Impact Study and the document that evidences rights over the land → Processing by the INGEMMET → Decision

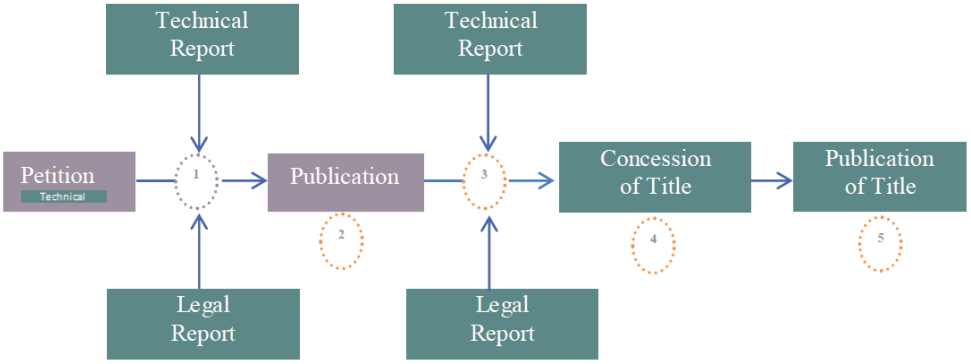
iii. **General Labor Concessions (for performing mining related activities such drainage and ventilation) -**

Same as (ii) above

iv. **Mining transportation concession -**

Application as described in (i) above, along with a Water Use License issued by the National Water Authority, detailed plans and route maps for relevant transportation, the Environmental Impact Study and the document that evidences rights over the land → Processing by the INGEMMET→ Decision

For each of the above concessions, a further break-down of the processing stage is as below[167]



[167] For a detailed process, see generally the Capstone Reports of 2015 and 2017

Thus, mining regulations in Peru establish a concession system to seek permission for activities of exploration[168] and exploitation.[169] Mining concessions are granted by the INGEMMET, after submission of an application as outlined above. These mining concessions grant their holder the right to explore and exploit an area for an indefinite period of time.[170] Concessions are not subject to a final term and are irrevocable for as long as their holder satisfies the requirements and the obligations under the Mining law.[171] This means that the INGEMMET does not possess any discretionary powers as to grant of concessions and every applicant that fulfills the requirements prescribed is entitled to a mining concession. From our interactions with legal professions in the mining industry, we understand that the process of obtaining mining concessions is well defined – but involves elaborate administrative processing and suffers from extensive delays. Our recommendations are therefore aimed at decentralization of the process and reducing the perceived opacity around it in order to make it more efficient.

25. Give provincial governments a seat at the table while making a decision to grant mining concession

Currently, the mining concession process is highly centralized, and the petitions are processed entirely by the INGEMMET, through the *Dirección de Concesiones Minera* (Directorate of Mining Concessions (hereinafter, the D.C.M.).[172] Involvement of a local municipality representative (hereinafter "**Local Rep.**") in the deliberations to grant licenses would be beneficial.

26. Lend a local flavor to the concession process by taking into account the reports of provincial governments informed by public sentiment generated in response to the publicity of a mining project

It has been argued that concession contracts, issued after a highly bureaucratic process such as the one outlined above, tend to replicate bilateral agreements that are devoid of any consultation with local stakeholders.[173] In light of this, maintaining complete transparency and engaging with

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[168] Meaning the activities aimed at ascertaining the size, position, mineral characteristics, reserves and value of the mineral deposit. *See* Art. 8, Framework Mining Law.

[169] Meaning the activities of extraction of minerals contained in a deposit. *Id.*

[170] The mining concession only grants to the concessionaire the right to explore and exploit the natural resources located in the area covered by the concession. This is without prejudice to other types of licenses and permits

[171] See Art. 9, Framework Mining Law. In this respect, the concessionaire shall, among others: (i) ensure certain levels of productions, pursuant to Art. 38, Framework Mining Law; (ii) pay the *derecho de vigencia*, starting from the year in which the concession was issued, pursuant to Art. 39, Framework Mining Law; (iii) submit each year the *Declaracion Annual Consolidada*, pursuant to Art. 50, Framework Mining Law; and (iv) submit online, within the first 10 days of each month, to the Ministry of Energy and Mines, information on the mining activities that were performed in the areas subject to concession.

[172] The DCM is the office within the Instituto Geológico Minero y Metalúrgico (*Institute of Geology, Mines, and Metals* - INGEMMET) with the authority to issue mining concessions. In addition to the oversight of the whole mining concession process, INGEMMET also carries out technical and scientific research on geology, subsoil resources, geological hazards and geoenvironment.

[173] Capstone report 2016, discussing Nicholas Miranda, "Concession Contracts: From Private Contracts to Public Policy," 117 Yale L.J. 510, December 2007, available at https://lawschool.westlaw.com/ (accessed on March 23, 2015) The author argues that the insular administrative process provides an increased opportunity for malignant corruption, short-term prioritization that undermines long-term gain, and non-optimal levels of tariff creation.

local stakeholders are key elements to help prevent the concession process from being an isolated exercise. There are established systems for interaction with local communities for *consulta previa* and Environment Impact Assessment at later stages, however at the stage of the concession deliberations there is little to no stakeholder engagement. It is thus recommended that at the preliminary stage of granting a mining concession, the Local Rep. be tasked with commencing initial engagement at the grassroots level prior to the concession title being obtained. The objective of this engagement would be two-fold: to understand how economic clusters can be formed once the process commences and in turn, to better enable planning of the project by the concessionaire. After the concession is issued, the Local Rep. should be tasked to oversee and ensure that the publication process (see the diagram above) mandated under law is effectively implemented.[174]

V. Social license to operate and consulta previa

Where do Peru's indigenous communities stand?

Under the Constitution of Peru, peasant and native communities are *personas juridicas* or independent legal entities that are entitled to organize themselves and administer their communal territory.[175] Yet, there are no formal regulations that require designation of these communities as "partners" or equal beneficiaries in financial or social terms in implementation of mining projects.

The Consulta Previa Revolution – only the first step

Prior consultation is a globally recognized right established under the ILO Convention 169 and ratified by 15 Latin American countries. It is instrumental to conducting a dialogue that conciliates the interests of "majority" populations with those of the indigenous groups. Prior consultation is inclusive and seeks to provides a platform for indigenous groups to voice their opinion with respect to programs, projects, plans and laws that potentially affect their interests, cultures or lifestyles.[176]

Consulta Previa ("Prior Consultation") is the primary Peruvian law concerning the requirement to consult indigenous communities prior to legislative or administrative measures. When it was enacted in 2011, it was a first-of-its kind law in Latin America. It is the result of considerable

[174] The petitioner for the concession is required to publish the notice of the filing of the application on the newspaper "El Peruano" and on the periodicals distributed in the capital of the province in which the area subject to the concession is located. *See* Art. 24 of the Regulation and Article 124 of the Framework Mining Law.

[175] Art 89 of the Political Constitution of Peru 1993, as amended to 2009: The rural and native communities have legal existence and are corporate entities.
They are autonomous in their organization, community work, and the use and free disposal of their lands, as well as in the economic and administrative aspects within the framework provided by law. The ownership of their lands may not prescribe, except in the case of abandonment described in the preceding article.
The State respects the cultural identity of the rural and native communities

[176] Giving Indigenous Peoples a Greater Voice, an interview with German Freire, Feature Story on the World Bank blog, December 21, 2016 - http://www.worldbank.org/en/news/feature/2016/12/21/peru-ley-consulta-previa-pueblos-indigenas

efforts by a variety of stakeholders, including the government and indigenous organizations.[177] Although mining activity deeply impacts indigenous communities in the highland, the first consultation processes in the mining sector did not begin until late 2015.[178]

The diagram below depicts an overview of the process:[179]

Surprisingly, some of the basic challenges to prior consultation still remain – When to consult, whom to consult and what should be the ideal level of involvement of each ministry? A discussion on some of these first principles is necessary.

The main challenge faced by MINEM and MINCULT is classification or designation of groups as "indigenous" for the purpose of prior consultation. Currently, 55 groups are designated as indigenous, but by no means are these groups the only ones impacted by the project.[180] Peru's Indigenous community movement has internal conflicts, which makes it difficult to secure the right to prior consultation in the first place.[181] We understand from our interaction with academicians in Lima that Amazonian indigenous people and the Andean communities are at loggerheads, and often do not act as a collective force during negotiations and consultation as mandated under the law. The 2017 Capstone report observes that the government created a guide on the identification of indigenous peoples ("*guía de identificación de pueblos indígenas*") that centers more on project impact in order to determine whether a community has to be consulted, instead of heritage, culture, etc. which makes the identification process somewhat arbitrary. However, from our interaction with stakeholders and academicians, it seems that the problem of determining the exact population within an impact zone still persists. Further, because indigenous groups are so fractioned, it is often difficult for a centralized ministry such as MINEM - despite possessing the best intentions - to channelize their resources and communicate with indigenous groups located deep in the impact zones of mining projects. In this regard we note that the execution of the process is assisted by MINICULT but lack of participation of the Ministry of Territorial Governance implies that the consultation process misses out on gaining a territorial and land rights perspective. Ownership over surface land, which an indispensable component of indigenous community life is difficult to take into account while identifying communities.

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[177] *See* GIZ, *El derecho a la consulta previa: Normas jurídicas, prácticas y conflictos en América Latina*, 24 (2013), available at https://www.giga-hamburg.de/sites/default/files/md_pdf/1303_destradi_konferenzbericht_es.pdf (last visited Apr. 9, 2017).

[178] Consulta Previa in Peru, Moving Forward, Cynthia A. Sanborn, Verónica Hurtado and Tania Ramírez Research Center of the Universidad del Pacífico (CIUP) April 20, 2016 Report prepared for Americas Society/Council of the Americas with support from the Ford Foundation. http://www.as-coa.org/sites/default/files/2015_CP_PERU_June_29.pdf

[179] SIPA, The Peruvian Mining Sector: Exploring Issues Related to Social License, Corruption, and the Trans-Pacific Partnership Treaty. SIPA Capstone Report 2016, https://sipa.columbia.edu/academics/capstone-projects/preventing-resource-curse-mining- industry-peru-social-license-operate

[180] In Peru there are 55 indigenous peoples who are located mainly in the Andean and Amazonian areas of our country. – Blog of the Ombudsman's Office, Peru https://www.defensoria.gob.pe/blog/que-es-la-consulta-previa/

[181] Supra note 178

Questioning the term "Previa"

"Prior" Consultation Law requires the consultation process to commence when it is foreseen that a permit or activity would affect areas of indigenous groups. For the projects that commenced before the Prior Consultation Law came into force, it was (after considerable dispute) decided that projects that were commenced did not require subjection to this law. Now for projects that commenced after, it has been widely deemed appropriate to conclude consultation before the issuance of a mining concession. However, at this stage, corporations usually cannot calculate the impact of their project as it evolves. This results in the consultation process being a mere give-and-take, where indigenous groups give their consent to projects without a comprehensive understanding of the project's long-term effects. As such, indigenous groups do have a veto or a right to conclusively demand what is best for them.

Mining corporations and communities in Arequipa and Ancash– A curious dynamic

From our field visits and interaction with the ombudsman and the corporate affairs/corporate social responsibility teams of Antamina (based in Ancash) and Cerro Verde (based in Arequipa) we understand that most major mining companies and other operators in mines invest tremendously in development of public projects in regions which are impacted by their operations. Some of these projects include constructing schools, health care institutions, implementing capacity building programs and setting up large-scale public utility infrastructure in partnership with the government - such as water supply plants. Communities around Arequipa for instance have benefitted greatly from Cerro Verde's development activities. We found that corporate entities, in effect, function as powerful governmental organizations. We understand that these projects are implemented as a mode of appeasement to avoid social conflict and to gain an informal "social license".

While the advantages of such development are palpable, there are a few concerns raised by the "faux-governmental" role that these mining companies discharge.

First – while a responsible corporate management ensures such robust community engagement, change in ownership control of the mining corporation contributing to public development may change business strategy – which in turn impacts community relations. For example, when Las Bambas changed hands from Glencore Xstrata PLC a British-Swiss corporation to Mines and Minerals Group of which China Minmetals is a major shareholder, its community impact activities considerably abated, leading to lack of trust.[182]

Secondly – the prospect of bringing in development in an otherwise desolate area is susceptible to be used as a bargaining chip during prior consultation (*see below for a detailed discussion on the process*). This creates imbalance in the process, with communities giving up their rights in lieu of what can sometimes be short term development.

[182] Dialogue and Human Rights in the Mining Sector – Learning from Peru Published by Peru Support Group 2019 http://www.perusupportgroup.org.uk/files/fckUserFiles/file/Master%20Final%20english%2010%20feb%2010-2-18%201945.pdf at pg. 7

Lastly- corporations viewed as more accountable on a public level encourages laxity of and overdependence by the local government.

27. **Conduct a comprehensive identification exercise with respect to target affected communities**

Instead of seeking to define indigenous groups basis their ancestral land, cultural heritage, etc., factoring in the following indicators to identify groups that have been impacted by mining activity would be helpful: (i) Impact on livelihood of the communities; (ii) right over land due to peaceful historic possession (iii) Impact on the eco-system of communities as a result of the planned measure – this would entail understanding even the long-term effects on resources such as underground water and fertility of land.

28. **Conduct Consulta Previa after exploration permit is granted and repeat such community consultation throughout the lifecycle of a mining project**

Many commentators are of the opinion that the process of consulta previa should commence at the stage of granting a concession permit. However, as mentioned above, at this stage the project impact is unclear. If the project impact zones are likely to change or the operations are to vary, it is likely that disruptions to mining projects would arise, whilst community members protest or workers strike. If operations are suspended for a prolonged period of time, a mining company might be forced to withdraw altogether from a mining project.[183] We therefore recommend including a component of consulta previa during ESI (see the above section on mining concessions) and in any case, continuing and repeating such community consultation throughout the lifecycle of a mining project. This ensures respecting and responding to the changing perceptions and expectations in the corporation's social relationship with the community.

29. **Emphasize the need for Prior "consent" and not just prior consultation**

Local communities must be equipped to negotiate and have a decisive say in certain aspects of the project. Communities must have the right to make a collective decision based on the information the State provides and have "the right to say no" to any proposed activity/project. With respect to social license, the 2018 Capstone team conducted extensive research and field study focused on prior consultation and social license pursuant to which a model agreement for gaining a social license, compliant with Peru's international obligations, was suggested.[184] Further, meaningful consent does not only imply that a community can withhold consent upfront but also means that it can withdraw such consent if specified and clear conditions that permitting such withdrawal exist. Consent, once obtained, needs to be dynamic, as not all aspects of the project are known at the beginning and moreover, conditions change. A mining

[183] For example, the mining company Newmont (https://www.newmont.com/home/default.aspx) deferred investment in a USD5bn copper-gold Conga project in Peru in 2016 due to community opposition, http://www.mining.com/community-opposition-forces-newmont-abandon-conga-project-peru/.

