

Enabled Impact

**Realizing development
opportunity in the
mining sector**

Scaled Impact



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- The social compact between companies and the societies within which they operate is changing rapidly driven by larger, better educated and networked populations with development ambition.
- Smaller company workforces mean fewer opportunities to create jobs and develop skills in societies with ever higher expectations.
- Firms have to invest for long-term regional and national social and economic development if they are to have meaningful and positive relations with their host countries and communities.
- Countries and companies are partners in development. Their success in achieving social and economic goals depends upon each enabling the other.
- Enabled Impact is a framework for countries and companies to work together to maximise their joint social and economic development for maximum impact.
- The mining industry is an essential driver of development. Developing countries with exposure to mining tend to outperform countries without in reaching SDG goals.
- Each year around US\$ 500 billion is generated by the largest mining companies within their host countries. About 80% of the total economic value generated by the industry is local.
- Managing for Enabled Impact will help mining companies and their host countries together deal positively with the joint challenges they face and maximise their development opportunities.

Introduction

In mining, energy, food and agriculture, banking, telecoms and trade; no matter whether in West Africa, Papua New Guinea, in Peru or West Australia, there are common patterns of relations between companies and their host countries and communities.

Each enables the other. From the simple exchange of the license to operate and tax payments to complex drivers of research investment, infrastructure build and asset and skills development.

We see the relations between companies and the societies within which they operate playing out at multiple levels: at the top with central government, with regional government, in local government and communities.

The type of relations and their importance at each level depends strongly upon the degree of development and the strength of governance within a society. The greater the level of economic and social development, the stronger tends to be the quality of governance and the more government takes over the role of providing for regional and local needs.

And the reverse. Weak governance environments and lower development mean companies have to take a stronger role in contributing to social and economic outcomes.

We have observed this most strongly in the mining industry given the concentrated location of assets, the high economic value that can be generated and the great potential for social disruption to local communities from clearing land and importing workforces.

Managed right, however, mineral resources can be great drivers of both social and economic development. Countries with high mining activity, for example, are clearly better performers against the UN's Sustainable Development Goals (SDGs).

Getting it right for both sides means taking a long-term perspective on company operations and societies' development with and around them.

It means fully recognizing the interdependence of companies and the societies within which they operate. It means managing across all levels from central government down to the community in a way that varies according to the strength of governance and capability at each level. It means host countries taking a strong position in developing policies and regulations that can be strong but are above all predictable to encourage investment and good social and environmental behaviour.

Host community spend and economic investments have a place but are far from the end of the story. All activities of a mining company have the potential to contribute in more and less direct ways to a country's development if thought about in terms of partnership with the host society.

We call this **Enabled Impact**.

In this article we use the mining industry to explore the development relationships between companies and their host countries and communities, showing how this can be managed by both sides for maximum combined value to all players involved. Central governments, direct host communities, company shareholders and more.

It is a framework that is of greatest value mainly, but not exclusively, in developing countries. It shows how development outcomes can be good, how relations and expectations between government and communities can be positive but need to be strongly managed. By both sides.

In complex situations with rising conflicts and environmental hazards, it offers a path for both companies and societies to enable development for each other.

Section 1

Mining can have a positive social and economic impact



Gold mines in Sudan were the wealth of the Egyptian pharaohs and later the Roman empire. Copper mines in Wales drove the expansion of the British Empire. Gold and silver underwrote the power of the Aztec empire. Coal and iron at the heart of Europe between Germany, Belgium and France drove the industrial revolution.

Mining is no less a driver of nations' wealth, economic and social development today. Income from mining is a vital first driver of societal development and economic expansion. The employment it creates, the supplier base it develops, the secondary industries that develop around it can all build on the base of a mining industry if the conditions are right. Over one or two generations with profits from mining invested in the right way developing nations can reach middle income status and more developed nations can become complex, sophisticated economies that are able to take responsibility for their own people.

The industry has a mixed reputation. Real social disruption can be caused by uprooted communities, transient workers and influxes of sudden wealth. The environment around mines can be badly damaged. Political tensions can turn into open conflicts. Pre-existing conflicts can become wars.

For all this negative potential, countries with large mining industries tend to have better human development performance than those without. Countries with large mining resources have shown greater improvements in the UN's Sustainable Development Goal indicators than those without.

The release of funds across the lives of mines cannot explain it alone. In fact, quite the reverse. The currency and investment distorting effects of commodity exports can have a negative impact on growth and human development.

Mining companies are drawn deeply into their host communities over the lifetime of their operations. There are usually very long and complex interaction between mining companies and their host governments and communities during the initial phases of operations. Fortunately, the industry has proven to be a driver of skills development and fostering suppliers long before they contribute to government funds through taxes or support direct community projects.

The industry has, however, been changing over the last couple of years. Coal mines that make up half the entire industry by volume are shutting. Remaining mines are becoming ever more automated, demanding more skills and fewer workers. The environment around mines is now understood as an equally valuable resource, making its protection a constant part of mine operations and for decades after closure.

These changes require strong transparency measures around operations and governance structures within host countries. For mining companies and host countries to ensure the sustainability of the industry, they each need to recognize the mutually beneficial relationships that exist between them.

This article shows how mining companies, host countries and communities can support each other's sustainable and peaceful development by enabling value and impact in the mining industry in a responsible manner.

We show how local economic and social development can be accelerated across different levels of society and economies over generations.

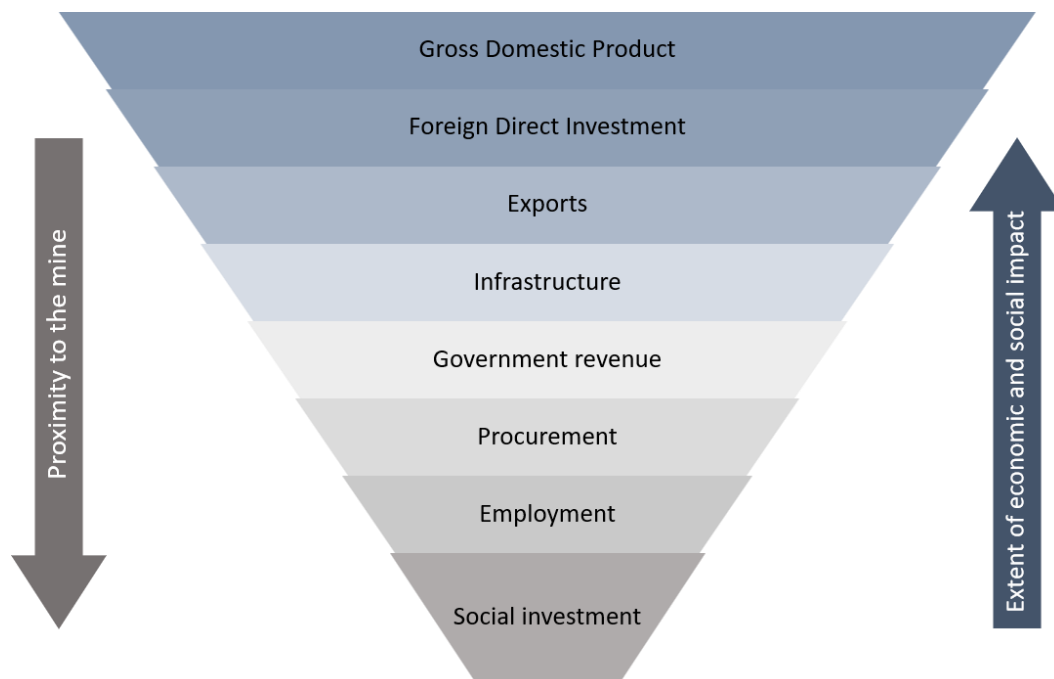
We demonstrate how priorities can be set at the regional and community levels to share direct mining value while local and national action needs to be coordinated to obtain the best possible outcomes and prevent skewed political and economic effects.

To thrive, the industry requires a strong governance mechanism that ensures government reliability and partnership capability, that should be carried out throughout the life cycle of the mine. Capturing this means creating a common narrative, a clear vision held by both investing companies and state and community actors of what jointly enabled development can look like.

The benefits delivered by the mining industry are:

1. Available at country-level and community-level
2. Driven by in-country profit sharing
3. Compounded with mine longevity
4. Impactful on economic and human development

Figure 1. Spectrum of mining industry contribution to host economies and communities



Source: International Council on Mining & Metals, Gold Fields, 2018

1.1. Benefits are available at country-level and community-level

Despite widely varying operational profiles across countries and products, the way mining companies contribute value to the host communities and the host country follows a very similar pattern.

As it can be seen through the graphical representation below, mining contributes to economic and social development both in a direct and indirect way. The direct effects such as social investments are stronger in proximity to the mines. On the other hand, the economic investments tend to rotate around employment as well as material procurement from local partners, and this contributes to increased government revenues generation.