[184] See SIPA, Securing Community Consent in Mining Areas in Peru. SIPA Capstone Report 2018 https://sipa.columbia.edu/academics/capstone-projects/implementing-and-securing-community-consent-mining-areas (last visited - May, 2019)

company should accordingly be obliged to refresh the consent for each significant stage of operations in order to maintain the consent.[185]

30. **Combine EIA and Consulta Previa**

While Chapter 2 above discusses the substantive changes to be brought in EIA, this recommendation only touches upon the timing of EIA and its ties with consulta previa. The following table demonstrates some of the comparative characteristics of the two processes:

EIA	Consulta Previa
Conducted by Mining Companies	Conducted by governmental authorities
Conducted at the stage when a concession application is made to MINEM	Under law, required when any project that may impact communities is conducted; in practice this process is usually carried out after an exploitation concession is granted and operations on a mine actually commence
A potential zone of impact is identified	A potential zone of impact is identified
Community consultation is carried out	Community consultation is carried out
After conduct of EIA, a report prepared and factored into the Environmental Impact Statement.	After consulta previa, the communities' concerns are sought to be addressed; however, communities have no decisive veto

As is discernible from the process, many parallels can be drawn between both these activities. Although EIA is conducted much before consulta previa (in some projects the time gap between them is almost 2 years), its components and final goal – of preserving the environment and the right to livelihood of the communities' dependent on the environment and natural resources – are the same. Accordingly, instead of having dual two-track procedures in isolation with each other, we propose that a form of EIA also be repeated at the stage of securing community consent to take into account the changing circumstances as operations in mining are set to begin.

International Level

VI. Substantive issues

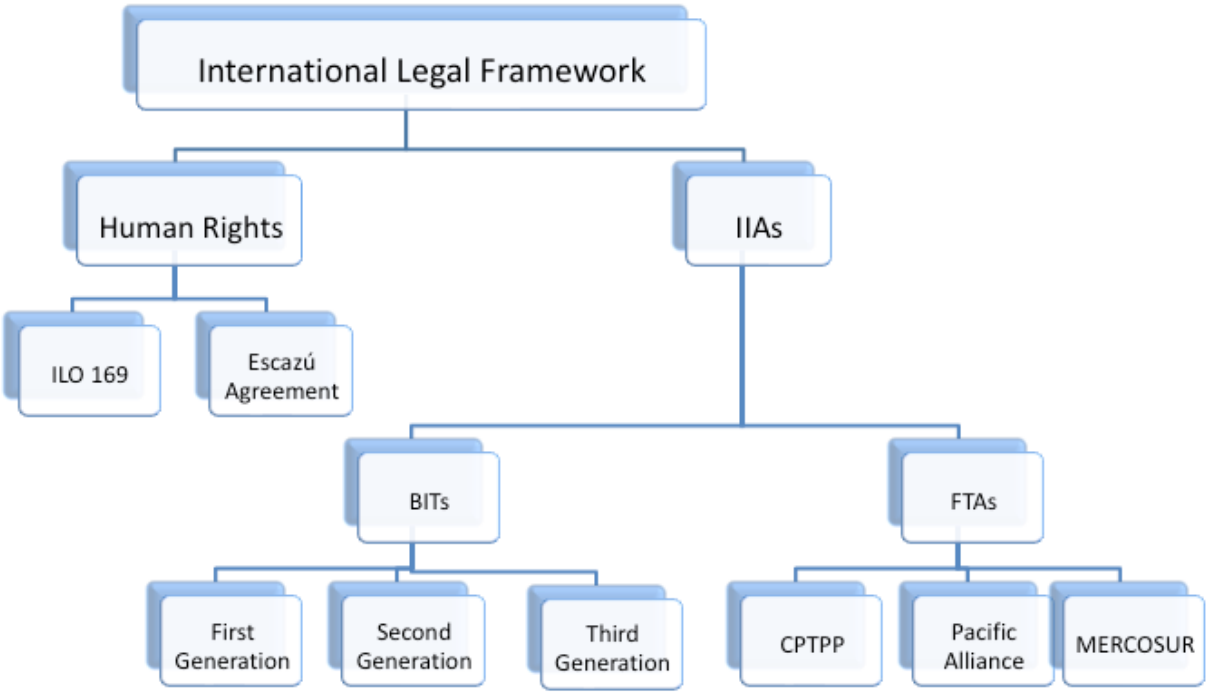
31. **Include public policy exceptions in BITs for regulation in the areas of environmental protection and the protection of human rights; and**

32. **Include obligations for investors in BITs related to CSR standards**

The international legal framework related to foreign direct investment and extractive industries in Peru is fundamentally composed of: (i) human rights instruments; and (ii) bilateral

[185] "Walk Tall!, A Beautiful Tomorrow For Emerging Nations, An Anthology of Inclusive Principles For National Growth and Prosperity: Equity, Rule of Law and Sustainable Natural Resource Development," by Jenik Radon, which was published in conjunction with the 2018 APEC conference in Papua New Guinea

investment treaties ("**BITs**") and free trade agreements ("**FTAs**"). The former instruments in the mining sector are fundamentally related to the rights of indigenous peoples and communities. The latter are instruments that give rights to foreign investors that generally exceed the ones given to nationals.



On the one hand, human rights instruments ratified by Peru are numerous and varied. In addition to general instruments that protect human rights and the environment (e.g., UNFCCC), Peru has signed and / or ratified international treaties that affect the extractive industry in particular. One of the instruments that has received more attention in the field of FDI in the extractive industry is the International Labor Organization Convention 169 ("ILO 169"), especially after ICSID Arbitration Bear Creek v Peru [See section on Issues relating to Disputes below].

On the other hand, Peru has ratified a great amount of international treaties that include protection for foreign investors. The protection given to foreign investors in these treaties is currently under debate, especially those included in first generation BITs. For ease of reference, this report follows the following classification of IIAs:

a. First generation BITs: in the case of Peru, these treaties were signed in the early 1990s. First generation BITs were negotiated and drafted with the aim of attracting FDI by creating basic protection to foreign investors. These instruments reflect the demands of developed countries, mostly situated in the Northern hemisphere.
b. Second generation IIAs: these are usually international agreements that include a chapter related to foreign investment. They are mostly FTAs or regional agreements, such as MERCOSUR in the case of Peru. These treaties place more emphasis on economic growth and the promotion of FDI by removing barriers to investment and liberalizing historically

regulated industries. However, these treaties build upon the existing first generation BITs and, therefore, protection to foreign investors remained equal.

c. Third generation IIAs: the latest trend in IIAs is currently being negotiated and ratified. Its main focus is balancing the rights given to foreign investors and the host state's space to regulate, especially in issues related to human rights, the environment, public health, etc.

The Ministry of Foreign Commerce is actively involved in this debate and is right now in the process of replacing first generation BITs with third generation IIAs that include provisions aimed at correcting the undesired consequences coming from illegitimate claims in investor-state arbitration ("**ISDS**").[186]

In the current process of renegotiation of these instruments two main trends can be identified:

1. Introducing public policy exceptions: these exceptions carve out certain state behavior from the application of the typical standards of protection included in BITs.
2. Introducing references to CSR principles: currently these provisions do not include obligations for investors regarding CSR, but follow a much more "relaxed" approach.

33. **Continuing the effort of terminating existing first-generation BITs**

In the extractive industry responsible investing must be in line with other international obligations, namely, indigenous communities' rights and environmental rights. The interplay between Peru's international obligations in this regard must be clarified to ensure appropriate balance between the rights of all stakeholders, i.e., foreign investors, indigenous communities, local governments, etc. This clarification can be made in the IIAs that govern the relationship between the state and investors. In this line, two initiatives from international practice can be highlighted to be included in future IIAs:

1. Including a reference to CSR soft law instruments
2. Including specific obligations for investors

This recommendation is made in line with the trend described by officials of the Ministry of Foreign Commerce regarding the current renegotiation process of all first-generation BITs. Since a complete overhaul of the treaties is dependent on political and foreign relations considerations, the process must take these into account and should be made at the appropriate pace to avoid political crises such as the ones created by the termination of BITs by Ecuador.[187]

<u>Addressing the "regulatory chill" and legal uncertainty coming from ambiguous standards of protection</u>

Regulatory chill is one of the main undesired consequences of IIAs. Despite its occurrence being debated by scholars, the risk in industries affected by human rights issues and the environment

[186] Meeting with Vanessa Rivas on April 4, 2019.

[187] Cecilia Olivet, Why did Ecuador terminate all its Bilateral investment treaties?, available at https://www.tni.org/en/article/why-did-ecuador-terminate-all-its-bilateral-investment-treaties

is high. Most of the regulatory chill phenomenon comes from the fact that obligations in IIAs are drafted rather poorly, and therefore states are not quite certain on the extent of their obligations and the regulatory space they enjoy.[188] However, Peru cannot ignore its human rights obligations which require, not only refraining from violating human rights provisions, but also positive action from the state to protect individuals from human rights violations.[189] This leads to a fundamental difference of perspective between the state's role regarding regulation, while IIAs see the state's regulatory action as an inherent right to sovereignty, human rights law sees it as a duty to regulate to ensure protection of the population.

To solve this dichotomy, a fundamental step is to adequately define the regulatory space of states pursuant to IIAs. In essence, this means clarifying the exact content of the obligations undertaken towards investors and defining the relationship between these obligations and regulation aimed at protecting human rights, the environment, and other valid public policy concerns. This definition can better be done in two stages:

1. Issuing interpretative statements
2. Termination of first-generation BITs that include concrete definitions of ambiguous standards and public policy exceptions
3. Publish a Model BIT or Investment Chapter that includes provisions aimed at achieving sustainable investment

34. Issue interpretative statements regarding ambiguous standards of treatment found in BITs and for ensuring human rights and environmental rights instruments are hierarchically superior to IIAs

The Peruvian constitution recognizes that international treaties are hierarchically situated under the constitution. They are situated at the same rank as laws.[190] The previous Peruvian constitution stated that treaties related to human rights had a higher hierarchy since they were equated to the constitution.[191] However, after the reform of the constitution in 1993 this distinction was deleted.

The general understanding currently is that international rules do not have a hierarchical relationship, i,e., human rights instruments do not prevail over obligations towards investors. The only known hierarchical relationship between public international law resources is the distinction between ius cogens rules and those that are not considered ius cogens.[192] The content of ius cogens is not properly codified,[193] however not all human rights obligations are considered ius cogens, despite some scholarly opinion defending this view.[194] In order to make this desirable

[188] Markus Krajewski, Ensuring the Primacy of Human Rights in Trade and Investment Policies: Model clauses for a UN Treaty on transnational corporations, other businesses and Human Rights, CIDSE, p. 11.

[189] Id. P. 11.

[190] Art. 200 Peruvian Constitution 1993

[191] Art. 105 Peruvian Constitution 1979

[192] Antonio Cassese, 11. The Hierarchy of Rules in International Law: the Role of Jus Cogens, in International Law (2nd edn), available at https://www.oxfordlawtrove.com/view/10.1093/he/9780199259397.001.0001/he-9780199259397-chapter-11, Ahmad Ali Ghouri, Determining Hierarchy between Conflicting Treaties: Are there Vertical Rules in the Horizontal System? (March 1, 2012). Asian Journal of International Law, Volume 2, Issue 2, July 2012, pg. 235 available at https://ssrn.com/abstract=2014475

[193] Ibid.

[194] Ibid.

hierarchical relationship a reality, in addition to the proposed change of content of new IIAs, two international law mechanisms can be used directly by Peru:

A. Interpretative declarations

Peru can make a declaration about its understanding of a matter included in an IIA or its interpretation.[195] For the purposes of this recommendation, Peru could include a declaration whereby the treaties it has ratified regarding human rights take precedence over the IIA in question. This recommendation is applicable even to treaties that were signed years ago and it could be an interim solution while the first generation BITs are being renegotiated. In fact, in the context of interpreting Chapter 11 NAFTA, the three parties issued an interpretative statement to clarify its meaning.[196]

B. Reservations

Reservations are unilateral statements made upon signature, ratification, acceptance, approval, or accession to a treaty that limit the undertaken commitment. This mechanism is only available to treaties the Peru signs in the future, since the reservation has to be made at the time of signature pursuant to article 19 of the Vienna Convention on the Law of Treaties. Another option would be denouncing a treaty and then re-acceding with the reserve. This would only be feasible for multilateral treaties.[197]

When drafting these declarations or reserves Peru should take into account all of its economic sectors, especially those attracting significant amounts of FDI, not only the in mining sector. However, since the extractive industry sector is one of the most invasive to human rights and the environment, consideration to other sectors will only require small amounts of fine tuning.

35. **Use provisions in FTAs to enable securing environmental rights**

A complaint was presented by the European Union under Art. 280 before the National Point of Contact of the European Union, requesting (among other actions) government consultation, investigations and recommendations for better realization of Peru's international labour and environmental rights obligations [if required after the investigation] under the FTA.[198] Among other issues highlighted in the complaint, was the concern relating to the "Las Bambas" mining project. The social conflict which was generated by the Las Bambas project was the product of successive approvals of significant amendments to the project's EIA without due prior consultation of or participation by the population affected. In two years, the EIA for the Las

[195] OLA/UNITAR Seminar on law and practice of treaties, Reservations and Declarations to Treaties, available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=2ahUKEwjmwMe6jLziAhUcShUIHW4eBnUQFjABegQIDRAE&url=https%3A%2F%2Ftreaties.un.org%2Fdoc%2Fsource%2Ftraining%2Fregional%2F2014%2FLesotho%252010-14%2520Feb%25202014%2FPresentations%2FReservationsandDeclarations.pptx&usg=AOvVaw29hJKAES1jn5CicTRCwe9-

[196] International Institute for Sustainable Development, Note on NAFTA Commission's July 31, 2001, Initiative to Clarify Chapter 11 Investment Provisions, available at https://www.iisd.org/pdf/2001/trade_nafta_aug2001.pdf

[197] Ibid.