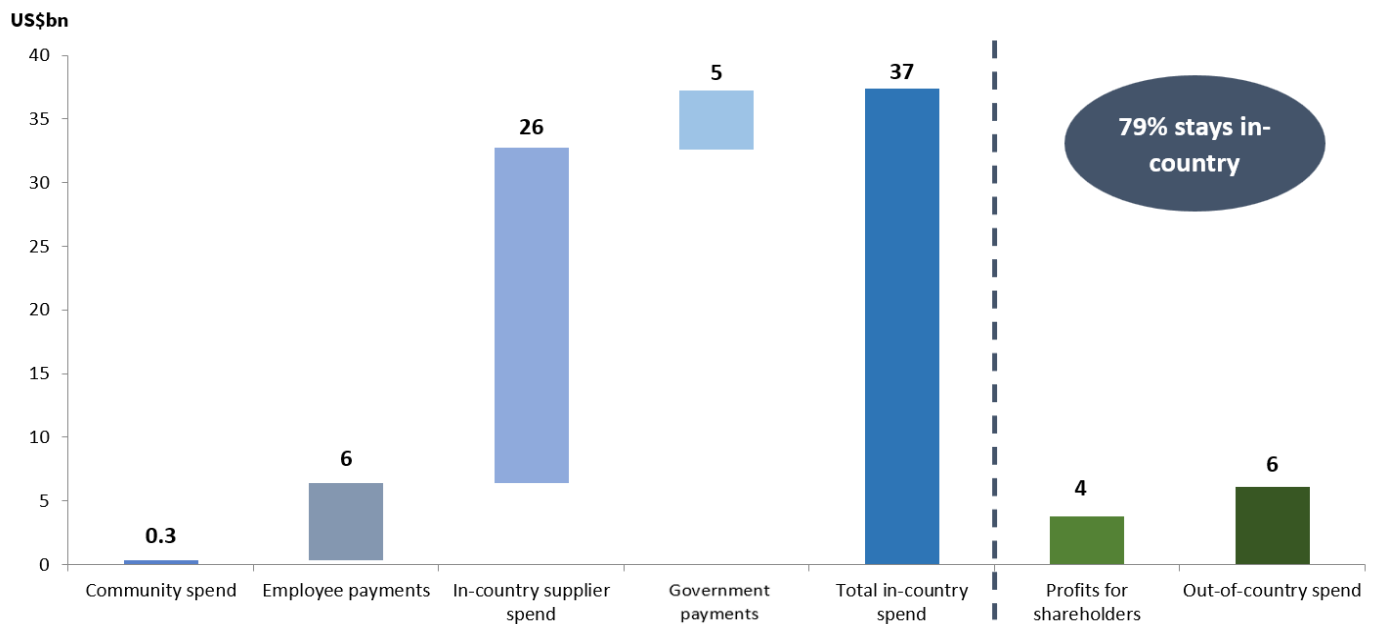
Moving further away from the mine site, the indirect development impact grows. Mining operations enable local and national infrastructure development, attract foreign direct investments, drive exports and overall national development.

1.2. The bulk of the spending stays in-country

The bulk expenditure by mining companies is largely on activities that stay in-country and benefit the economy at large.

These expenditures have proved to be an effective method to maximise the value created through mining value chains to the benefit of industries within host countries. In 2013, the World Gold Council conducted a study to assess the value creation and distribution by its member companies, which comprises the world's top 20 gold miners.

Figure 2. Distribution of value created by gold mining, 2013



Source: World Gold Council, 2013

As it can be seen from the figure below, 79% of value created by gold mining stays in country. This figure is a build-up of payments to local suppliers (55%), employees' salary spend (12.7%), government taxes and royalties (10.6%), as well as host communities spend (0.6%). The remaining 21% of value generated through gold mining is distributed as profit for shareholders (8.5%) and out-of-country suppliers' spend (12.7%). This significant value that stays in-country neutralizes the assumption that gold mining is a profit-exporting industry.

1.3. The longer mining persists, the more pronounced the impact

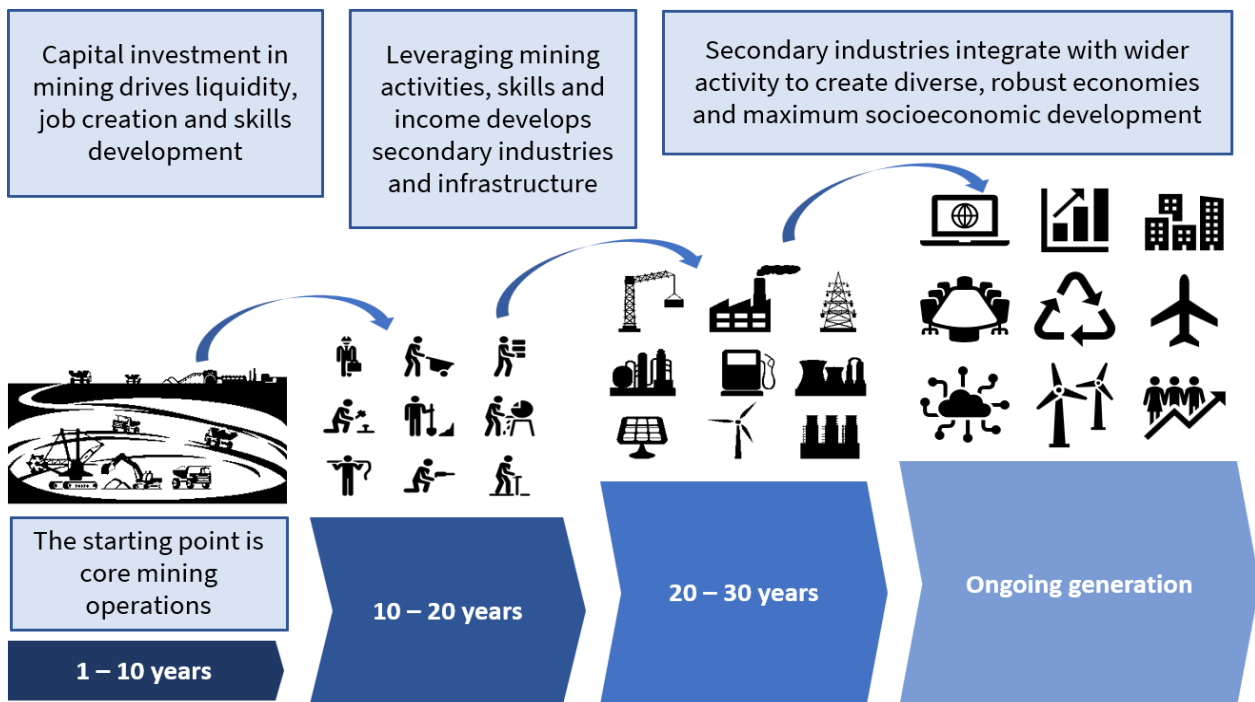
Realising development opportunities from mining is not immediate, and it takes time to reach desired effects. Turning these opportunities into value requires substantial upfront capital investments whose returns must be carefully managed throughout the mining lifecycle. Usually, the contribution of the mining industry to a country can be seen over a generation.

Figure 3 below provides a graphical depiction of the different phases in mining and their contribution to a country.

The starting point is the core mining operation and it can last for up to 10 years. This phase includes substantial capital investments to drive liquidity, job creation and skills development. In the next ten years, all investments previously performed are leveraged. Mining activities together with increased skills and income enable secondary industries and infrastructure development. Following this is a phase of socio-economic development that lasts at least ten years and is on-going in a generation. Many resource rich developing countries have typically experienced a mismatch between the time profile of efficient investments and the time profile of natural resource revenues¹. More generally, there will often be a shortage of short-term domestic investments that can yield high returns. The diverse benefits of the industry must therefore be anticipated over long-term periods when secondary industries are created and start integrating with other productive investments and activities to create robust economies and maximum socio-economic development.

¹ UNU-WIDER, Extractive revenues and government spending, 2017

Figure 3. Mining contribution to a country over a generation



Source: Scaled Impact analysis, 2020

The integration of industries to create diverse economies is likely to encounter a number of bottlenecks in many developing resource rich countries. This process requires a pipeline of good investment projects within the public sector's view of economic and industrial development for the country.

The lack of capacity across different spheres of host governments to design scalable development projects may hinder this process. It is critical that issues such as lack of capacity be addressed before any investments can be directed towards desired returns. The time required to address these issues may also differ across settings. Governments in resource rich countries must therefore be well-intentioned, far-sighted and highly capable.

They need to put in place regulatory and fiscal regimes that can convince investors in the mining sector to have a longer-term appetite for the sector, while ensuring state of the art resource management practices. This is possible when the social, institutional and political environments of host countries are in harmony.

In areas where mining persisted for longer periods, there is evidence of high value employment² directly created through mining. Over time, gold mining

employees have consistently earned more than the local average, and this is even more evident in less developed economies where they earn considerably even more.

Moreover, the sector can enable broader economic activity and the potential for economic diversification through its prospective multiplier effects that can be higher than other industries. For example, in South Africa the mining's economic multiplier is 2.5X; in Peru, 1.7X; and in Ghana, 3.2X.

The job multiplier is even higher, and it is considered in terms of direct, indirect and impacted jobs. In South Africa is 9X; in Peru, 6X; and in Ghana, 10X. The presence of a mine in an area can, for example infuse dynamism into other factor markets that were previously characterised by low activity.

There is also a growing number of companies within resource rich countries that have emerged as exporters of mining services as a result of their involvement with major mining companies in their countries. In Ghana for example, the African Development Bank has noted the rapid emergence of professional mining service suppliers that are supporting the growth of mining across west Africa.

² World Gold Council, The social and economic impacts of gold mining, 2020

1.4. Mining has positive economic and human development impact

Despite mining activities having been practiced and documented for decades, the impact on host country's economic and human development is still not well understood. Global mining has made a significant and positive contribution to welfare and human development in resource-rich countries in the past 30 years.

Countries with the highest levels of mining activities around the world show similar patterns of welfare development between 1990 and 2015. This is represented in Figure 4 below. Here, the UN Human Development Index performance and GDP per capita are taken as standardized measures of socio-economic development across country.

A broad group of developing countries – like Ghana – with reasonable governance levels have moved up closer to middle income status. Other countries, such as Peru and Chile, have also showed progress both in terms of economic wealth and human development. Australia has entrenched its position in the top ranks,

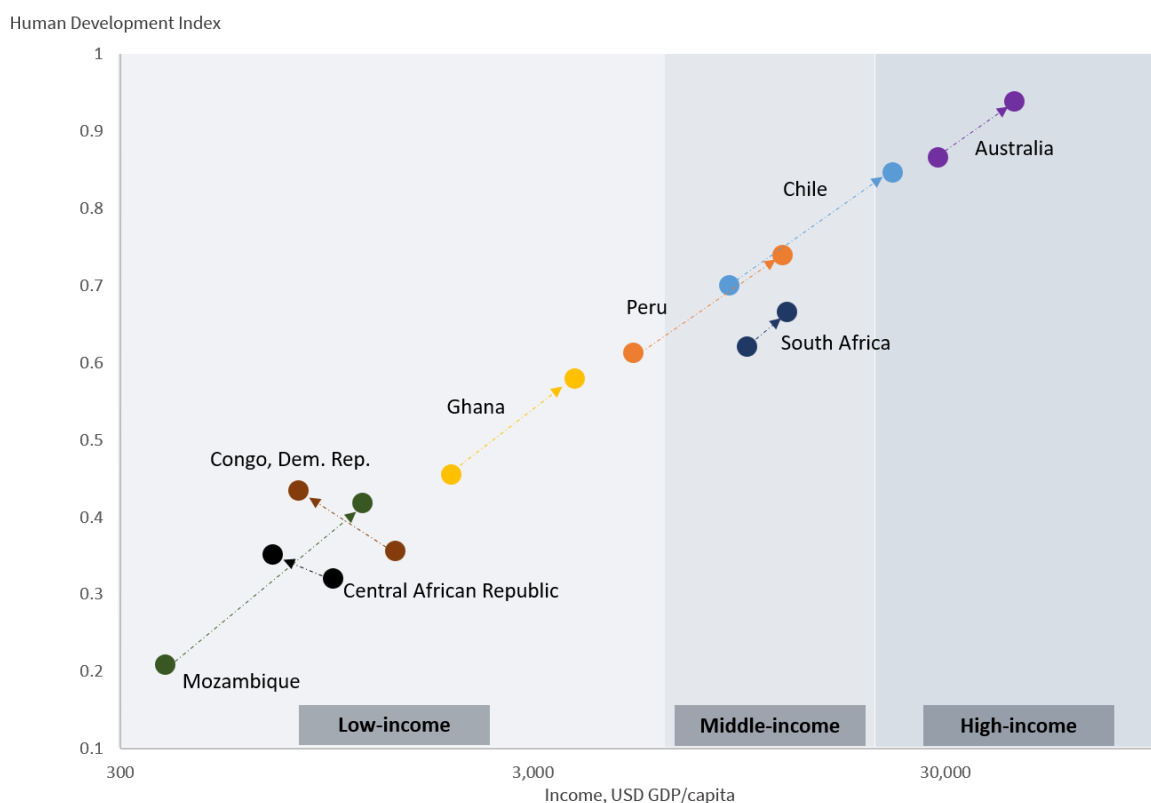
while only South Africa has remained fairly static as a middle-income country.

It should however be noted that realising these contributions from mining requires strong governance practices in the sector. Countries with weak state institutions, such as DRC and the Central African Republic, have not progressed in neither area.

Arguably the biggest challenge facing resource-rich states still in need to strengthen their governance is the management of revenues generated from the extractive industries. There are usually conflicted guiding frameworks that fail to balance the use of resource revenues for current consumption and investment, and the handling of resource rents by government directly and citizens.

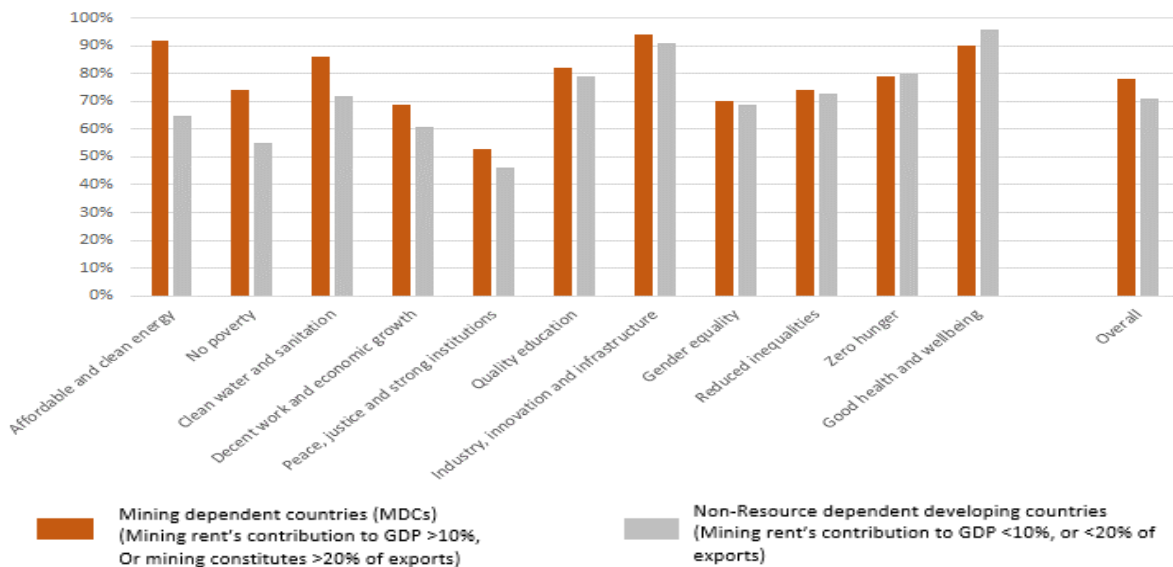
Further proof of the fact that countries with mining activities develop better than those without is presented in the following chart.

Figure 4. Mining's contribution to welfare and development in resource rich countries



Source: Gap minder, Scaled Impact analysis, 2020

Figure 5. Percentage of improved UN SDGs measures in MDCs vs not (1995-2015)



Source: ICMM, 2018

The analysis was confirmed by the work done by the ICMM comparing the overall percentage improvement in UN's Sustainable Development Goals (SDGs) for developing countries that have high exposure to mining and those without.

The chart above shows that mining dependent countries (MDCs) have been outperforming non-resource dependent developing economies.

On average, mining dependent countries have made progress in seven more SDGs than other developing countries without exposure to mining. This is a significant indication that mining dependant countries are showing some potential of catching up with the global best performing countries in terms of socio-economic performance over the period.

The positive impact has also been observed down from community level to influencing overall national activities. In many rural areas where mining takes place, the sector has significantly reduced rural exodus through promotion of local economic development activities, and other initiatives that have contributed towards poverty reduction.

This is evidenced in many parts of sub-Saharan Africa where several poverty-driven activities such as small-scale mining have now been regularized and drawn closer to large scale mining, emerging as the main source of income for local people. In countries such as Ghana and Chile, mining dependent regions are experiencing faster social progress than regions without exposure to mining, indicating that progress is not confined to national levels.