[198] Complaint against the Peruvian Government for failing to fulfil its labour and environmental commitments under the Trade Agreement between Peru and the European Union - http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupMeetingDoc&docid=12295

Bambas project was amended five times; three of them via the STR[199] procedure and two via the standard EIA amendment procedure. The ensuing social conflict caused largescale violence and led to the curbing of civil liberties in order to bring the situation under control.[200] The Report also highlighted the flaw ridden Law 30230, which was condemned both internationally and nationally. At its heart, the law seriously weakened the powers of the government agency set up to control the impact of economic activity on the environment, OEFA (Organismo de Evaluación y Fiscalización Ambiental). In particular, it removed the power to impose fines for infringement. At the same time, its funding and the time allowed for assessing the EIAs (Environmental Impact Assessments) for major projects, were cut down.[201]
As a result of such pressure mounted by national and international organizations, the Peruvian Congress, in 2017, at last approved the repeal of an important article of Ley 30230.[202]
Another example of the role of FTAs in obliging the Peruvian government to comply with its obligations, is the establishment of the Ministry of Environment which was constituted pursuant to undertakings in the US-Peru FTA.

VII. Disputes Resolution issues

Overview of the Investor State Dispute Resolution dispute system and its significance in Peru

Investor-state dispute settlement (ISDS) is a mode of dispute resolution that envisages the creation of a neutral forum for the settlement of investment related disputes between foreign investors and governments of the states where the investment is made, *i.e.*, the "Host State".[203] The primary methods of modern dispute resolution are mediation, arbitration and negotiation.[204] Arbitration is perhaps the most frequently used. The essence of ISDS lies in the consent of the parties to arbitrate.[205] ISDS is canvassed to offer a swifter, cheaper, and more flexible alternate to other dispute settlement mechanisms. Conferring the authority to adjudicate upon a party[206]

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[199] The Supporting Technical Reports (STRs) allows modification of auxiliary components, to extend investment projects for which environmental certification had been approved and that had no significant environmental impact and to make technological improvements to operations. With these, it is no longer necessary to follow the standard Environmental Impact Assessment (EIA) modification procedure; the STR approval procedure can be followed instead.

[200] Complaint against the Peruvian Government for failing to fulfil its labour and environmental commitments under the Trade Agreement between Peru and the European Union - http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupMeetingDoc&docid=12295

[201] Peru Support Group, **The infamous Ley 30230: at last some progress, 28 April, 2017** - http://www.perusupportgroup.org.uk/article-1349.html

[202] Ibid.

[203] UN Conference on Trade and Development ISDS, UNCTAD Series on Issues in International Investment Agreements II, p. 13 https://unctad.org/en/PublicationsLibrary/diaeia2013d2_en.pdf

[204] In the 70's, investor state disputes saw the intervention of the State and sometimes, "gun-boat" diplomacy

[205] Both the foreign investor and the host State must consent to ISDS before a proceeding may commence. Usually, the consent of the State is contained in international investment agreements between States. See: Background Information on the International Centre for Settlement of Investment Disputes (ICSID), p. 1 https://icsid.worldbank.org/en/Documents/ICSID%20Fact%20Sheet%20-%20ENGLISH.pdf. Note that the issue whether the Host State has consented to arbitration is contested in most claims, with the tribunal's jurisdiction depending on perfected consent.

[206] Eg. provisions in BITs that give the parties power to appoint

- or institution[207] - appointed independent arbitrator ensures that the mechanism is devoid of any political biases.

Peru has been a Respondent in actions brought by investors before ISDS tribunals in about 15 cases.[208] Out of these claims, two involved mining companies.[209]

The Renco Case

The first among the two, Renco v. Peru[210] was brought before an UNCITRAL tribunal by an American investor under the United States - Peru Trade Promotion Agreement (TPA).[211] The dispute related to claims arising out of an alleged arbitrary and unfair application of government measures and contracts concerning interests in the mining operations in *La Oroya*, which Renco owned through its wholly-owned affiliate, Doe Run Peru S.R. LTDA. Peru raised a jurisdictional objection contesting its consent to arbitrate - under Article 10.18(2) of the TPA, Peru's offer to arbitrate would be perfected upon the investor unconditionally waiving its right to pursue the dispute in domestic courts and before other fora. The object of articles such as these is to prevent the investor from pursuing its remedied by way of multiple proceedings. The investor issued the waiver, albeit with a reservation.[212] The tribunal, in its partial jurisdictional award, declined jurisdiction over the dispute, observing that Renco failed to make an unconditional waiver in compliance with the requirement under the TPA. Further, the Tribunal rejected Renco's argument that the reservation was severable or capable of being unilaterally withdrawn.[213]

Renco's Ripples - the aftermath and lessons

The mine at La Oroya, when it began, was hailed as the most diversified smelter in the world churning out precious metals and many specialty metals.[214] However, the operations of La Oroya turned into one of the 10 most polluted places in the world, according to a 2007 report by the Blacksmith Institute, an environmental group. Notably, Peruvian President Pedro Pablo Kuczynski vowed to make the "*strongest effort*" to reopen the La Oroya smelter, saying it could process concentrates from several nearby mines. Eventually, the mine was liquidated and its

[207] Eg. Provisions in BITs that delegate the power to appoint upon the administrating institution.

[208] See, generally: https://investmentpolicyhubold.unctad.org/ISDS/CountryCases/165?partyRole=2

[209] See, generally: https://investmentpolicyhubold.unctad.org/ISDS/CountryCases/165?partyRole=2

[210] ICSID Case No. UNCT/13/1

[211] Agreement dated April 12, 2006

[212] "*to the extent that the Tribunal may decline to hear any claims asserted herein on jurisdictional or admissibility grounds, Claimant reserves the right to bring such claims in another forum for resolution on merits"— "the reservation of rights*" See paras. 58–59 of Partial Award of July 15, 2016, reproducing Renco's written waiver accompanying its Amended Notice of Arbitration.

[213] The Partial Award on Jurisdiction of July 15, 2016 is available in English at http://www.italaw.com/sites/default/files/case-documents/italaw7434.pdf and in Spanish at http://www.italaw.com/sites/default/files/case-documents/italaw7435.pdf, and the Final Award of November 9, 2016 is available in English at http://www.italaw.com/sites/default/files/case-documents/italaw7744_1.pdf and in Spanish at http://www.italaw.com/sites/default/files/case-documents/italaw7745.pdf.

[214] Marco Aquino, World Bank panel rejects lawsuit against Peru over smelter, July 18, 2016 - https://www.reuters.com/article/us-peru-worldbank-renco-idUSKCN0ZY2C4

revamping was a key pledge of the government - after the mine was suspended in 2009 amid rising debts that prevented its former owner Doe Run Peru from completing a modernization program and environmental clean-up.[215]

The Bear Creek case

The second investor-state dispute in the mining sector is Bear Creek v Peru. This case was filed by a Canadian company operating the Santa Ana mine in the Puno region. In 2007, Bear Creek obtained concessions to explore the area for silver ores, and eventually conducted an Environment and Social Impact Assessment (ESIA). The ESIA report was approved by the government with an instruction to Bear Creek for consulting with the local communities. Following the grant of the ESIA, protests by the local communities broke out – they feared that contamination from the mines would adversely affect the surrounding water resources, causing detriment to the local fishing and farming. Responding to the social unrest and additionally discovering defect with the concessions obtained by Bear Creek, the government passed Supreme Decree 032, revoking Bear Creek's mining concession. Bear Creek claimed that this revocation amounted to a violation of the substantive rights granted to Bear Creek by the existing Free Trade Agreement between Canada and Peru. The Tribunal found that the Peruvian State had indirectly expropriated Bear Creek's assets and that the revocation was not a lawful exercise of police powers. Peru was ordered to pay the Claimant a whopping US$ 18,237,592 in damages.

Case Study: Coordination and Response System for International Investment Disputes (Sistema de de Coordinación y Respuesta del Estado en Controversias Internacionales de Inversión, or SICRECI)

Faced with the increase in investment arbitration and in consonance with its investment attraction policy, the Government of Peru established SICRECI, a dispute management system for efficiently and effectively resolving potential disputes.

SICRECI has been created with the objective of preventing and handling international investment disputes. This comprehensive system operates the following primary procedures:

(i) communication of information regarding investment agreements and treaties signed: Facilitating access to a public information registry containing a record of investment agreements and treaties to enable centralized monitoring of the State's obligations under these instruments by State officials.
(ii) notification of the emergence of a dispute: to enable efficient handling of disputes.

In addition, SICRECI sets standard criteria for application in stipulating dispute settlement provisions of investment agreements entered into by public entities, with a view to standardizing the actions of SICRECI members.

[215] Ibid.

36. **Open up a channel of communication between SICRECI and the body implementing Prior Consultation to help ensure that SICRECI is in the know of any potential red flags at a stage during which it would be able to render timely advice for managing disputes.**

To avoid outbreak of disputes, coordination between these closely connected systems could help ensure that SICRECI is in the know of any potential red flags at a stage during which it would be able to render timely advice for managing disputes. If there is an effective and continuous flow of information and a system for grievance redressal, conflict situations can be addressed before they snowball into grave social unrest. Take for example the Bear Creek conflict - it may have been beneficial for a government body such as SICRECI to take preliminary mitigating action as first response to community discontentment *before* the stage of issuance of final concessions and exploration activity to prevent large scale social disruption. Systematizing conflict resolution and response mechanisms in this manner would also give a sense of due procedure and comfort to communities and investors alike.

37. **Enhance multi-actor dialogue and formulating strategies for dispute prevention facilitated by the SICRECI**

The current obstacles preventing the resolution of social conflicts are significantly rooted in a lack of coordination between center and state agencies, local governments and affected communities.[216] Developing channels of communication between mining companies, affected communities and local authorities including the office of ombudsman could lead to early identification of any factors that may be the cause of a potential dispute. However, a crucial precursor to implementing this recommendation is capacity-building at the level of the local governments. The mandate of the local governments to identify, report and discuss potential disputes must be free from any supervening pressure imposed by mining companies as a result of their pervasive presence in mining areas.
Thereafter, facilitating engagement under the auspices of the SICRECI could be instrumental in managing a dispute. Moreover, if SICRECI is equipped to facilitate neutral mediation as required under BITs before commencement of arbitration proceedings, it may potentially save costs for the State and also provide the investor a boost of confidence in the State machinery. This could be a useful starting point for bringing parties to the table.

38. **Strengthen domestic administrative and judicial bodies**

The current legal system in Peru allows impacted communities to bring cases against mining companies in relation to any violation of their rights to the national courts.[217] Peru's judiciary is independent of its executive. However, corruption and lack of transparency substantially curtail

[216] For example, local and regional governments are not included in the process to obtain mining concessions for major mining projects.

[217] In 2012 the Constitutional Tribunal of Peru (Exp N. 01126-2011-HC/TC) set precedent by explicitly recognizing the rights of the indigenous populations in Peru according to what was established in the ILO convention 169, the it referred to was known as Community known as Comunidad Nativa Tres Islas. Accessed at https://es.mongabay.com/2017/05/peru-comunidad-indigena-exige-sentencia-defiende-territorio-mineros-ilegales-se-cumpla/

its functioning. The present administration has reportedly made concentrated efforts to cure the problem of corruption – hailed as a "judicial overhaul".[218] This is a laudable effort; however, long-term changes such as the presence of adequate recourse during the process of terminating mining concessions and resolution on land titling disputes can ensure fair and efficient domestic resolution of conflicts.

Note that an efficient judiciary is essential not only as a standalone measure, but is also a necessary accompaniment to the "exhaustion of local remedies" clause in BITs. [See recommendation below]. The pace of domestic court systems is itself a ground for claiming expropriation/FET under an international investment agreement, as was seen in the case of *White Industries v India.*[219]

39. **Insert provisions in International Investment Instruments to reduce damages after considering the investor's conduct, if State is found liable**

It may be argued that such a measure should be left to arbitral discretion. However, having a provision in the BIT or investment contracts with State entities could act as a strict deterrent, leading to compliance with environmental and ILO norms by the investor. The latitude to adjust the amount on a case-by-case basis could made subject to arbitral discretion.[220]

40. **Introduce procedural safeguards in treaties and international investment agreements with State entities**

Having a clear clause in the BIT that would define the point of perfection of State consent for arbitration would be beneficial to both the investor and State. For the investor such a clause would act as certainty, mitigating any apprehension of what would trigger the State's offer to arbitrate. Setting out the procedural requirements that would trigger investment arbitration, including conditions such as an unconditional waiver to pursue remedies in other national or domestic judicial fora and written confirmation from both parties before initiating investment arbitration.

41. **Insert an exhaustion of local remedies (ELR) and fork in the road clauses**

This can help prevent recourse to international arbitration and ensure consistency in interpretation of treaty provisions. The doctrine of exhaustion of local remedies, a common feature of second-generation BITs was introduced in the new BIT draft model released by India. ELR is an obligation to exhaust remedies which are effective and adequate and are reasonably available to the complainant in the circumstances in which it is situated. The benefits of applying exhaustion of local remedies are to protect the state's sovereignty, as well as to help strengthen and integrate domestic and international systems for investor protection.[221] A case

[218] https://www.bnamericas.com/en/news/peru-accelerates-judicial-overhaul-amid-corruption-scandals

[219] White Industries Australia Limited v. The Republic of India, Final Award dated 30 Nov 2011 https://www.italaw.com/cases/1169

[220] See Copper Mesa Mining Corporation v. Republic of Ecuador, PCA 2012–2, Award (15 March 2016), paras. 6.97–6.99, 6.133 investor action was taken into account. In the *Bear Creek Partial Dissenting Opinion of Professor Philippe Sands QC, supra note 13, para. 39.*

[221] https://www.iisd.org/sites/default/files/publications/best-practices-exhaustion-local-remedies-law-investment-en.pdf

in point is *Loewen Group vs. United States* - an ICSID case which concerned claims arising out of alleged mistreatment caused to the investor by the state of Mississippi in the course of commercial litigation between the claimant and one of its competitors in the funeral home and funeral insurance business. The tribunal found that it did not have jurisdiction over Loewen's claims as it failed to pursue its domestic remedies, notably the Supreme Court option and that, in consequence, Loewen could not show a violation of customary international law and a violation of NAFTA for which the State was responsible.

42. **Mandate mediation and negotiation before commencement of adversarial proceedings and provisions for encouraging settlement even after proceedings commence**

This would save time and cost, and bring parties to discuss a potential settlement of issues. In such settlement negotiations, however, the State must realize that it is acting not only as an administrative/governing body, but also as an entity representing the interests of the indigenous and project affected communities. Accordingly, any settlement reached must also take into account its widespread impact on such communities, and its terms must not be myopic and entirely commercial.