Section 2

Mining faces negative public criticism



As already indicated in Section 1, many mining dependant countries have consistently shown signs of socio-economic improvements compared to other developing countries with no exposure to mining. However, mining still suffers from bad reputation because of three critical areas:

1. Negative perception from the public
2. Increasing mining-related incidents and conflicts
3. Weak governance in host countries

The global mining industry is badly and often wrongly represented. This bad press has been shaping the public's opinion on the topic. In particular, mining is perceived as:

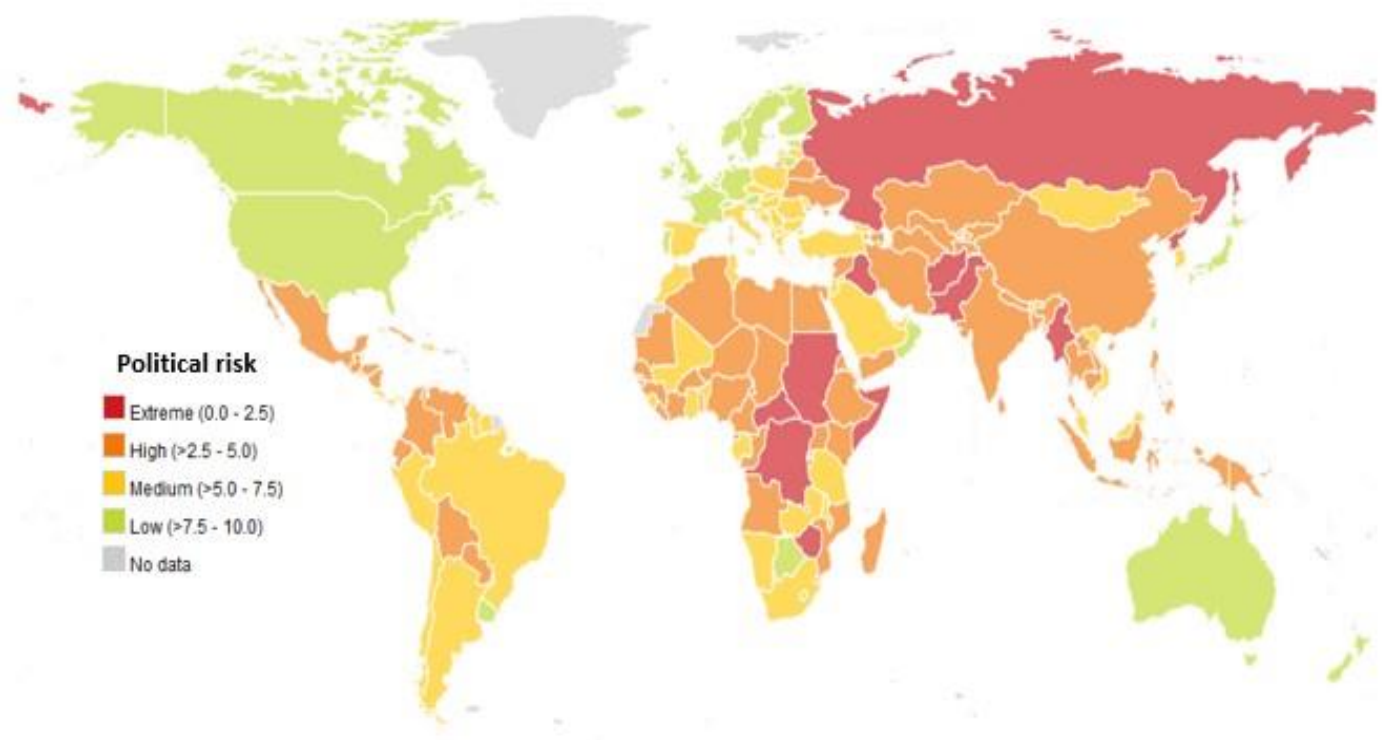
- Environmentally polluting
- Ignoring community needs
- Destabilising communities
- Enabling corruption
- Fuelling conflict
- Leaving clean-up to others

A lot of the benefits of global mining – discussed in Section 1 –, especially the development benefits linked to economic growth, are simply not known, or discussed on public platforms.

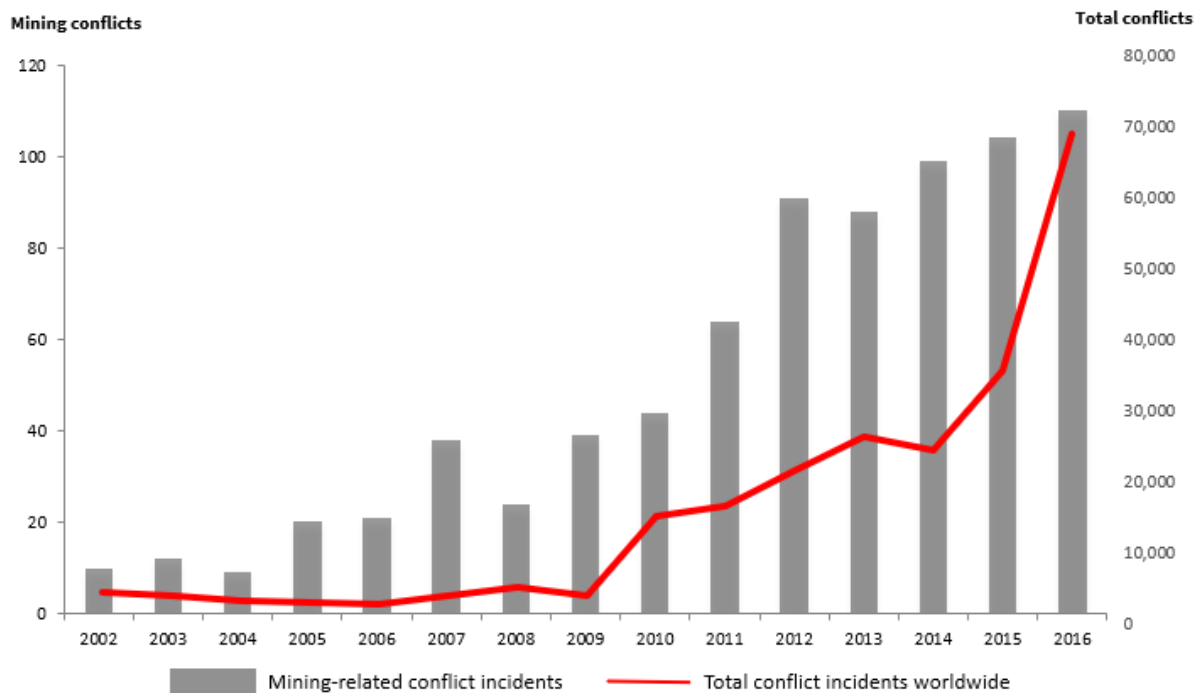
2.1. Mining related conflicts are rising

The frequency of mining related conflict incidents worldwide has been increasing in the past twenty years. According to ICMM reports, almost 100 conflicts between mining companies and communities around the world have been recorded in 2016 alone, 10 times more than in 2002. At the same time, political risk is also rising around the world, contributing to an extraordinary increase in conflicts. As represented in the graph below, conflicts have been growing exponentially at a CAGR of 729% between 2002 and 2016. Hence, mining related conflicts are also rising following the trend of global political-risk related conflicts.

Figure 6. Political risk around the world



Source: ACLED, 2020

Figure 7. Mining-related conflict incidents and worldwide conflicts³

Source: ICMM, ACLED (Armed Conflict and Event Location and Event Data), 2020

Mining related conflicts negatively affect all shareholders and beneficiaries of mine operations, from mining companies to host governments and communities. These conflicts with host communities are usually not isolated and small events. They tend to have large economic backlashes, both in terms of untapped resources and lost capex.

Mining conflicts often arise from environmental issues but can also be caused by poor expectation management between companies and host communities whose demands and needs are not responsibly responded to. Table 2.1 below represents an excerpt of three severe mining conflicts that have happened in the past 15 years.

Table 1. Summary table of mining conflicts in the past 20 years

Location	Esquel, Argentina	Conga, Peru	Bougainville, PNG ⁴
Mining company	Yamana Gold	Newmont	Rio Tinto
Year of operation	2002-2006	2010-2016	1989-2016
Asset loss/restart	US \$ 379 million	US \$ 1.5 billion	US \$ 5 billion
Untapped resources	US \$ 1.33 billion	US \$ 6.5 billion	US \$ 24 billion
Motives	Anti-mining protests by the communities	Community conflict directly with the mine	Severe issues with tribal conflicts in remote areas
	Fears sparked about water supplies	Aggravated by water rights and political interest	Aggravating environmental issues

³ Excludes Afghanistan, Yemen, Syria, Iraq and India.

⁴ Papua New Guinea

Source: Market Watch / Wall Street Journal, New York Times, Atlas of Mines

Although responsible mining companies are working to reduce impact on conflicts and risks of future conflicts arising, there are some dynamics worsening the situation. Among the mining related factors driving conflicts, the most influential ones are illegal mining revenues used to fund conflicts, mining companies perceived to be working outside the spirit of the law and environmental damages caused by mining activities.

Other mining regions have accused the industry of channelling corruption for the influential individuals within host countries, and destabilising and displacing communities. The adoption of industry initiatives such as conflict-free gold standard is among the identified approaches to conflict resolution initiatives, however these activities alone are often not sufficient to present the outburst of new conflicts in the ever-evolving social and economic world scenario.

2.2. Weak governance in many resource-rich countries

The quality of governance is a critical factor determining whether mining has a positive or a negative impact on resource-dependent countries. Mining companies are mostly operating in

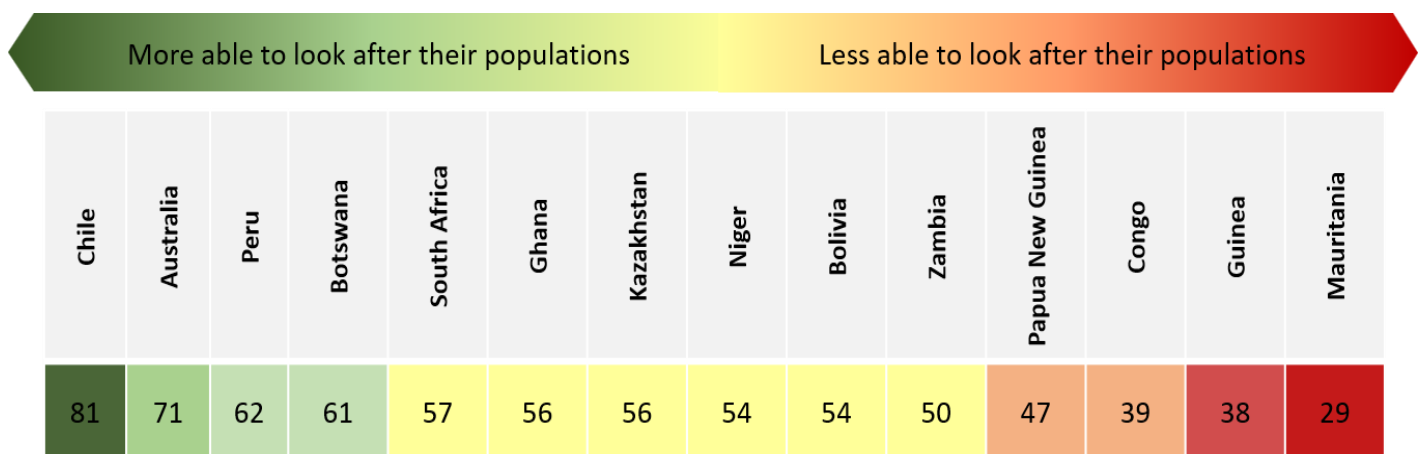
environments with varying governance and social structures. Figure 8 below shows the spectrum of quality of governance in resource-rich countries.

Weak governance countries tend to overlook the needs of their populations. Hence, mining companies are often responsible to engage directly with the communities. On the contrary, countries with stronger governance systems are usually more willing and capable to look after their populations and the role of mining companies is almost exclusively commercial.

Most countries in which mining companies operate require some form of direct community support, which can have different levels of extension depending on the strength of the government. To effectively fulfil this requirement, it becomes even more important for mining companies to really understand the governance structures of each country in which they operate, and at all levels.


Indeed, it is possible that not all levels of government function in the same way across the country. The chart below presents an overview of governance across different levels of government in four resource-rich countries.

Figure 8. The resource governance index results for mining resource dependent countries



Source: Natural Resource Governance Institute, 2018

Table 2. Host country governance varies greatly across levels of government

	Peru	Ghana	South Africa	Australia	
Central Government	Good Capabilities, gaps in execution	Rising capacity, but mixed transparency	High aspiration, mixed capacity	Highly functional	<div>Strong governance</div>  <div>Weak governance</div>
Regional Government	Highly under-resourced	Weak, co-ordinating function only	Moderately functional, limited resources	Highly functional	
Local Government	Moderately functional, but easily influenced	Fragmented, under-resourced	Largely unstable	Highly functional	

Source: IMF, Scaled Impact analysis, 2018

The mining industry is exposed to a wide distribution of types and structures of governments. In some countries, like Australia, all levels of government are highly structured and with strong governance. In the remaining vast majority, like Peru, South Africa and Ghana, the picture is more mixed and there is high variation in governance at different government levels.

Usually, the strongest governance capabilities are experienced at the central government level. While,

the governance environment weakens at local levels, where engaging only with local authorities is often not enough.

Poor governance and planning can result and cause economic stagnation and crippling negative effects for host countries. In these countries, mining income can worsen unethical behaviours. Vested interests can rely on mining income to capture economic value, fuel corruption and limit investments in other sectors.

Section 3

Mining can position itself to generate Enabled Impact



There are areas where mining companies can actively help ensure better governance to the benefit of all stakeholders. They can enable value in terms of shareholder profits, national economic development driven by tax and service revenues, and wider industry development.

From the top level, it is necessary to work with central and local governments throughout the lifecycle of the mine. Then, connections need to be established between the central government and local ones to finally generate enabled impact in host communities.

Responsible mining companies should perform the following activities to create a more stable operating environment, avoiding conflicts, and to maximize impact:

1. Engage with central governments over the mining lifecycle
2. Build governance capacity in central governments
3. Collaborate with local governments and communities
4. Create community value

3.1. Engage with central governments over the mining lifecycle

Central government engagement with the mining industry relies on two pillars: capability and partnership. Host governments need to steadily increase their ability to manage natural resources, becoming more reliable in negotiating with industry investors and other contracting partners. On the other hand, the mining industry must continuously pursue the best possible approaches to partner with central governments to improve sector's longevity, while being mindful of potential conflicts of interest.

3.1.1 Central government capacity needs to be built

For the mining industry to operate well in a host country, it is pivotal that the government is willing and able to support its activities. In areas where there is a lack of capacity to do so, central governments should be encouraged to build and strengthen their current capacity to meet the needs of industrial partners.

Efforts in government capacity building should be tailored to the specific needs of the host country and can range from training to technical knowledge

enhancement, to budget structuring and resources allocation. Mining is an initial capital-intensive industry and the trustworthiness and stability of host governments help shape the economic and financial profile of the investment.

Legal structuring and economic analysis are critical capabilities that host governments need to have in place. This assures industry investors of the necessary legal protection against their investments, and also displaces the ability of host governments to exhaustively analyse their economies for effective policy formulation.

It is only when host governments have displayed sufficient capacity levels that they can perform the necessary oversight duties in the industry and be a valuable partner to its development.

3.1.2 Partnerships are possible in certain areas

Partnerships between the mining industry and central or local governments are often possible and allow for maximum impact. Private and public sector can leverage on their respective strengths to deliver results in a more cost and time effective way, as well as more efficiently. The mining industry can support central governments in wider national development priorities, as employment, skill development, health and overall growth.

The provision of infrastructures – roads, rail, power and water – can be enabled through carefully managed investments stemming from mining operations. Value chain upgrades and local manufacturing strengthening are also areas in which partnerships should be fostered, as mining industry expertise and requirements could be well matched with local capabilities and employment needs.

On the policy side, partnerships could be established on topics as trade and export promotion. Both aspects are relevant to the central government, to foster growth nation-wide and to attract investments, as they are also crucial to the mining industry.

3.2. Build governance capacity in central governments

The strength of governance capabilities at all government levels makes a critical difference in how successfully mining can operate in a country. The way




in which mining companies interact with host governments should be determined by the assessed strength of governance compounded with the developmental state of the host economy.

Resource-rich developed nations, such as Australia, with very strong governance practices, as well as clearly diversified economies can sustain a formal and direct engagement. These countries will have appropriate regulations and licenses as well as local government establishments to foster business growth. Least developed states may lack such capacity.

These two extremes represent the reality of how the mining industry is structured even in the modern day. Most countries in which the industry operates will present relatively established yet sometimes volatile regulations and sceptical local governments and communities. Therefore, it is important for mining companies to tailor all investment and engagement activities to the specific governance and economic environment in which they operate.

The figure below proposes examples of engagement strategies to match the governance and development level of the host countries throughout the life of the mine.

Figure 9. Matching engagement strategies to host countries' levels of development and governance

	Early resource dependence	Established resource economy	Diversified economy
Stage of development			
Central government	<ul style="list-style-type: none"> • Lower capability • Suspicious, zero sum negotiations 	<ul style="list-style-type: none"> • Capability rising • More sophisticated tactics and contracts • Periodic instability 	<ul style="list-style-type: none"> • Formal engagements • Advanced incentives • Still open to capture
Local government and community position	<ul style="list-style-type: none"> • Host communities fear change • Local government absent or ineffective 	<ul style="list-style-type: none"> • Communities engaged • Some social benefits • Local government can be slow to catch up 	<ul style="list-style-type: none"> • Communities develop beyond the mine • Mining "just another corporate activity"
Mining companies' engagement strategies	<ul style="list-style-type: none"> • Promote government capacity • Transparent reporting • Build trust with all stakeholders • Infrastructure investment 	<ul style="list-style-type: none"> • Work within social framework • Strong governance • Strong community, government engagement • Fill local service, infrastructure gaps 	<ul style="list-style-type: none"> • Support royalty, tax transfers • Support skills, SME development • Focus on sound closure

Source: Scaled Impact, 2018

Host governments are better equipped to create an enabling environment for the mining industry once they fully recognize the long-term benefits of hosting it. The above strategies should also be accompanied by policy instruments supportive of and responsive to mining industry challenges throughout the lifecycle of a typical mine.

Figure 10 presents a typical mine lifecycle along critical activities and mining dynamics where governance plays an enabling role.

The different phases of mining presented above will require the highest governance standards to be guaranteed for the industry to realise efficient operational levels at all times.

The initial phase of exploration and construction requires host governments to foster incentives to support investments related to scoping and building a mining site. Once the mines reach operating capacity, governments' revenues from mining are at their highest, as they reflect tax and royalty payments. It is also at this point that capacity is needed to engage in progressive mine rehabilitation activities.