SDG mapping

Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Goal 17 seeks to strengthen global partnerships to support and achieve the ambitious targets of the 2030 Agenda, bringing together national governments, the international community, civil society, the private sector and other actors. Despite passage of prior consultation laws, more needs to be done to accelerate progress in this area.

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Protection of forest and terrestrial ecosystems is on the rise, and forest loss has slowed. That said, other facets of terrestrial conservation continue to demand accelerated action to protect biodiversity, land productivity and genetic resources and to curtail the loss of species. This is essential to prevent a situation such as the La Oroya Project again, that would lead to widespread environmental damage without any accountability whatsoever.

Goal 12: Ensure sustainable consumption and production patterns. Decoupling economic growth from resource use is one of the most critical and complex challenges facing humanity today

Doing so effectively will require policies that create a conducive environment for such change, social and physical infrastructure and markets, and a profound transformation of business

practices along global value chains. This rings especially true in the Peruvian mining sector, where there is an imbalance between resource utilization and maintenance of sustainability.

5. ERADICATING ILLICIT MINING & STRENGTHENING SMALL SCALE MINING

Activity 5: The State should strengthen the process of implementing the comprehensive plan for the eradication of illegal mining and its impacts on the impact of human rights and the environment

Overview

Sustainable and equitable mining in Peru depends on the eradication of what are decidedly illicit and harmful mining practices, alongside the formalization and regulation of informal, artisanal, and small-scale mining. Over the last decade, especially in light of the rapid degradation of Peru's Amazon, Peruvian officials have prioritized eliminating illegal mining. Illegal mining has plagued Peru for decades. Although there are no firm statistics on when illegal mining first gained traction in the country, today, thousands of hectares across Peru have fallen victim to this elicit practice, which brings with it devastating environmental and social consequences. It is important to distinguish between illegal mining and artisanal and small-scale mining, commonly referred to as ASM. Illegal mining is that which occurs blatantly in violation of the law, whereas ASM can refer to smaller scale operations that occur in viable areas. Often times, it is hard to distinguish between ASM and illegal mining, especially in regions like Peru where territorial governance is contested. The following chapter will attempt to distinguish between ASM and illegal mining, providing recommendations to formalize and improve recognition of ASM, while also combatting and halting illegal activity. This will be provided in addition to greater context for these activities, challenges, relevant case studies, and alignment to the Sustainable Development Goals (SDGs).

Recommendations

43. For the comprehensive formalization and recognition of ASM:

(i) Strengthen MINEM ID and formalization programs to include in-person trainings and workshop on sustainable mining practices, leveraging civil society organizations on the ground
(ii) Mandate the inclusion of ASM in large-scale mining projects through supply-chain sharing, considerations in environmental impact assessments, and mine closure plans

44. To eradicate illicit mining practices:

(i) Leverage existing data to conduct comprehensive mapping of illegal mining sites and designated ASM locations, and make available to public
(ii) Create alternative employment opportunities for those currently practicing illegal mining in conjunction with greater linkages efforts[222]
(iii) Tighten controls on illegal mining supply chain to halt entry and profit of illegally extracted minerals into formal economy

Challenges

It is necessary to acknowledge a series of challenges impeding the eradication of illegal mining and formalization of ASM. The first is the vast nature of Peru's informal economic sector. In a

[222] See Activity 6 in this report.

country where the vast majority of all economic activity is informal, it is incredibly difficult to efficiently and effectively formalize a large swath of the population. There is also the potential for significant culture clash. In some cases, communities might have been participating in informal mining for generations, believing they have a cultural right to the minerals on their lands, and without any concept of their practices being illegal.[223] To counter this, it is important that MINEM efforts to eradicate illegal mining and formalize ASM activity are woven into the existing socioeconomic and cultural make-up of communities.

The second major challenge is perhaps the ambiguity that lies between what is illegal and what is artisanal and/or small-scale. In Activity 5 from the Mining Vision 2030 document, MINEM does not distinguish between illegal mining and ASM, instead casting a wide net in calling for the "eradication of illegal mining".[224] In order to ensure environmental and human rights protections, while also providing legitimate opportunities to improve livelihoods, the Ministry must deploy approaches that address both ASM and illicit practices, instead of lumping them together.

The third challenge is the frequent connection between illegal mining and illicit activities. As mentioned above, illegal mining often occurs in conjunction with narcotrafficking, human trafficking, and armed social conflict.[225] In response, the Peruvian government has taken a militarized approach in regions like Madre de Dios.[226] It is important, however, that militarization not be the only answer to halting illicit activities, and that strategies include protection for vulnerable groups, such as women thrown into human trafficking and prostitution, who may have fallen victim to illicit activities and need significant support.

The eradication of what are decidedly illicit and harmful mining practices, alongside the formalization and regulation of informal, artisanal and small-scale mining practices is essential to sustainable and equitable mining in Peru. In recent years, illegal mining has surpassed coca and cocaine production to become Peru's most lucrative illicit activity.[227] Although gold dominates illegal mining in Peru, there is also evidence of illegal copper and lithium mining.[228] This activity is prevalent across many states in Peru, but the most devasting environmental and social impacts are in the Amazonian region.[229] Practices like uncontrolled mercury use and illegal deforestation often occur alongside poor working conditions and high levels of violence.[230] Spillover effects include human trafficking, and the trading of additional illicit goods, namely cocaine. Illegal gold mining and the crimes affiliated with it come from the informalized economy, which makes up roughly 20% of Peru's GDP and accounts for 75% of

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[223] Kuramoto J, 'Artisanal and Informal Mining in Peru' (2001) 82 Mining Minerals and Sustainable Development (MMSD) <https://www.researchgate.net/publication/267938223_Artisanal_and_Informal_Mining_in_Peru>

[224] 'Resumen Ejecutivo: Vision de la Mineria en el Peru al 2030'

[225] Supra note 223

[226] This came from conversations with MINEM stakeholders held in March 2019.

[227] 'Illegal Gold Mining | Peru | U.S. Agency for International Development' (2 October 2018) <https://www.usaid.gov/peru/our-work/illegal-gold-mining> accessed 23 April 2019

[228] Ibid.

[229] Ibid.

[230] Ibid.

adult employment in Peru.[231] It is the largest informal economy in Peru. Peru's illegal mining is estimated to produce $3 billion dollars in annual revenue.[232] Today, most illegal mining in Peru occurs in protected environmental regions, along with regions zoned for other activities beyond mining.[233]

It is important to distinguish between illicit mining activities and informalized and/or artisanal and small-scale mining (ASM). ASM refers to smaller mining operations that might not be formally incorporated, but are otherwise not connected to illicit activities or protected areas. When determining policy mechanisms to address illegal mining, it is very important to distinguish between what is ASM and what is truly illegal, as one must be stopped completely, and the other should be encouraged to occur in a way that is sustainable and equitable. Both are tied to the informal economy, meaning that the activity is not regulated. Unfortunately, ASM and illegal mining are all too often inexplicably linked, which is problematic when considering policy recommendations. To that point, our recommendations fall under two broad categories, one aligned with creating a formalization process for mining that should fall under ASM, and the second, to address what is explicitly illegal and must be stopped.

Supporting analysis for recommendations

43. Comprehensive formalization and recognition of ASM

ASM is a consistently neglected and underfunded sector in the mining industry. Despite employing an estimated 20-30 million people worldwide (with three times the number supported by associated activities), formalizing ASM and making it sustainable is often ignored by NGOs, development donors, governments, and greater industry players alike.[234] These actors are quick to focus on ASM's negative impacts, but have yet to adequately address the structural challenges prohibiting the sector's opportunities for legitimization and as a means sustainable development.[235]

There is a strong argument for ASM to be legitimized. The World Bank estimates that ASM in Peru accounts for nearly 20% of gold mining.[236] In a country where the majority of the workforce is informal, ASM represents an important livelihood opportunity to bring a large sector of the population into the formal economy. Doing this successfully would require a massive regulatory effort and attitudinal change. It also depends on the ability to provide technical assistance coupled with environmental and sustainability training, along with social

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[231] Finn K, 'The Informal Economy in Peru: A Blueprint for Systemic Reform' (2017) 35 Lehigh Preserve 12 <https://preserve.lehigh.edu/cgi/viewcontent.cgi?article=1007&context=perspectives-v35>

[232] 'Mercurio 2019: Peru's Latest Effort to Establish Control in Madre de Dios' (Insight Crime, 11 March 2019) <https://www.insightcrime.org/news/brief/peru-illegal-gold-mining/> accessed 29 April 2019

[233] This came from conversations with MINEM stakeholders held in March 2019.

[234] 'Responding to the Challenge of Artisanal and Small-Scale Mining: How Can Knowledge Networks Help?' (International Institute for Environment and Development (IIED.org) 2013) <https://pubs.iied.org/pdfs/16532IIED.pdf>

[235] Ibid.

[236] 'Artisanal and Small-Scale Mining' (World Bank, 21 November 2013) <http://www.worldbank.org/en/topic/extractiveindustries/brief/artisanal-and-small-scale-mining> accessed 29 April 2019

protection and fair labor standards.[237] In Peru, attempts to formalize artisanal and small-scale mining date back to 2002, when the national government, with support from the World Bank, first began to discuss the need for a regulatory framework to bring ASM miners into the formal economy. Peru's push has intensified as in recent years, particularly as it vies for OECD membership. The OECD has recently pushed countries towards formalization of ASM as a part of its responsible supply chains work, and to ensure informal workers are not marginalized by international standards.[238]

Over the last 17 years, Peru has rolled out a series of legislative declarations towards the formalization of ASM. Declaration 1293, for example, declares it within the national interest to formalize artisanal and small-scale mining.[239] Declaration 018-2017-EM goes a step further by establishing a provision that simplifies the requirements for formalizing ASM mining deemed integral (same source). In January of 2019, the Ministry of Energy and Mines (MINEM) reinvigorated efforts to formalize ASM, announcing its goal of formalizing 50,000 miners by 2021, and 10,000 miners before the end of 2019.[240] So far, MINEM has designated 7 million soles (approximately $2 million USD) to regional offices located in areas with high percentages of informal mining as a part of their 2019 revamp.[241] Although this is a promising first step, it has yet to make a significant impact. One must question the efficacy of formalization efforts without adequate funding or capacity, especially at the local level, needed to carry-out such programs effectively. With the appropriate funding in place, the Government of Peru might consider the following approaches to effectively and efficiently formalize the ASM sector.

(i) Strengthen MINEM ID and Formalization Program

In 2018, MINEM announced plans to launch an ID-system to validate informal ASM miners and formalize their activities. The program, called Registro Integral de Formalización Minera (REINFO), or the Integral Registry of Mining Formalization, was first deployed in Peru's Arequipa region.[242] The ID card serves multiple purposes. The first is to validate the identity of informal miners and where they are operating. The second is to provide a means of tracking the concessions to which their mining activities relate to. Applicants first go through an initial review process to determine if the area in which they are mining is protected, making them illegible for the ID. If approved, miners are given a card with a unique identifier that allows MINEM to track their name and geographic location, both of which are added to the REINFO

[237] Ibid.

[238] Ibid.

[239] 'Formalización Minera Integral y Minería Ilegal' <http://www.minem.gob.pe/_publicacion.php?idSector=20&idPublicacion=574>

[240] 'BNamericas - Peru Steps up Efforts to Formalize Small-Scale Miners' (14 January 2019) <https://www.bnamericas.com/en/news/peru-steps-up-efforts-to-formalize-small-scale-miners1> accessed 29 April 2019

[241] Ibid.

[242] 'El MINEM autoriza emisión de carné para identificar a pequeños mineros' (América Noticias, 27 July 2018) <https://www.americatv.com.pe/noticias/actualidad/minem-autoriza-emision-carne-identificar-pequenos-mineros-n331948> accessed 29 April 2019

register. The REINFO system is publicly available and accessible online.[243] Currently, over 50,000 informal miners are registered in the system.[244] This is but a small dent in the estimated 400,000 informal miners operating throughout the country.

Although the carnet is a good first step, there is much more to be done. Beyond providing an ID card and a means of tracking mining activities in relation to concessions, MINEM has a unique opportunity to deploy additional measures to bring these informal miners into the formal system, while also protecting the environments and communities in which they operate. In 2017, MINEM released a series of environmental measures called "Instrument of Environmental Management and Auditing for the Formalization of Small-scale and Artisanal Mining Activities" (IGAFOM in Spanish), which were released online with the purpose of guiding informal miners' activities when it comes to environmental and social regulations.[245] MINEM should seek to accompany such initiatives with comprehensive, in-person trainings and capacity building efforts.[246] MINEM can incorporate existing guidance from the OECD on ASM formalization efforts, particularly as they relate to halting mercury use and strengthening ASM supply chains.[247]

Making guides available online is a good first-step, but appearing in person and working with local communities to share best practices within particular socioeconomic contexts is integral to see substantive change. This admittedly requires increasing capacity to be able to reach the regions with ASM is occurring. MINEM should lean on civil society organizations and NGOs already operating in these regions for information dissemination. Even if the organizations are not directly associated with mining, they would be interested in these efforts from an environmental, public health, and human rights perspectives (among others). Registered ASM miners could also be encouraged to form local cooperatives. These cooperatives can serve as a conduit to provide miners with necessary skills training, and provides the government a means of monitoring activities more closely.[248]

(ii) **Mandate ASM Inclusion in Large-Scale Projects**

A significant portion of ASM activities occur within the vicinity operating of large-scale mines, or areas under exploration for large-scale projects. There is also long-standing conflict between ASM and large-scale operations, as large-scale operations often face the pressure and

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[243] 'Búsqueda REINFO - Formalización Minera' (MINEM) <http://www.minem.gob.pe/_detalle.php?idSector=20&idTitular=8049&idMenu=sub8048&idCateg=1442> accessed 29 April 2019

[244] Ibid.