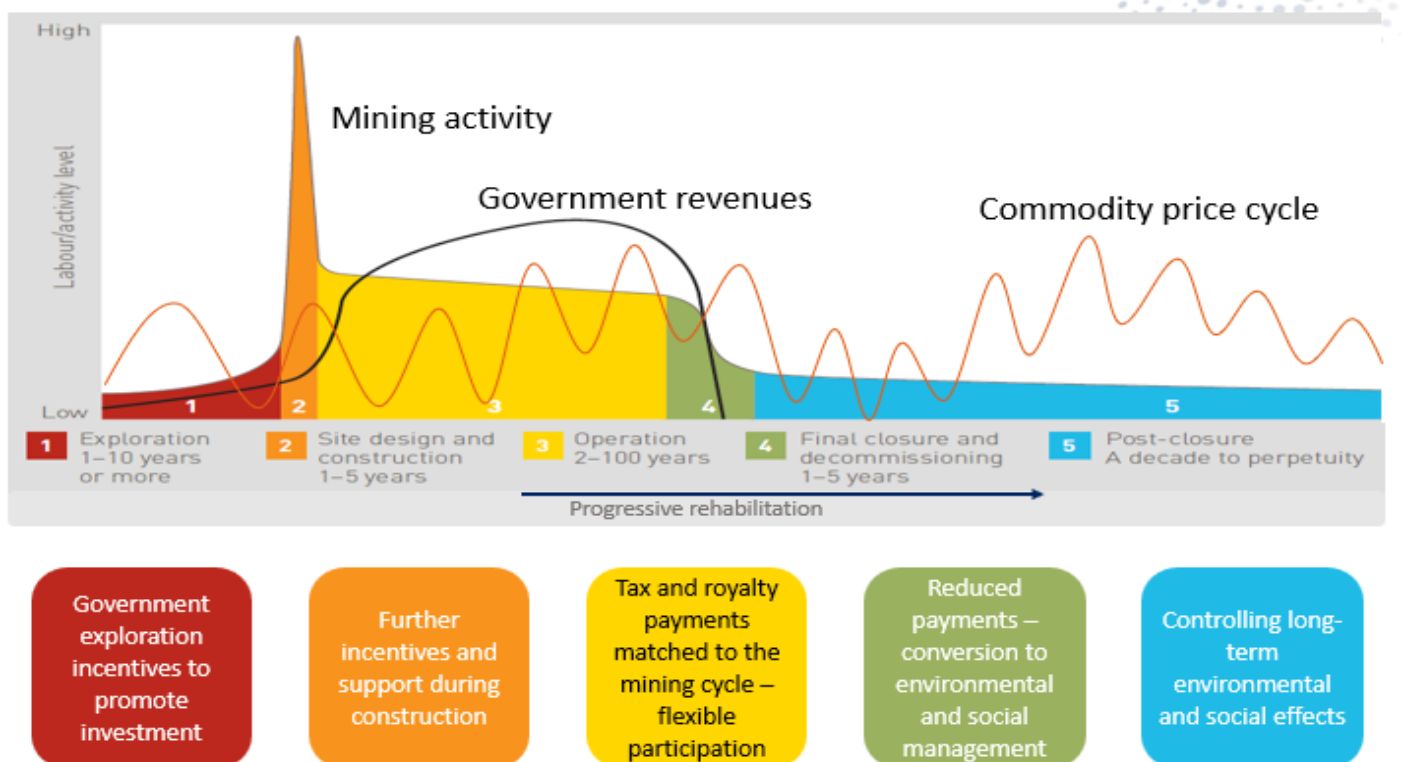
Rehabilitation activities can be capital intensive and therefore governance will play a pivotal role to ensure these investments are protected for their intended purpose.

3.3. Collaborate with local governments and communities

Mining companies cannot operate without the combined support of central and local governments and authorities. It is therefore recommended that mining companies manage engagement across all levels of governments to focus time, resources and added value to the places where it is needed the most and has the greatest impact.

The nature of engagements should be determined bearing in mind the interests of both local governments and their host communities. Central governments are primarily in charge of the industrial operating framework. This may present challenges to mining companies if there are adverse political dynamics between local and central governments.

Figure 10. Host governments can create an enabling environment matched to the mining life cycle



Source: ICMM, 2018

In this instance, it becomes unclear which level of government to engage and support for leading collaborative platforms in the industry. Mining companies will therefore be required to equally engage across different levels and foster collaborations promoting a joint narrative.

In most developing resource-rich countries, regional and/or local governments are the weakest link, often due to limited capabilities and staff shortages. This can lead to their limited abilities to act as mediators with host communities, prompting mining companies to directly engage with local communities. However, this must be conducted in an inclusive way, without alienating other levels of government.

Host communities are well positioned to participate in collaborative efforts as they are aware of their needs and have knowledge of what is feasible and viable in relation to their local surroundings. They, however, have very limited resources to implement the needed changes on their own, and will usually turn to the mining companies for direct support.

Other areas of support identified by host communities will unfortunately fall under the direct mandate of host governments. This may cause some confusions for the host communities as for who must take full responsibility. To solve for this issue, it is important to increase tax flow transparency within a country.

The Extractive Industry Transparency Initiative (EITI) is starting to enable more transparent revenue flows to host communities, through the active collaboration of countries' fiscal agencies and corporate players. Mining companies are represented on the board of EITI through ICMM, ensuring that royalty payments are directed to social and economic host communities' development.

As it can be seen in the figure below, EITI currently has 53 member countries across industrialized and developing economies.

The implementation status is deemed satisfactory in 15% of the member countries, meaningful in 60%, inadequate or suspended in 13%, and yet to be assessed in 11%. The following levers have been highlighted by EITI's work as enabler of good royalty flow:

- Consistent tax, royalty payment reporting by companies
- Matching government and company reported funding
- Systems to ensure revenue flows from centre to regions
- Systems to ensure distribution of funds to community projects

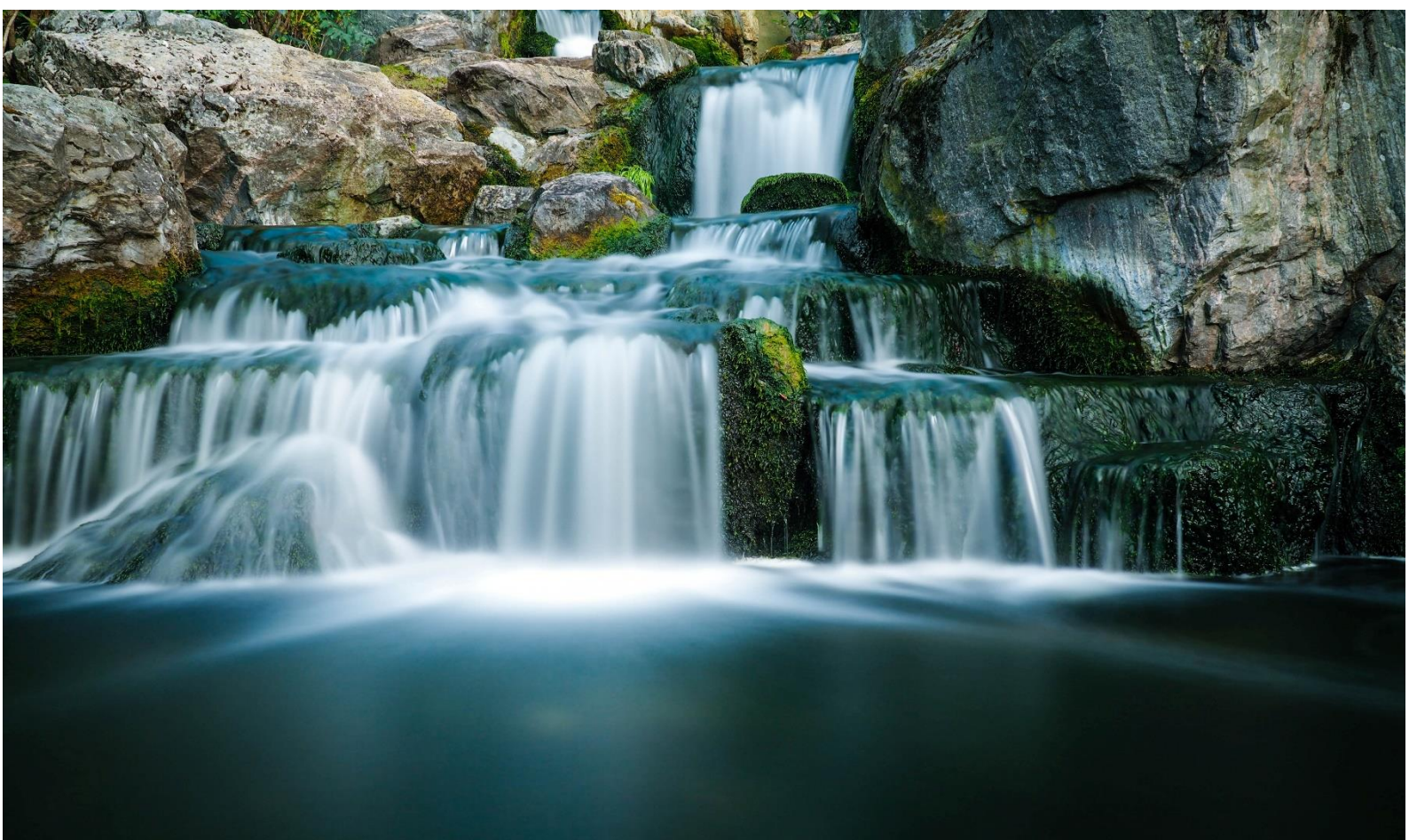
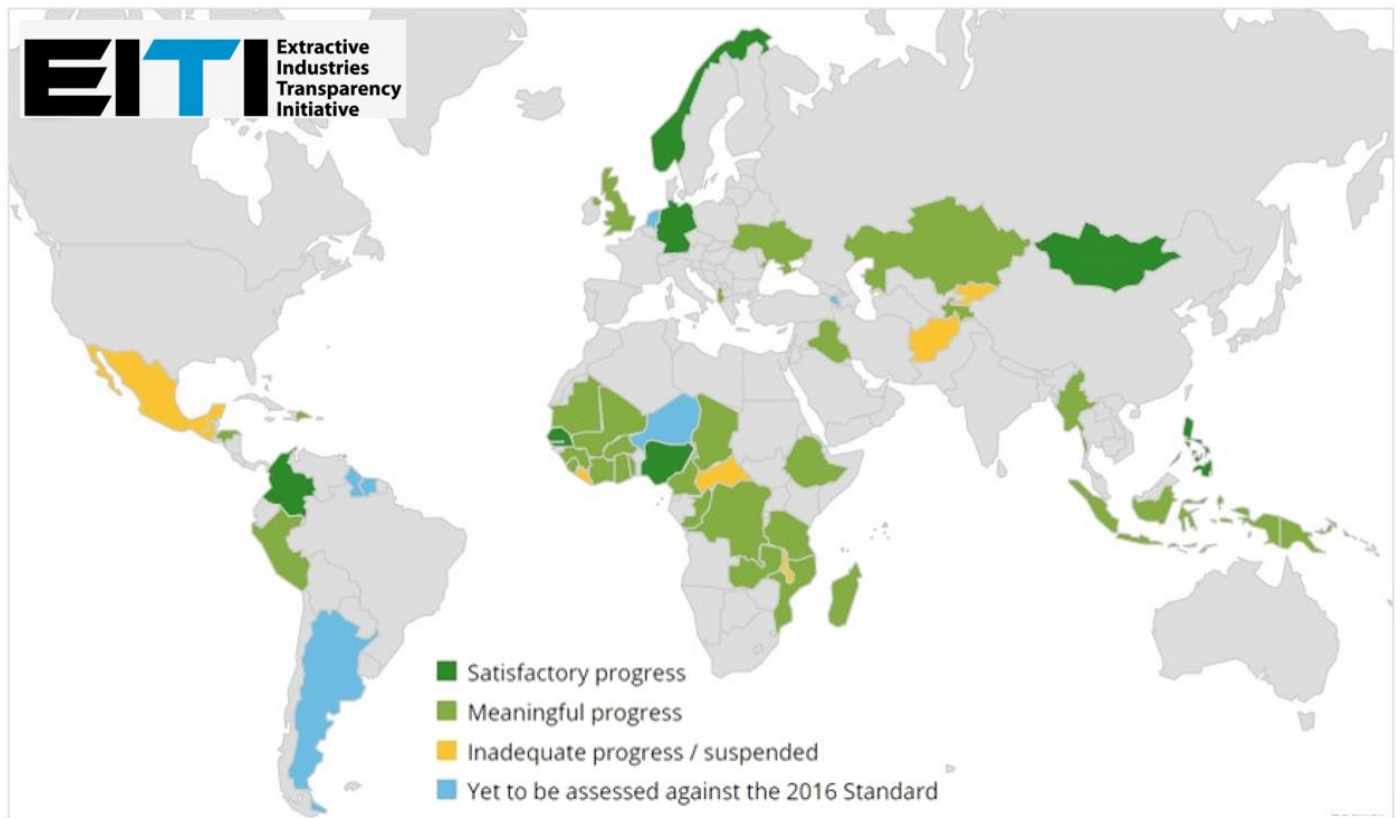