[245] Ruiz Leotaud V, 'Peru Takes Steps to Legalize Artisanal and Small-Scale Miners' (MINING.com, 20 November 2017) <http://www.mining.com/peru-takes-steps-legalize-artisanal-small-scale-miners/> accessed 29 April 2019

[246] Corneau S, 'Six Key Factors in Formalizing Artisanal and Small-Scale Mining' (IISD, 22 January 2018) <https://www.iisd.org/blog/six-key-factors-formalizing-artisanal-and-small-scale-mining> accessed 29 April 2019

[247] 'Artisanal and Small-Scale Gold Mining - OECD' (2016) <https://www.oecd.org/corporate/mne/artisanal-small-scale-miner-hub.htm> accessed 29 April 2019

[248] Posted by Hass Kouao-Bile on March 1 2018 at 7:23 and Kouao-Bile H, 'Five Practical Solutions to Curbing Illegal Mining' (GOXI.org, 1 March 2018) <http://goxi.org/profiles/blogs/five-practical-solutions-to-curbing-illegal-mining> accessed 29 April 2019

responsibility for preventing environmental degradation and other conflicts that stem from ASM.[249] Incorporating ASM activities into large-scale projects is one way to regulate ASM and allow for benefit-sharing later down the line. MINEM should push for stronger regulations that require large scale operations to account for this potential relationship within existing and future concessions.

One means of doing this would be through regulating the Environmental Impact Assessment (EIA) process for new large-scale mines to include considerations of ASM activity, based on comments from those on the ground that there is a tendency for small-scale and informal operations to move into a site upon hearing an area is under exploration, and especially upon the main operator ceasing activities.[250] This is particularly important to note when it comes to mine closures. Often, when a mine closure has ended, smaller quantities of minerals remain in the ground. These quantities might not be of value to the large operator, but they can provide significant economic value to small-scale miners, especially conditions are right to increase the chances of this option being adopted by the local population (i.e. low labor costs, small overheads, small/local market, little economic opportunities and job prospects, poverty and relative non-adherence to law).[251]

Large-scale mines could also consider incorporating small-scale miners into their existing operations. This might include shedding off and identifying land for ASM within existing concessions, exploring the potential for buy-back arrangements, technical support, equipment sharing, and leasing schemes.[252] Large-scale mines might be incentivized through additional tax breaks to incorporate small-scale miners in their greater supply chain, including opportunities for small-scale miners to process and refine ores.[253] If carried out effectively, these approaches to incorporating ASM not only prioritize socioeconomic development, but also relieve some of the pressure large-scale mines already face when it comes to ASM.

MINEM should require the above considerations and others be included in EIAs and mine closure plans submitted in conjunction with assessments, and hold companies to hefty finds if they neglect to consider ASM in their plans.

44. Targeting Illicit Mining Practices

It is equally imperative that MINEM continue to recognize and warn against the danger associated with mining practices that are truly illicit. The Madre de Dios Case Study provides a current example of how destructive illegal mining can be.

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[249] 'Global Trends in Artisanal and Small-Scale Mining (ASM): A Review of Key Numbers and Issues' <https://www.iisd.org/sites/default/files/publications/igf-asm-global-trends.pdf>

[250] Morrison-Saunders A and others, 'Integrating Mine Closure Planning with Environmental Impact Assessment: Challenges and Opportunities Drawn from African and Australian Practice: Impact Assessment and Project Appraisal: Vol 34, No 2' (2010) 15–2001 International Journal of Surface Mining, Reclamation and Environment <https://www.tandfonline.com/doi/full/10.1080/14615517.2016.1176407> accessed 29 April 2019

[251] Ibid.

[252] Supra note 249

[253] Supra note 249

At the national level, Peru has undertaken a series of initiatives in recent years to define and target illegal mining. In 2012, Peru passed Legislative Decree No. 1102, which define illegal mining as activity committed in the following cases: 1) Areas declared off-limits for mining; 2) Protected natural areas, and/or lands designated as protected campesino and indigenous communities; 3) Activity that uses dredges or similar instruments; 4) Activity using any instruments deemed harmful to the environment, health and heritage of people living there; 5) Any activity affecting irrigation or water systems intended for human consumption; 6) Any activity occurring illicitly in conjunction with the agent serving a public post; and 7) Any activity that uses minors or other unimpeachable individuals to be carried-out.[254]

Defining illegal mining through this regulatory approach is a good first step towards targeting and eradicating the practice. The recommendations below build on existing regulations with the hope of strengthening Peru's ongoing approach.

Case Study - Madre de Dios

Madre de Dios is perhaps the most famous case to demonstrate the devastating effects of illegal gold mining in the world. Madre de Dios lies in Southeastern Peru deep within the Amazon (Source). As gold prices surged, seeing a 360% increase in the last decade following the financial crisis, individuals and organized groups alike flocked to the region to mine for gold. A 2018 estimate indicated that nearly 40,000 miners are estimated to be operating without a permit within the Madre de Dios region (source).

The case has attracted international attention due to the level of and speed at which destruction has occurred in an area protect for endangered species, and not far from uncontacted indigenous tribes. Since 2008, an estimated 64,000 hectares of land in Madre de Dios have been destroyed. This includes the destruction of 10,000 hectares from wildcat gold mining, a particularly harmful approach that uses mercury to strip the land. It is important to note that many of these miners, while operating illegally without required permits and/or training, have organized into mining groups. An estimated 500 mining camps are believed to have been established within the region (source). This has been coupled with the growth of other illicit activities, including prostitution and drug trafficking.

Following Madre De Dios' significant international attention, authorities in Peru launched a large-scale, militarized operation in the region meant to drive out illegal miners. Between the end of 2018 and today, nearly 2000 police and military officers have been deployed to Madre de Dios, as part of a $60 million-dollar effort from the Peruvian government to kick these miners out.

[254] Cuzcano VT, 'Minería Ilegal e Informal en el Perú': (2010) No.2 Cuadernos de CooperAccion 64 <http://cooperaccion.org.pe/wp-content/uploads/2015/10/Libro_Mineria_Ilegal,%20Victor%20Torres%20Cuzcano.pdf>

(i) **Leverage existing data to conduct comprehensive mapping of illegal mining sites and designated ASM locations, and make available to public**

In order to combat illegal mining, it is important that MINEM understand exactly where illegal mining activity is occurring, and who is behind it. MINEM should leverage internal and external stakeholders to create a comprehensive map of mining activities. This requires an admittedly large data collection effort that includes mapping geological data, overarching illicit activities, and the multiple stakeholders involved. MINEM has begun to comprehensively map Peru's geological deposits, including potential reserves and land use.[255] However, there is a crucial opportunity to leverage this data to inform community members and government institutions of areas that are appropriate for ASM, and those that are off-limits due to environmental or social concerns.

MINEM can lean heavily on existing data initiatives such as the Amazon Socio-Environmental Geo-Referenced Information Project (RAISG) and to access satellite images of areas subject to illegal mining.[256] They should also undertake a comprehensive data-gathering exercise that works with Defensoria Del Pueblo, law enforcement, and community members to understand who is committing illegal mining, and how large their operations are. This information should be made publicly available and shared widely to inform citizens and international organizations alike. Making such information public will strengthen Peru's territorial governance and might also be used to resolve disputes regarding overlapping claims to land.[257]

(ii) **Create Alternative Employment Opportunities**

As noted previously, one of the strongest drivers of illegal mining is the lack of greater economic opportunity in the regions where illegal mining occurs. Providing economic opportunity is key to halting rural communities from being driven to engaging in illegal mining practices. With help from international donors, MINEM should increase efforts to grow non-mining sectors of the economy in conjunction with Activity 6, in key sectors. In conjunction with R&D efforts from Activity 3, MINEM should undertake an extensive employment opportunity study in the same regions where illegal mining is occurring to determine what other economic sectors are viable for job creation. This is an approach similar to Ghana, which, after studying additional sectors near illegal mining sites, conducted a series of programs to push former illegal miners into agriculture. Given that a significant amount of illegal mining occurs in the vicinity of legitimate, large-scale mining, the ability to create horizontal linkages from transferrable skills that might not be mining-sector specific (such as IT, other aspects of the service industry), is key[258]. MINEM should consider large-scale forgiveness programs that, instead of jailing illegal

[255] 'Mapas de Proyectos Mineros - Ministerio de Energía y Minas' <http://mineria.minem.gob.pe/mapas-proyectos-mineros/> accessed 29 April 2019

[256] Chow L, 'Unprecedented New Map Unveils Illegal Mining Destroying Amazon' (EcoWatch, 12 December 2018) <https://www.ecowatch.com/map-of-mining-amazon-2623200925.html> accessed 29 April 2019

[257] 'Global Trends in Artisanal and Small-Scale Mining (ASM): A Review of Key Numbers and Issues' <https://www.iisd.org/sites/default/files/publications/igf-asm-global-trends.pdf>

[258] 'Linkages to the Resource Sector: The Role of Companies, Government and International Development Cooperation' <http://ccsi.columbia.edu/files/2016/07/Linkages-to-the-resource-sector-GIZ-CCSI-2016.pdf.pdf>

miners, works to place illegal miners into other aspects of the economy related to ongoing mining activities.

(iii) Tighten controls on commodity processing and trading from illicit mining

As mentioned previously, illegal mining generates an estimated $3 billion in annual revenue for the Peruvian economy.[259] Although the Government of Peru has attempted to crack down on the export of illegally-extracted minerals, an increasing amount of illegal gold is making its way into the formal economy. Researchers have estimated that roughly 20% of Peru's gold, most of which is exported, comes from illegal mines.[260] In 2014 alone, an estimated 35 tons of illegal gold worth nearly $1 billion made its way into the United States and Switzerland.[261] Because illegal miners fails to report their earnings to the government, Peru loses an estimated $450 million in tax revenue from illegal minerals that are sent abroad.[262]

Peru has attempted to curb the export of illegal gold by implementing a receipt program in 2010 that only legal mining companies can obtain. The companies must present this receipt when bringing their minerals to port.[263] However, illegal miners have quickly overcome this by falsifying receipts. At the same time, it is unclear at exactly what point illegal gold is entering the formal economy. The receipt program focused on illegal gold entering ports for export, but a sound solution should investigate other points of the extractive supply chain. MINEM should therefore undertake additional investigations of the entire supply chain, including trucking and helicopter transportations services, processing, and refineries used by illegal and legal miners alike. The receipt program should also be updated to make falsification increasingly difficult. One means of doing this is through blockchain technology. Today, nearly 70% of Peruvians have mobile phones, and this number is expected to grow tremendously as Peru undertakes ICT projects in the coming years.[264] Leveraging the blockchain, which users could access from basic mobile phones, provides an unprecedented level of transparency, as each transaction and public address is recorded and open to viewing.

Contribution to the SDGs

Peru's efforts towards formalizing ASM and eradicating illegal mining align with a series of Sustainable Development Goals (SDGs) both directly and indirectly. They are described below.

Goal 8: Decent Work and Economic Growth

SDG 8 promotes sustained economic growth and higher levels of productivity. Formalizing legitimate ASM activities and providing pathways to other forms of economic opportunity for those currently conducting illegal mining will improve work conditions and livelihoods for the hundreds of thousands of Peruvians involved in this sector. Eradicating illegal mining practices

[259] 'Mercurio 2019: Peru's Latest Effort to Establish Control in Madre de Dios' (Insight Crime, 11 March 2019) <https://www.insightcrime.org/news/brief/peru-illegal-gold-mining/> accessed 29 April 2019

[260] Ibid.

[261] Ibid.

[262] Ibid.

[263] Ibid.

[264] 'Mobile Phone Penetration in Peru 2015-2020 | Statistic' (Statista) <https://www.statista.com/statistics/622681/mobile-phone-penetration-in-peru/> accessed 30 April 2019

will target unsafe and harmful mining practices that are currently in place, protecting workers from future violation.

Goal 6: Clean Water and Sanitation

SDG 6 calls to ensure availability and sustainable management of water and sanitation for all. Unregulated mining that employs the use of materials such as mercury are particularly harmful to locals living near the mining site and can impact water quality. Efforts to halt illegal mining activities and better regulate ASM will include a focus on water quality efforts.

Goal 13: Climate Action

SDG 13 calls for urgent action to combat climate change. Illegal mining is one of the greatest contributors to land destruction, stripping away earth, preventing regrowth, and polluting rivers. In the Amazon basin, illegal mining threatens natural carbon sinks.[265] Efforts to halt illegal mining will include land reparation, and have a heavy emphasis on targeting areas already vulnerable to climate change.

Goal 15: Life on Land

SDG 15 calls for the protection and sustainable use of lands, including sustainable management of forests. As a part of formalizing existing ASM efforts, Peru should increase trainings on sustainable land use for small-scale projects entering the formalization process.

Goal 16: Peace, Justice, and Strong Institutions

SDG 16 promotes peaceful, inclusive, and just societies for sustainable development. Many illegal and ASM activities are occurring among already vulnerable populations prone to corruption and instability. Successfully formalizing ASM and eradicating illegal mining depends, in part, on transparent and inclusive societies. This also means ending reliance on strict militarization of illegal mining regions and adopting more inclusive approaches to ending illicit practices.

Goal 17: Partnerships for the Goals

SDG 17 seeks to strengthen the means of implementation and revitalize global partnerships for sustainable development. Successfully halting illegal mining and formalizing ASM will depend, in part, on Peru leveraging international partnerships, from data gathering to map illicit activities, to cooperation in stopping illegal exports.

Conclusion

In conclusion, Peru has an unprecedented opportunity to formalize what should be a legitimate portion of the mining sector, while also eradicating illegal and incredibly harmful activities. Incorporating ASM and stopping illicit mining remain significant challenges in countries around the world.[266] Although environmental groups have drawn attention to the devastating impacts

[265] Muggah R, 'Fighting Climate Change Means Fighting Organized Crime | by Robert Muggah, Adriana Abdenur and Ilona Szabó' (Project Syndicate, 12 March 2019) <https://www.project-syndicate.org/commentary/amazon-illegal-mining-climate-change-by-robert-muggah-et-al-2019-03> accessed 29 April 2019

[266] See Columbia SIPA Nigeria Capstone report for additional information on ASM and the drive for formalization.

of these practices on deforestation, no country has yet to effectively protect its lands while also facilitating greater socioeconomic development.

By implementing recommendations across a two-pronged approach, Peru can usher a significant portion of informal and undocumented workers into the formal economy, while protecting lands from environmental damage and safeguarding communities from increasing criminal activity. Peru's ability to successfully eradicate illegal mining and formalize the ASM sector relies, in part, on a detailed policy approach with adequate support across stakeholders at the local, national, and international levels. At the same time, Peru must be cautious in distinguishing between ASM and illegal mining. Not doing so has the potential to unfairly target a viable and significant portion of the mining economy, directing efforts away from activities that are decidedly illegal and must be stopped.

6. CLUSTERS, LINKAGES, AND ECONOMIC DIVERSIFICATION: WORK TOGETHER, LIVE TOGETHER, PROSPER TOGETHER

Activity 6: Promote clusters, linkages, and productive diversification in the territories, fostering a favorable regulatory environment.