Figure 11. Implementation status of EITI 's transparent revenue flows system



Source: EITI, 2020

However, tax distribution patterns from central to regional and local entities are incredibly challenging to monitor and evidence is mixed.

Regional and local governments have a poor track record of revenue distribution; hence, transparency and accountability are not yet high enough. More resource-rich countries, as South Africa and Australia, should sign up to EITI to increase the reliability of their governments and foster transparent relations with the private sector.

3.4. Enable regional development

The mutually beneficial relationship between mining companies and their host countries and communities is recognized as *Enabled Impact*.

In developed countries national and state government provides the engagement structures for mining companies. Royalties and tax payments flow through to state investments in healthcare, education, roads and networks. Companies are largely free from direct social involvement.

In developing countries governments are constrained by lack of resources, by weak governance systems,

lower skills levels and often simple instability. The weaker the national and regional governance environment, the more important becomes direct engagement with host communities.

Long-term social and economic investment in host communities should be a focus area for all mining companies, to reduce potential for conflict and disruption and to maximise the integration into and contribution to development plans.

There are three levers available to all mining companies to ensure positive contributions at the community level. These are: host community procurement, employment and investment.

3.4.1 Host community procurement

If a sustainable supplier base can be created and developed, mining supply can be a major driver of development impact.

It is essential that mining companies provide support to host community development by identifying the categories, means and methods whereby community actors can participate in mining supply.

The total payments made to suppliers are significantly higher than any other category of in-county expenditure. In most cases, the potential financial impact of these payments is larger than payments in taxes, wages and community investment combined. It can play a crucial role in driving liquidity in an economy, boosting secondary sector growth.

Local procurement practices offer mining companies an opportunity to expand the ways to engage with local stakeholders, contributing to what can be national development, while reducing costs by purchasing closer to operations.

The challenge is to make this work in a sustainable form. Supply capability varies widely and is strongly linked to the level of national and regional development. An economy with a low level of complexity and few suppliers has high hurdles to integrate into the safety-driven, high precision mining environment.

More engaged mining companies provide capacity building support to local businesses to improve their access to procurement and contracting opportunities in mining operations⁵. In some countries, like South Africa, this is mandated through a national mining charter. In others, it relies upon mining company action, promotion by governments and development finance institutions, like the International Finance Corporation.

Regardless of the driving source for local content inclusion, the essential challenge is how to incorporate suppliers from host countries and communities.

The enabling role mining companies can take is to understand and manage the balance between their own technical supply needs and the supplier environment.

For any procurement category there is a level of technical complexity in terms of precision and technological capability to be able to deliver products or services. Against this, there is a range of levers that mining companies can use to manage local suppliers to be able to meet those demands. See figures 12 and 13 below.

The curve of operational efficiency shows an ideal match between the level of sophistication of a supply environment and mining operational needs.

This is the area where local suppliers are considered able to deliver on mining requirements in a way that does not compromise operational efficiency for the mining companies and ideally leads to cost reduction and performance improvements.

The levers below the curve enable mining companies to select and boost certain suppliers to raise them up to the curve. In some cases, the gap can be too far, in which case final assembly is an option.

Above the curve mining companies can help suppliers to reach new markets and applications. Whatever form of support is provided, however, it needs to be screened for the comparative advantage of the country of operation and the operating economies of scale. Without positive comparative advantage and the right scale, supplier development investment will be lost.

⁵ World Gold Council, Responsible gold mining principles, 2019

A strategy to develop the strength of suppliers to meet the needs of a local mining industry uses these levers, category by category, over the lifecycle of a mine to create a fully enabled mining supply base.

This is the area where local suppliers are considered able to deliver on mining requirements in a way that does not compromise operational efficiency for the mining companies and can deliver cost and performance improvements.

The effectiveness of any local procurement strategy is a function of the ability of a mining company and local suppliers to adapt sourcing requirements and technical capabilities to each other along this curve.

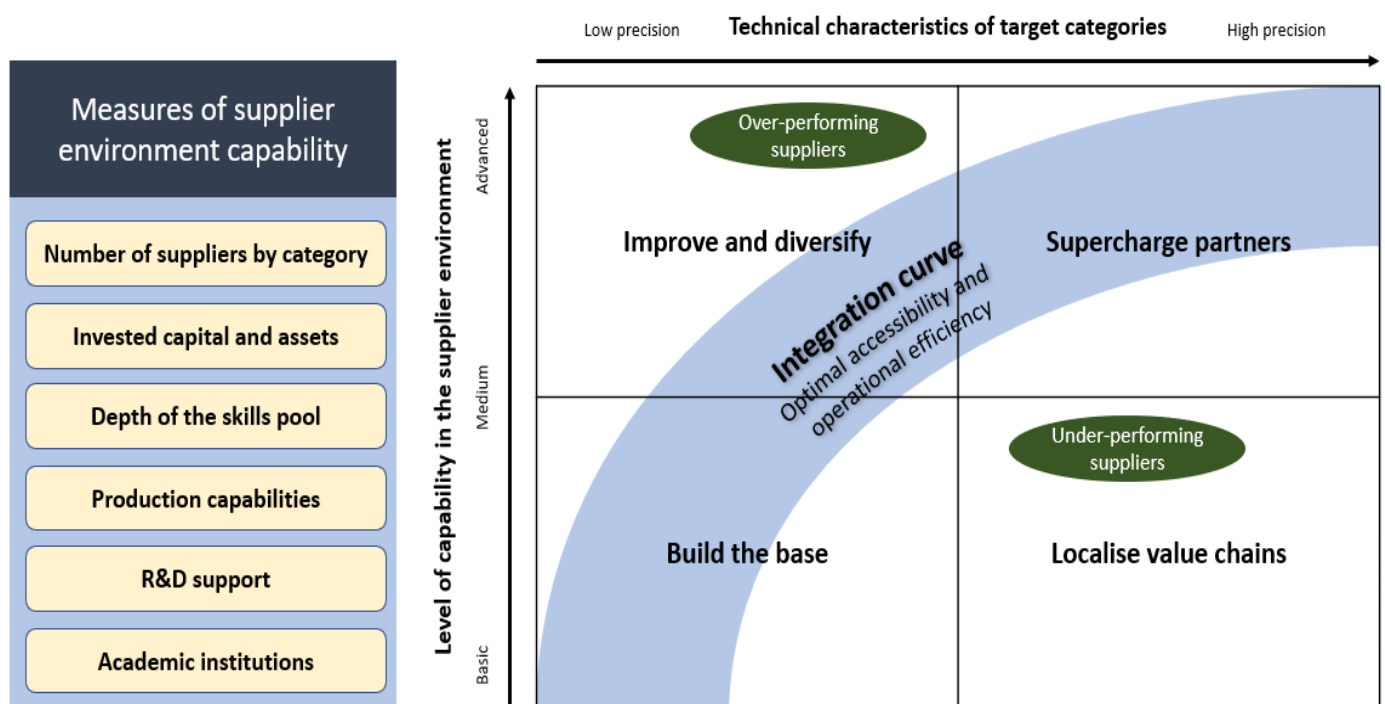
In the case of a complete lack of capability for local suppliers to participate in mining value chains, efforts can be made to improve access to employment opportunities for local people. Works programmes for labour-intensive activities like land rehabilitation and bio-diversity regeneration can be a first step activity to begin to include community members and start to build skills.