Overview

The Peruvian economy depends heavily on the revenues generated by the mining industry. In order to diversify Peru's economy, the mining industry must create localized economic clusters through linkage effects. Three core challenges hinder the formation of linkage effects in Peru: lack of access to infrastructure, low human capacity, and ineffective cooperation between the public and the private sector. To overcome these challenges and contribute to a favorable economic environment, stemming from extractive activity, the government is encouraged to develop local content policies, establish a favorable local business environment and incentivize investments in human capacity.

Economic diversification is applied as a strategic shift from resource-dependent economies characterized by a restricted number of income streams towards multiple sources in a growing range of sectors.[267] Economic diversification requires the creation of linkages from the dominant industry into other sectors of the economy. Clusters, i.e., local agglomerations of economic activities[268], can emerge with these linkages, which generates opportunities for collective efficiency, lower transaction costs and economies of scale.[269]

This chapter lays out a blueprint for the creation of clusters and linkage effects as the drivers of Peru's economic diversification in-line with the OECD's accession requirements. Overcoming the challenges as well as successfully implementing the short- and long term recommendations herein presented will pave a sustainable pathway towards achieving the UN SDGs and Peru's economic and social transformation into a high-income country.

Recommendations

45. Develop a local content policy

46. Create support mechanisms for small and medium-sized enterprises (SMEs)

47. Cooperate and coordinate with mining corporates

48. Strengthen the absorptive capacity of the local population

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[267] UNFCCC, 'Economic diversification' (UNFCC, 18 April 2019) <https://unfccc.int/topics/resilience/resources/economic-diversification> accessed 18 April 2019.

[268] Tilmann Altenburg and Jörg Meyer-Stamer, 'How to Promote Clusters: Policy Experiences from Latin America' (1999) 27(9) World Development 1693-1713.

[269] Vincent Charles, 'Mining Cluster Development in Peru: Learning from the International Best Practice' 5 Journal of Applied Environmental Biological Science 1-13.

49. Promote higher education and R&D program through promotion of mining-related STEM careers and joint research centers and programs between the private sector and universities.

50. Develop a framework for the shared use of sustainable infrastructure

51. Make sure that local content policies and government-supported private sector interventions are in line with commitments in international trade and investment treaties

Challenges

In creating linkages and clusters, the government's action requires concerted and coherent policy choices to overcome some of the key challenges towards economic diversification. These are addressed below.

Creation of production linkages, consumption, and side stream linkages.

Consumption linkages are created through the demand for non-extractive goods and services generated by resource extraction. Such linkage effects, however, require an existing and relatively diversified local economy. If the local economy, surrounding the mine site does not produce enough or sufficiently different goods and services that can be consumed, consumption linkages are challenging to generate.[270]

Additionally, the mining sector in Peru can still be considered an enclave industry, i.e., an isolated business environment, with little direct employment and hence a small market for consumption clusters.[271] Furthermore, the Peruvian mining industry is predominantly located in remote areas with insufficient infrastructure links. Consumption clusters and the emergence of a sustainable market creation of non-mining consumables depends on reliable all-weather road access.[272]

Production linkages refer to the goods and services that can be developed as a result of the mining industry and are divided into upstream, downstream, and horizontal linkages. Key challenges include access to infrastructure (especially power infrastructure), lack of human capital, low economic development in other sectors and an inefficient business environment.

Upstream linkages relate to the procurement of goods and services that the mining industry requires to sustain operations. They are associated with the provision of services such as essential utilities like water and power, food, office supply or the provision of internet and communication technology (ICT) as well as engineering and manufacturing services.[273]

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[270] GIZ, *Linkages to the Resource Sector: The Role of Companies, Government and International Development Cooperation* (GIZ 2016)
[271] *Altenburg and Meyer-Stamer*
[272] *OECD*
[273] Supra note 270

Production linkages through local suppliers may have cost advantages over international service providers. However, the biggest challenge for the Government of Peru in the creation of upstream linkages is the lack of interest by the extractive industry to co-invest in the local provision of upstream services. Moreover, the competitive nature of upstream services implies that national companies ought to have sufficient access to finance and infrastructure to deliver.[274]

Downstream linkages refer to the processing of extracted minerals through processes such as refining or smelting. Their main benefit is that prices of processed goods are relatively stable and provide insurance against market volatility-induced price swings. Further, adding value to the raw material is assumed to achieve higher profits, benefitting the domestic industry while also creating important technology and knowledge creation effects.[275] The promotion of downstream processing requires rigorous analyses by governments to assess whether the benefits associated with downstream processing such as building and operating smelters and refineries compensate for the high up-front capital costs.[276]

Many downstream industrial developments are power-intensive, with energy consumption constituting a substantial share of the mine's operational costs. The success of downstream industries, particularly those related to energy-intensive activities such as copper processing, is linked to reliable and cheap energy access.[277] Finally, given the high capital costs, the risk arises that downstream linkages may not lead to economically viable outcomes and instead cause inefficiencies, crowd out investment and waste public resources that could have been invested in other linkages or public goods such as health or education.[278]

Horizontal linkages develop new industries building on the existing supply chain of the extractive activity.[279] By enabling the emergence of new economic activities that are not inherently related to mining, horizontal linkages can play a fundamental role in the economic diversification of Peru. In light of their detachment from the mineral value chain, such linkages are not directly affected in the event of commodity price fluctuations. Horizontal linkages usually depend on existing upstream linkages and materialize through knowledge gains and technology transfers to other sectors of the economy.[280] As a consequence, the creation of non-mining related economic activity through the mining sector requires prior human capital and sufficient infrastructure.[281]

Side stream linkages refer to enabling factors required for the supply chain to operate. They are divided into knowledge, technology, and spatial linkages. Knowledge and technology linkages emerge via the transfer of knowledge and technical expertise and can lead to mutually beneficial

[274] OECD

[275] Olle Östensson, 'Promoting downstream processing: resource nationalism or industrial policy?' 1 Mineral Economics 1-13.

[276] Perrine Toledano and Nicolas Maennling, Local Content Policies in the Mining Sector: Fostering downstream linkages, (Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development 2018)

[277] Ibid.

[278] Toledano and Maennling

[279] Supra note 270

[280] Raphael Kaplinsky, Commodities for Industrial Development: Making Linkages Work (Working Paper 01/2011)

[281] Supra note 270

feedback loops. They are essential to attract further foreign direct investment and can increase productivity.

According to the GIZ (2016, p.47) "[a]n optimal policy would convert the depleting natural resources into productive human and capital assets over time, which can be the basis for expanding the production possibility frontier," hence conferring the Peruvian government the ability to pursue future projects independently. Knowledge and technology linkages are transferred through foreign expertise, the influx of a skilled foreign labor force, upstream linkages, and the export channel through which international mining firms enable local companies to access international markets. Generally, knowledge and technical experience form the foundations for economic development, and a more highly skilled labor force is more adaptable to structural change.[282]

Spatial linkages are established when infrastructure has the primary purpose of serving the mining industry, and this results in productive benefits for other actors or sectors of the economy.[283] Sharing essential mining infrastructure can be a powerful tool to diversify the Peruvian economy beyond mining activities have been concluded. Mines require substantial infrastructure investments to meet the extractive activity's high demand for power, water, transport, and increasingly ICT infrastructure.[284] Peru has an infrastructure gap of $160bn, with particular deficits in transport and energy infrastructure.[285]

Spatial linkages can facilitate linkage effects in other directions and therefore serve as a multiplier effect for cluster building and broader economic development.[286] However, while infrastructure linkages can be powerful drivers towards a more diversified Peruvian economy, coordinating, financing, and regulating large-scale infrastructure projects can be difficult and lead to delays or stranded assets.[287] Peru's challenge is to maximize sustainable welfare gains by translating infrastructure investments into solutions for the development needs of the country, especially the remote communities that surround mining activities.

If, for instance, power assets are designed to contribute to the development of public infrastructure, the initial capital cost could be reduced, and economic as well as social spillover effects created.[288] However, sharing infrastructure is only in certain circumstances economically feasible and in only in exceptional instances favorable to the mining company, as sharing infrastructure can result in inefficiencies and backlogs. The implementation requires rigorous cost-benefit analyses as well as robust public utilities and high up-front capital investments.[289]

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[282] Supra note 270
[283] ibid.
[284] *Toledano*
[285] Jacopo Dettoni, Peru looks to PPPs to solve infrastructure woes. (*FDI Intelligence*, 14 December 2017) <https://www.fdiintelligence.com/Locations/Americas/Peru/Peru-looks-to-PPPs-to-solve-infrastructure-woes> accessed 18 April 2019
[286] *Toledano*
[287] Supra note 270
[288] *Toledano and Maennling*
[289] *Toledano*

Supporting analysis for recommendations

As the previous analysis shows, there exists a significant number of potential linkages that Peru's government with the mining industry can jointly tap into to diversify the country's economy. The mutual benefits to the public sector, private corporations, and the community can be enormous. However, there appears to be a recurring pattern of key challenges that need to be overcome before the Peruvian government can create these linkages, form clusters, and diversify its economy to a meaningful extent. Indeed, across all potential linkages, there is a gap in the necessary physical infrastructure, namely transport, power, water, and ICT as well as low human capital, and a lack of coordination between mining companies and the government for the precise definition of competing interests and potential burden-sharing of incentivization.

The first three recommendations set forth can feasibly be implemented within the first 12 months as they pertain to the design and development of policy and coordination mechanisms that can build on existing frameworks. Implementing the first three recommendations as quickly as possible will generate the required community and private sector trust in order to drive Peru's diversification agenda towards achieving the goals of the Mining Vision 2030, the SDGs and become a high-income country. The remaining four recommendations ensure the sustainability of linkage creation and steady progress in diversifying the Peruvian economy.

52. **Develop a local content policy**

A coherent local content policy should be designed to emphasize preferential treatments for local suppliers over foreign goods and services providers. They can be a particularly useful tool to generate linkage effects such as developing local supply chains, expertise, ensuring technological transfer, and achieving better social outcomes. In promoting local businesses and Peruvian providers of goods and services, local content policies are particularly apt mechanisms to promote upstream linkages and supply clusters around mining activity.

Traditionally, local content policies are most successful when they are developed in collaboration with the mining firms to match potential supply and demand.[290] This is not surprising as mining firms know what their needs and demands will be over time for the simple reason they make operational plans. Moreover they also know from comparable operations in other areas what their effect on the life of the communities are. In sort mining companies are a source of knowledge for development, as long as this knowledge is communicated and applied.

It is vital that the government identifies what investments are necessary to complement and be facilitated with public funds.[291] In the coordinated dialogue, targets should be set, regularly updated to reflect the changing nature of industrial developments in Peru and the policies' impacts on linkage effects. For the effective implementation of the local content policy, the government is advised to delineate the definitions of local content, incorporating the knowledge

[290] Isabelle Ramdoo, *Unpacking Local Content Requirements in the Extractive Sector: What Implications for the Global Trade and Investment Frameworks?* (ICTSD and WEF 2015)
[291] Supra note 270

of the mining companies, carefully and whether the mine's preferential treatment is aimed at the local, regional or national level and at what point subsidiary suppliers can be considered.

It is also critical to determine which goods and services mining companies are permitted, or need, to source from international suppliers.[292] If the local content policy is appropriately implemented, it can contribute to creating a mutually beneficial relationship between the community and the corporate actor, increase the likelihood of companies obtaining a social license to operate and reduce the risk of opposition to mining activities, or triggering social conflict.[293] This will positively affect upstream, knowledge and technology linkages.

Case Study – Mexico's local content for hydrocarbons

"In 2014, Mexico passed the Hydrocarbons Act, which reformed the country's approach to the hydrocarbons sector and the promotion of local content. The Act mandates the Ministry of Energy to develop a methodology on how to measure and monitor the implementation of local content, define an industrial strategy for the hydrocarbons sector, create a national registry of domestic suppliers to identify their development needs, and create an advisory board to help formulate policies fostering the development of domestic suppliers. The methodology defines national content as a percentage that represents the value in Mexican pesos of the goods, services, workforce, training, transfer of technology and physical infrastructure on a local and regional basis, from the total value in Mexican pesos of such concepts as defined in this Methodology" (p.28).[294]

53. **Create SME support mechanisms**

Local content targets can only be achieved if there is sufficient local supply of high-quality materials, goods, and services. To facilitate the extractive industry's ability to meet the required targets, it is recommended to create enterprise maps that include all potential service providers and available goods suppliers in the region and the country, if necessary. It is recommended that the map includes a basic due diligence analysis that informs about each provider's financial and structural qualifications.[295] In addition, the government is advised to provide SMEs with financial support in order to create a sufficiently large pool of companies that the extractive company can invite to tender processes. Given the significant regional disparities between businesses in Peru, the government is encouraged to incentivize the organization of cross-regional business associations to leverage economies of scale and enhance the likelihood of the local content policies' success.[296] Moreover, it is recommended that the government takes care to eliminate existing barriers to entrepreneurship, i.e., reduce the complexity of regulatory procedures by making more efficient license and permit systems and by improving the communication of rules as well as eliminate administrative hurdles for start-ups.[297] This is likely to create progress for upstream, knowledge and technology linkages.

[292] Ramdoo
[293] Supra note 270
[294] Ibid.
[295] Ibid.
[296] Ramdoo
[297] OECD

54. **Cooperate and coordinate with mining corporations**

The creation of *La Vision Minera 2030* is an obvious step in the right direction of multi-stakeholder dialogue that can have a likely impact on the country's ability for economic diversification. However, it is essential to provide the private sector with the necessary information to leverage available local content and draw from Peru's existing infrastructure. Enterprise maps to create upstream linkages are one way to facilitate this process. On the other hand, extractive firms are usually best informed about their own needs and international best practices. In this light, the government is encouraged to also leverage the experience from multinational mining firms' global footprint. This recommendation will facilitate upstream, downstream, spatial, knowledge and technology, consumption linkages.

Case Study – BHP's World Class Suppliers Program

"The *World Class Suppliers* program, launched by BHP Billiton in 2009 and joined by Codelco in 2011, aims to provide the right collaborative environment for suppliers to innovate. The collaboration is based on the supplier proposing new technological solutions to problems faced by the mining company, financing the R&D, and acquiring the intellectual property if the research results in a successful product. The mining company provides technical, managerial, and financial support; offers the mining operations as testing grounds for the new technologies; and offers assistance in accessing international markets.

By 2013, BHP Billiton had operated 43 innovation projects with 36 suppliers participating. These suppliers, with around 5,000 employees, had combined sales of $400 million. BHP Billiton has invested around $50 million in the program, which is less than half of the estimated savings resulting from the innovations of around $121 million. In 2012, suppliers participating in this program were more likely to export to other markets than those who supplied to the mining sector that did not have the same support mechanisms. Of the suppliers who did not participate, 34% of them exported compared with 51% that were part of the program" (p.51).[298]

55. **Strengthen the absorptive capacity of the local population**

The lack of human capacity is one of the most significant obstacles facing the Peruvian economy as it attempts to diversify into more productive sectors. According to the World Bank, Peru has a substantial education gap, with government expenditure for education standing at approximately 3.9% in 2017, significantly lower than Chile (5.5%) or Colombia (4.4%).[299] The lack of human capacity affects all levels of education, and addressing it requires improving primary education.

[298] *GIZ*

[299] World Bank, 'Government expenditure on education, total (% of GDP)' (*World Bank*, 18 April 2019) <https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS?locations=PE-CL-UY-AR-CO> accessed 18 April 2019

Peru's government and mining companies can only foment productive human capacity through specialized training if there is a sufficiently-well educated workforce available, which requires investments into the country's education system. Additionally, the government is well-advised to encourage vocational training that specifically confers knowledge necessary for the mining industry and associated economic sectors, particularly upstream activities like manufacturing and engineering. Such vocational programs could be coordinated and co-financed by the private sector.[300]

56. **Promote higher education and R&D programs, through promotion of mining-related STEM careers and joint research centers and programs between the private sector and universities.**

See Chapter 3.

57. **Recommendation 6: Create a framework for the shared use of sustainable infrastructure**

The lack of access to essential infrastructure poses a pivotal challenge to the creation of linkages and cluster building in Peru. In order to ensure that the economies of scope and scale of private mining firms' infrastructure investment foster the development of clusters through spatial linkages, Peru's government is well-advised to create a framework and cost-benefit analysis on the viability of shared infrastructure assets. Within the framework, the government is encouraged to make sure to promote the sustainability requirements of the newly built mining infrastructure.

Given the finite nature of mining projects and the high capital costs of infrastructure investments, it is essential that infrastructure can continue to benefit the public by providing cost-efficient and environmentally friendly spatial linkages post-mine closure. Recent developments in renewable energy to power the increasingly high electricity demand for mining are a case in point. The government could mandate the inclusion of renewable energy assessments in feasibility studies for future mining projects. To ensure sustainability, regulations should be adapted to allow for the continuation of renewable energy project post-mine closure.[301]

Overall, "[t]he Government of Peru must ensure that, wherever possible, the existing and projected infrastructure are accessible to its population (specifically rural populations) and for enterprises other than mining companies. The government could also undertake studies to determine the most convenient location for the infrastructure projects, taking into account its population's need for access to local trade centers and linking isolated areas of the country with schools, health facilities, and economic clusters" (p.64).[302]

[300] Ibid.

[301] *Toledano and Maennling*

[302] SIPA, 'Mining in Peru, benefiting from Natural Resources and Preventing the Resource Curse' SIPA Capstone Report 2015, <https://sipa.columbia.edu/file/3317/download?token=b5gYZ371> accessed 18 April 2019.

In the framework, the government is advised to assess the feasibility of spatial multiplier effects where, for instance, the construction and shared use of transport-related resource infrastructure is accompanied by the installation of optic fiber cables and results in the development of ICT infrastructure. The combination of transport and ICT infrastructure can lead to economic clusters and resource corridors that connect more economic actors.[303]

Case Study – Water management in Arequipa

"As unplanned communities were growing on the outskirts of the Arequipa city in Peru, water storage and treatment facilities struggled to keep up. About 90 percent of municipal wastewater was discharged directly into the Rio Chili – causing concerning levels of fecal coliform exposure for humans, agriculture, and livestock (pp.30-31).[304]

In 2011, Freeport McMoran proposed to supply the additional water requirement through a new wastewater treatment plant with excess capacity reserved for communities. By avoiding a deterioration of Rio Chili's water quality due to polluting discharges, the project would also improve agricultural productivity in the area and reduce water-related diseases. It will also be a long-term source of treated water for mining operations.

The Regional Government of Arequipa, the National Government and SEDAPAR (Servicio de Agua Potable y Alcantarillado de Arequipa S.A) agreed with Freeport McMoran that the mine will finance the engineering and construction of the wastewater treatment plant and that the plant will be operated by SEDAPAR" (p.59).[305]

58. **Ensure that local content policies and government-supported private sector interventions are in line with commitments in international trade and investment treaties.**

Peru is a member of the WTO and as such subject to its rules and guidelines that restrict the space for implementing preferential treatment clauses for the national procurement of goods and services.[306] The government is therefore well-advised to review existing commitments and proposed local content legislation in order to avoid the lengthy and costly process of being taken to court.[307]

Contribution to the SDGs

Economic diversification and specifically the creation of clusters and linkages have likely direct positive impacts on three key UN SDGs. Given the far-reaching potential and multiplier effects of linkage creation for broader economic diversification, cluster building and linkage formation

[303] *Ramdoo*
[304] IFC and ICMM, *Shared Water, Shared Responsibility, Shared Approach: Water in the Mining Sector* (IFC and IMM 2016)
[305] *GIZ*
[306] *Östensson*
[307] *GIZ*

lead to several indirect benefits.

Goal 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

The recommendations aim to achieve higher levels of economic productivity through diversification, technological progress and innovation and promote sustainable development-oriented policies that support non-mining related productive activities, job creation, entrepreneurship, creativity and innovation, and encourage the growth of Peru's SME sector.[308]

Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.

Develop the quality, reliable, sustainable, and resilient infrastructure. In the Peruvian context, it is imperative that the development includes regional infrastructure to support economic development, enabled by a conducive policy environment for, among other things, industrial diversification, and value addition to commodities.[309]

Goal 12: Ensure sustainable consumption and production patterns.

By 2030, Peru's objective is to achieve sustainable management and efficient use of natural resources and encourage mining companies to adopt sustainable practices. Mining also provides important materials for economic diversification and the opportunity for the private and public sectors to collaborate along the supply chain to maximize welfare gains domestically and globally.[310]

Goal 1: End poverty in all its forms everywhere.

The goal is to promote the mobilization of resources from the mining industry in order to provide adequate means for all people in Peru, in particular, those affected by mining activity. Additionally, to achieve the goal, it is required to implement programs and policies to end poverty and create spillover effects from enhanced economic activity and ensure that all Peruvians have equal access to basic services, appropriate technology, and financial services.[311]

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

By 2030, Peru's government is encouraged to ensure that all girls and boys complete free quality primary and secondary education, leading to effective learning outcomes. Further, it is essential to ensure equal access for all Peruvians to technical, vocational, and tertiary education for the mining and non-mining workforce.

Goal 5: Achieve gender equality and empower all women and girls.

[308] CCSI, *Mapping Mining to the Sustainable Development Goals: An Atlas*, (CCSI 2016)
[309] ibid.
[310] ibid.
[311] *CCSI*

Economic diversification allows more women to engage in productive economic activity. Achieving SDG 5, therefore, contributes to women's participation and equal opportunities in political and economic life as well as to give women equal rights to economic resources, access to ownership and other forms of property. [312]

Goal 10: Reduce inequality within and among countries.

By 2030, the objective is to empower and promote the social, economic and political inclusion of all, especially of underdeveloped regions and communities in order to reduce horizontal inequalities and progressively achieve and sustain income growth of the bottom 40% of the population to decrease vertical inequalities.[313]

[312] ibid.

[313] ibid.

7. PLANNING FOR SUCCESS: PILOTING THE FUTURE

Activity 7: Design and execute a pilot plan to ensure spaces of permanent articulation, that is multi-actor and public-private with a purpose associated, but not limited, to the productive development of the region and the territory.

Overview

Mining activities need to be conducted within a framework of good governance to create socially responsible, environmentally sustainable, and territorially inclusive mining practices in Peru. A more robust governance system can emerge by iterating and replicating good practices learnt from reputable administrations in Peru or from abroad.

This chapter proposes key recommendations highlighting the importance of government-led incentives and identification of good governance practices that can be emulated by civil servants and decision-makers throughout the country. This chapter builds on the analysis and recommendations in Chapter 1. Officials can create a pilot project in areas where mining practices exists to set an example for other regions in Peru. In realizing this vision, it is vital to take a multi-actor approach and leverage public-private partnerships. A coordinated approach could contribute to increasing the productivity in the regions and territory.

The design of a pilot plan will promote the following development aspects:

- Replication of good practices in promoting mining clusters, linkages, and productive diversification; financing mechanism; strengthening capacities of local government and CSOs, and innovation and competitiveness.
- Incentives for corporate and local government to adopt sustainable practices;
- Inclusive participation: Communities can contribute to and influence the planning phase to the implementation of the pilot plan; and
- Monitoring system for transparency and accountability

Recommendations

52. Launch the "Peru National Mining Award: Replicating good practices and accelerating innovation."

53. Strengthen Works for Taxes (WfT) with Tripartite Framework.

54. Establish a cross-ministry team to supervise projects and initiatives.

55. Collaborate with local universities and think tanks to provide knowledge-based expertise for monitoring and evaluation.

Challenges

Low Trust in Institutions and Corruption

See Chapter 1.

Implementation of *Obras por Impuestos* (Work for Taxes or "WfT").

Since its creation in Peru in 2008, WfT has been touted as an innovative approach to accelerate infrastructure investment in mining areas. It allows mining firms to pay their income taxes in advance through the execution of public infrastructure work projects instead of paying future taxes. The program enables the public and private sector to align in providing better-quality projects with more efficient use of funds and reduces the burden on government budgets for infrastructure. However, the mechanism faces numerous challenges in its implementation. [314]

Firstly, the absence of a mechanism to ensure WfT responds to a genuine public interest or need instead of private interests. WfT projects are not always located in areas most in need of development but the areas of influence of the financing firms. It is crucial to mitigate this project concentration by ensuring an accurate and independent needs assessment is conducted with appropriate community input and expertise.

Secondly, WfT mechanisms are not yet accessible to all public entities and the program does not provide tax-forgiveness for operational costs but only as investment costs. This places at risk the financial sustainability of completed infrastructure works and the reputation of mining firms because projects may end prematurely end or become inoperative due to lack of ongoing funding incentives.

Coordination, implementation, and evaluation of public policies.

Central government agencies plays a key role in ensuring coordination and monitoring of public policies at the executive level and are playing a more active role in policy development and coordination across OECD countries. Peru lags behind benchmark countries in the coordination of public policies, despite efforts to increase dialogue among different institutions in recent years. This poor performance can be explained by some factors, including the weakness in the prioritization and implementation phases for policies involving several ministries.[315]

The failure to distribute functions and expenditure responsibilities between the three levels of government (i.e., exclusive to each level, shared between levels, and those delegated from one level to another through explicit agreement) results in a patchwork of juxtaposed strategies that lack effective synergy.[316]

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[314] International Finance Corporation (IFC). 2018. "Peru's Works for Taxes Scheme: An Innovative Solution to accelerate Private Provision of Infrastructure Investment," pp.3-5. Accessed from http://documents.worldbank.org/curated/en/163871532527022459/Peru-s-works-for-taxes-scheme-an-innovative-solution-to-accelerate-private-provision-of-infrastructure-investment

[315] OECD, 2015. pp.169

[316] Yanguas, Javier. (2010). The University of Sussex. "Local politics, conflict, and development in Peruvian mining regions

To create a multi-annual plan and long-term goal of development, the Council of Ministers (PCM) including the National Centre for Strategic Planning (CEPLAN) have an important role in mitigating the public-sector fragmentation and creating a platform for public sector synergies.

Supporting analysis for recommendations

52. Launch the "Peru National Mining Award: replicating good practices and accelerating innovation."

Multi-actor partnership will require the government's non-regulatory approach by providing incentives to encourage mining services, service providers and regional and local levels as well as grassroots community and NGOs to continuously promote the implementation of good governance and sustainable mining practices. By establishing an annual national mining award, governments can help by providing a conducive environment to create knowledge-sharing and mutually beneficial relationships between stakeholders.

The award will serve to identify good practices in numerous mining activities and will encourage stakeholders to improve their operation, environmental protection, service delivery, and societal participation. Building on the corporate incentives to develop a positive corporate social responsibility brand, the following is the proposed categories for a Peruvian mining award:

Through this new national mining award, the Peruvian national government provides a platform to incentivize innovation, knowledge exchange, and partnership. Awards for mining firms can range from the practice of tailings management, biodiversity conservation, local employment practice, human safety, and technology, as well as CSR programs. On the other hand, regional and local government needs to be recognized for their work in the use of information technology to improve service delivery, government transparency, and increased social participation.

Last but not least, civil society's role in improving public quality of life in mining areas cannot be understated. Grassroots community participation is an essential pillar to sustainable mining practices and the award will recognize their contribution to building local capacity and as checks and balances to local government and mining firm's operations on the ground. For example, the work of the Ombudsman (Defensoria del Pueblo) and the Oficina Nacional de Dialogo can be recognized for its role in strengthening Peru's open government agenda. Additionally, the role

of research institutes and universities in research and development can significantly help improve the implementation of sustainable practices.

The process for recognizing the wide-ranging community of actors working toward the Mining Vision 2030 will establish events that facilitate networking and knowledge sharing. An outline of the steps necessary in this project is below:

This annual prize, awarded by MINEM, will reward companies and service providers who excel in meeting industry environmental practices and safety standards. MINEM may choose to establish an independent panel consisting of sector representatives from corporate, government, and NGOs to choose the recipient of the national award, or invite nominations that will be judged by the panel. The awarding system will help the government to plan and execute some pilot projects that promote sustainable mining practices in a different part of the countries.

53. Strengthen WfT with Tripartite Framework

The benefit of WfT in financing infrastructure relies upon the capacity of government across national, regional, and local levels in executing this capital investment. As explained above, the main challenges in its implementation are the mechanism to ensure the p relevance of the project in fulfilling the needs of communities where the mining firm operates and the sustainability of the project after the WfT program ends.

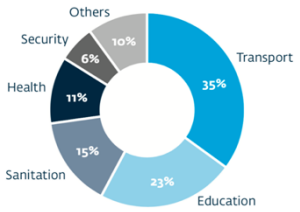

Figure 2: Awarded and concluded projects by sector, 2009-2017 (% of total investment)

A system of checks-and-balances and government supervision, which limits concentration of political power and enforces the rule of law, needs to be put in place to ensure mutually beneficial infrastructure projects on the ground and to strengthen implementation. This system is particularly important because, between 2009 and 2017, more than $1 billion was invested through this framework, benefiting more than 15 million Peruvians (Figure 1).[317] However, performance tracking of its implementation and sustainability of the project needs to be enhanced to ensure the benefits to Peruvians.

The implementation of the WfT mechanism in Peru should transition from the relational approach centered between the government and the mining company towards a tripartite relationship between the government, mining companies, and local communities impacted by the mining activities. This tripartite arrangement represents a more sustainable approach that ensures continuity and the management of community expectations.

Furthermore, this could help prevent the occurrence and escalation of social conflicts in different parts of Peru. The government, corporation, and the local communities can establish a

[317] Supra note 314

sustainable tripartite relationship by allowing all parties to provide inputs and participate on an equal basis. As reflected in the 2016 Columbia Capstone Report, the following roles may help establish a strategic partnership between the company, government, and the local community.[318]

With a tripartite framework, each sector would take on the following roles:

Company

- Funding: Extractive companies can provide funding to support activities or projects agreed with the local community.
- Expertise: Extractive companies can contract expertise or train local community members with the skills needed for different aspects of the project, such as the construction or electrical wiring of a community center.
- Information sharing: Extractive companies can establish and share an understanding of how the operations may affect the local community, such as the development of alternative sources of employment.

Government

- Expertise: The State can provide mining companies with an understanding of the local culture, dynamics, and issues of local communities to incoming mining companies that lack proximity to communities.
- Funding: The State can provide funding to support public works.
- Information sharing: The Contraloría created a system under a resolution issued in 2013: "*Registro de Información y Participación Ciudadana en el Control de Obras Públicas – INFObras"*, and it could be beneficial to explore the potential role of INFObras in incorporating a registry of all infrastructure projects undertaken by public sector entities and those under WfT mechanisms in Peru. This method could increase control and transparency in government spending and also infrastructure investment through WfT.[319]

Community

- Local Assets: Communities can contribute the labor needed at different stages of a mining project or provision of community benefit, The government could also incorporate local businesses into the implementation of WfT.
- Expertise: Local community representatives can play an important role in fostering engagement between companies and the local community to assess the evolving needs of the community. Local government and community representatives will be involved in the planning and execution phase of WfT.

[318] 2016 Capstone Report, p 46. Donald A. O'Neill, *Chapter 8: Impact Assessment, Transparency, and Accountability: Three Keys to Building Sustainable Partnerships between Business and Its Stakeholders*, Peace through Commerce: Responsible Corporate Citizenship and the Ideals of the United Nations Global Compact. Ed. Oliver F. Williams. Notre Dame, IN: U of Notre Dame, p. 18. (2008).

[319] Capstone Report 2018, pp.19

Case Study – Marcobre Company "Mina Justa Project"

The Marcobre Mina Justa project, backed by Minsur and Alxar, aims to create a model of respect for environmental care and social management to generate a positive impact on the local and regional economy. Under the *WfT* mechanism, the company focuses on building a nascent tourism industry in Marcona as an alternative source of income for the territory.

In terms of social responsibility, it provides educational programs and training, collaboration with health entities. Concerning environmental management, it focuses on water management, solid waste management and the monitoring of air quality.[1] This project could potentially be used as a pilot project in implementing tripartite relationship of the WfT mechanism.[320]

54. Establish a cross-ministry team to supervise projects and initiatives

The lack of inter-governmental agency coordination has impeded the governments' performance in achieving its targeted goals, created overlapping responsibilities and hampered the development of a national strategy for sustainable mining practices. The absence of cross-ministry coordination leads to a disjointed plan and implementation of policies. As mentioned by the OECD report on the state of mining development in Peru:

> Persistent institutional silos and coordination challenges limit the states' capacity to pursue its strategic objectives effectively, achieve results for people, and enhance its transparency and accountability—conditions of which undermine people's trust in government.[321]

The role of PCM, MINEM, MEF, Vice Ministry of Territorial Governance, and CEPLAN ("cross-ministry team") is central in coordinating cross-cutting issues in the mining sector and creating powerful synergies. One regulatory aspect which government can undertake is to rely on the language in the Law Number 29158 (Articles 17, 18 and 19): Organic law of the Executive Branch or *Ley Orgánica del Poder Ejecutivo*.[8] The provision under this law describes the functions of PCM in a vague statement that makes it difficult for the PCM to coordinate between different agencies of the executive branch.[322] The law should provide the Cross-ministry team to require ministries, regional, and local governments to implement the initiatives that result from the process of coordination.

Without the existence of authority to control and compel the implementation, coordination will continue to be elusive, especially amid the conflicting interests and public sector-

[320] Fasken. (2019). "Mina Justa Copper project Named PFI American Mining Deal of the Year." Accessed from https://www.fasken.com/en/newshub/2019/02/pfiawards

[321] Public Governance Reform Peru 2016. http://www.oecd.org/gov/public-governance-review-peru-highlights-en.pdf

[322] Capstone Report 2018, pp.12

fragmentation that characterizes some aspects of governance in Peru. The cross-ministry team should give direction and actionable plans to ministries, regional and local governments. This collaboration could also result in a mechanism to evaluate the programs and create a coordinated performance tracking mechanism by the governments at the national, regional and local levels.

55. Collaborate with local universities and think tanks to provide knowledge-based expertise for monitoring and evaluation

While the governments' structure and authority change over time, the role of a cross-ministry team explained earlier creates a platform to keep the institutional memory to evaluate mining sector development at different levels and functions. As external parties, local universities and think tanks (for example, Natural Resources Governance Institutes or NRGI) play essential roles in monitoring and evaluate the mining practices in the country.

For the past five years from 2015 to 2019, Columbia Capstone teams have continuously collaborated with local universities: University of Applied Sciences (Universidad Peruana de Ciencias Aplicadas) and Universidad del Pacifico (UP). In collaboration with foreign universities and research centers such as Columbia University (i.e., SIPA, Columbia Water Centers, and Earth Institute, think tanks and local universities could be actively engaged in the monitoring and evaluating the processes of the mining sector industry. Strategic alliances will help implementation go smoothly; solutions can be attained more quickly.

Box No. 4: Case Study – Water and the Mining Industry

In 2005, Columbia Water Center completed a three-year project sponsored by Norges Bank Investment Management (NBIM) to develop a modelling platform to quantitatively assess mining-related water and environmental risks and their financial implications, including in Peru.

The project uses modeling tools to address elements of specific risks as well, including: meeting water requirements for mineral processing, energy production, and community needs. [323] NBIM also supported research on "An Analysis of Peru: Is Water Driving Mining Conflicts?" Based on regional-level water use data, the researchers found that quality and availability of water are drivers for social conflicts with mining companies.[324] This partnership between universities and NGOs need to be encouraged even more to provide a comprehensive outlook of the mining practices and how to improve its governance.

[323] Columbia Water Center. (2015). "Water and Mining Industry." Accessed from http://water.columbia.edu/research-themes/risk-and-financial-instruments/water-and-the-mining-industry/

[324] Salem, J., Amonkar, Y., Maennling, N., et al. (2018). "An Analysis of Peru: Is Water Driving Mining Conflicts?" Accessed from https://www.sciencedirect.com/science/article/abs/pii/S0301420718301193?via%3Dihub

Contribution to the SDGs

Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Developing and executing pilot projects will contribute significantly to establishing and strengthening partnerships for sustainable development. The launch of the "Peru National Mining Award: Replicating good practices and accelerating innovation" would help the realization of environmentally sound policies and technologies (SDG 17.7) through identifying and encouraging innovation or good practices.

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

In addition to the importance of local content policy as explained in Chapter 6, the targeted infrastructure investment will also help achieve economic productivity and labor-intensive sectors (SDG 8.2) and reduce youth unemployment in the local areas where mining firms operate (SDG 8.6). Coordination will help formalize the support to SMEs in local communities where mining firms operate (SDG 8.3). The development-oriented policy approach can also be achieved through a strengthened role for universities and research institutes (SDG 8.3).

Goal 10: Reduce inequality within and among countries

The academic community or a network of knowledge-based experts would help decision makers in defining the problems they face and identifying various policy solutions and assess the policy outcomes. This network can eventually help Peru in empowering social, economic, and political inclusion of all Peruvians irrespective of age, sex, race, ethnicity and economic states (SDGs 10.2).

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TEAM BIOGRAPHIES

Peru Capstone 2019 Team Members

Eleanor Katz

Eleanor is an international development professional and current MPA-Development Practice candidate. She holds a B.A. from the University of Virginia in Spanish and Global Development with a focus on resource extraction. Before SIPA, Eleanor was a Senior Consultant with Deloitte based in Washington, D.C. At Deloitte, she supported a variety of clients across the public sector, with a focus on emerging markets and donor-based international organizations. Eleanor previously worked with Latin American NGOs, Ceppas Guatemala and Grupo de Apoyo Jurídico, where she researched indigenous rights and mining in Guatemala and Latin America's Southern Cone.

Sean Srichankij

Sean is currently enrolled in SIPA's EMPA program and works full-time up at Columbia University Medical Center in the Division of Infectious Diseases. Prior to this, Sean worked as a research coordinator, studying quality-of-life issues for pediatric cancer patients. He also served for 4.5 years in the U.S. Army. Following graduation, Sean hopes to join the State Department as a foreign service officer, working in the career track.

Mo Wang

Mo is currently enrolled in her second-year of SIPA's MPA program, concentrating in Global Energy Policy and Management track. Prior to this, Mo worked as a professional diplomat of the Chinese Foreign Ministry for seven years both in the Beijing headquarters and Chinese embassy in Turkey. After that she switched to the private sector as a policy consultant and assistant to VP of Legend Holdings, focusing on corporate development strategy planning and public affairs communication. She holds a B.A. from Beijing Foreign Studies University in Turkish and M.A. in Economics from Renmin University of China.

Zulpha Styer

Zulpha is a Master of Public Administration Student, with a concentration in Urban and Social Policy and specialization in Management. She is a dual national of South Africa and Australia. Zulpha has a Bachelor of Laws and a Bachelor of Arts, and a Graduate Diploma in Legal Practice and a Master of Laws. She has more than five years of experience as a senior policy advisor to Australian governments at federal and state levels, including the Australian Government Attorney-General's Department. Zulpha is also admitted as a solicitor to the Supreme Court of the Australian Capital Territory.

Eugenia Simo Garcia

Eugenia is enrolled in the LL.M. Program at Columbia Law School LL.M. She is a Spanish qualified lawyer who specializes in International Arbitration and Dispute Resolution. Prior to coming to Columbia, Eugenia worked at the International Arbitration team at Uría Menéndez in Spain focusing on investment and construction arbitrations in Europe and Latin America. She plans to continue working in International Arbitration and to earn a Ph.D. dealing with sustainable development issues in investment law and arbitration.

Niwa Rahmad Dwitama

Niwa is enrolled in SIPA's MIA program (International Security Policy). He is a public policy analyst and Indonesian diplomat specializing in international security policy and human rights. He holds a B.A. from University of Indonesia and Tokyo University of Foreign Studies in International Relations. Before SIPA, Niwa worked at ASEAN Cooperation Department of Indonesian Ministry of Foreign Affairs. He has also worked as a social policy researcher at Research Triangle Institute (RTI) International, working on issues ranging from social protection to tobacco control policy and at the Effective Development Group (EDG) where he worked on projects of multidimensional poverty on education in West Papua and Social Protection in Gorontalo of Indonesia.

Alexander Rustler

Alexander Rustler is enrolled in the Master of Public Administration (MPA) - Development Practice (DP) at Columbia University's School of International and Public Affairs. He is an Economics graduate, who holds a postgraduate degree in Comparative Political Economy from the London School of Economics. He currently serves as the Lemann Foundation Fellow at SIPA. He specializes in Political Economy and Public Policy of the Developing World, a field in which he has been published. He has held diplomatic posts for the Austrian Ministry for European and International Affairs in Malaysia, South Africa and Ethiopia.

Prakruti Joshi

Prakruti Joshi is an LL.M. candidate at Columbia Law School, with her focus of study being international investment and commercial arbitration. She is admitted to practice in India and has diverse experience practicing as a transactional and litigation attorney. She has participated in commercial and corporate cases before the High Courts and the Supreme Court of India, acting for state entities and large conglomerates engaged the energy sector.

Cyprian Christian

Cyprian is a Master of Public Administration student at Columbia University's School of International and Public Affairs where he specializes in Energy and Resource Management. He completed his Bachelor's degree in Economics at George Washington University. Professionally, Cyprian's has several years of experience working with the U.S. federal government both domestically and internationally.

Faculty Advisor:

Jenik Radon
Columbia SIPA, Adjunct Professor of International and Public Affairs
JD, Stanford Law School
MCP, University of California

Jenik Radon is Adjunct Professor, School of Public and International Affairs, Columbia University, where he teaches sustainable natural resource development with a focus on risk and strategic management, sovereignty and human rights, especially environment and social license. Radon has also taught at Monterrey Tech, Queretaro, Mexico and at Externado University in Bogota, Colombia, focusing on the extractive sector. Radon participated in the constitutional peace process of Nepal and served as a drafter of the interim (2006) peace constitution. Serving as an advisor during Estonia's independence struggle, Radon co-authored the country's foreign investment, mortgage/pledge, privatization and corporate laws and was an architect of Estonia's privatization. He was awarded the Medal of Distinction of the Estonian Chamber of Commerce and Estonia's Order of the Cross Terra Mariana, which was personally presented by the President of Estonia. Radon served as Georgia's key foreign advisor/negotiator of the oil and gas pipelines from Azerbaijan to Georgia to Turkey and was awarded Georgia's highest civilian award, the Order of Honor. Radon presently advises public authorities and civil society in emerging nations around the world, including Afghanistan, Georgia and Namibia. His expertise is the negotiation of extractive industry agreements, especially oil and gas and sustainable natural resource development contracts, as well as the drafting of necessary legislation.

He has authored "Walk Tall!, A Beautiful Tomorrow For Emerging Nations, An Anthology of Inclusive Principles For National Growth and Prosperity: Equity, Rule of Law and Sustainable Natural Resource Development," which was published in conjunction with the 2018 APEC conference in Papua New Guinea and has written numerous articles and reports, including: "How To Negotiate Your Oil Agreement," in Escaping the Resource Curse, ed. Macartan Humphreys, Jeffrey Sachs, and Joseph Stiglitz. This is his fifth consecutive year serving as the faculty advisor for the Columbia SIPA Peru Capstone Project.

Contact: jr2218@columbia.edu