Beyond this, skills training initiatives can improve the employability of a community and create jobs for a workforce with steadily increasing complexity. Over the course of a mine's lifetime of anything from ten to fifty years, complex combinations of schools, training colleges, academic partnerships and more can be built.

Linked to the selection and management of categories and local suppliers, mining companies can foster the creation and expansion of economic clusters.

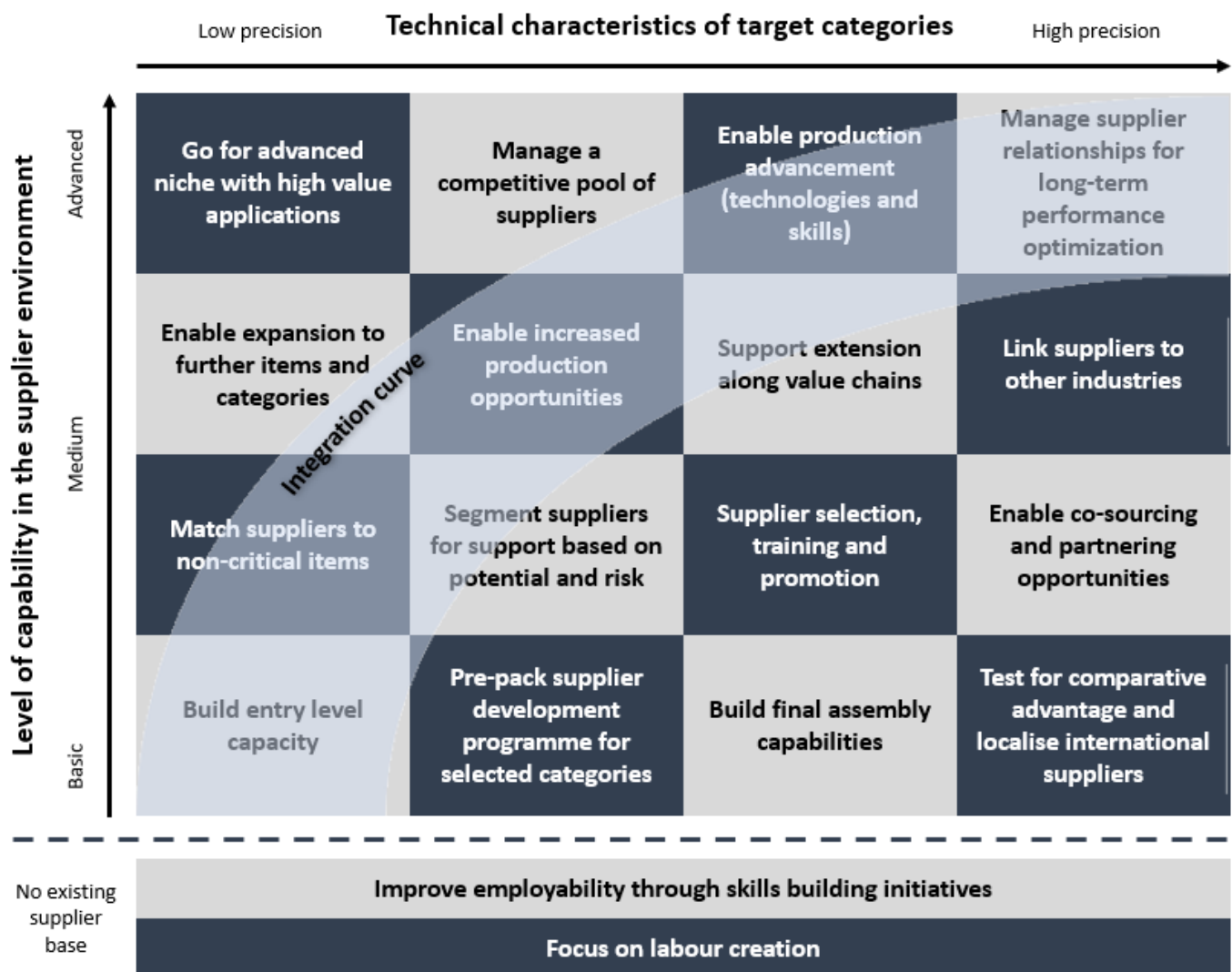
The economic base in Ghana around Tema and Takoradi to supply the gold mines, the mining supply hub in the in city of Kitwe at the heart of the central African copper region, replete with its own copper belt university and the entire infrastructure in eastern Minas Gerais in Brazil are all evidence that regional and national scale clusters can form and build sustainably around the supply into mining value chains.

Figure 12. Supplier engagement matrix



Source: Scaled Impact, 2020

Figure 13. Levers for local supplier management



Source: Scaled Impact, 2020

The government of Chile was one of the first to create an institutionalised national suppliers' development programme. Established in 1998 the programme aimed to improve the competitiveness of local SMEs, linking them with relatively larger companies within the country.

Support structures were set up to improve management practices of these local suppliers, boosting their commercial linkages with larger buyers. Four years later, another similar project emerged and this time it was led by one of the leading mining companies in the world. Stakeholders in the mining sector who were involved in the programme agreed

upon a set of challenges facing the mining industry, and local suppliers were tasked to develop innovative solutions to those challenges.

The main objective of the programme was to create at least 250 local suppliers that could compete at global scale by 2020. In 2012, 36 suppliers were successfully created, employing over 5,000 people⁶. The total combined sales generated was already of \$400 million. At least \$120 million worth of inputs, goods and services costs were saved.

Brazil has achieved steady improvements in local supplier development, above all in integrating SMEs

⁶ United Nations. Economic Commission for Africa. Special Initiatives Division. African Minerals Development Center. Scaling

up value creation and local development in the upstream mining sector in Ghana, 2018

into the mining environment. In 2000, in terms of Figure 13 above, Brazilian suppliers tended to be in the middle of the board, but below the curve.

Support initiatives combined industrial capacity development with providing access to mining company procurement activities. Interventions from trade associations, the government's Ministry of Mines and Energy, a national SME support programme SEBRAE and mining companies themselves all helped foster supplier development.⁷

The number of local suppliers in the Para region increased from 216 in 2004 to 1,640 in 2010. The proportion of total procurement by businesses with regional operations rose from 41% in 2001 to 49% in 2010.⁸

The technical complexity of a category is not an absolute hurdle to localisation. Explosives, the essential material of moving rock, would seem to have prohibitive safety requirements and technology barriers. It can, however, be disaggregated into bulk ammonium nitrate, detonators, analytics and various stages of manufacturing.

Around the world explosives assemblies are completed to specific mine requirements in semi-knock down manufacturing processes close to the point of use. The more wireless technology and automation enable the separation of explosives elements, the greater the opportunities for local involvement in customisation and completion.

Local procurement programmes can work. They can develop local supply clusters and they can generate savings and even quality improvements for mining

companies. They need wide collaboration to work. No one sector or party will achieve success on its own. Manufacturers and service providers, trade associations, mining companies and the state in concert can provide the conditions for a thriving supply industry.

3.4.2. Host community employment and investment

The social compact between mines and their host countries and communities has changed. In the past there was a strong focus on creating jobs directly in mining, hiring out of the community, investing in skills and managing disruption caused by resettlement and often large transient workforces.

Mechanisation and automation in mining has turned this on its head. Mine workforces are now much smaller. A non-mechanised underground mine can have more than ten thousand people working underground. Mechanisation brings this down to a staff of a few hundred highly skilled engineers, data scientists and technicians working in teams co-ordinated across the value chain.

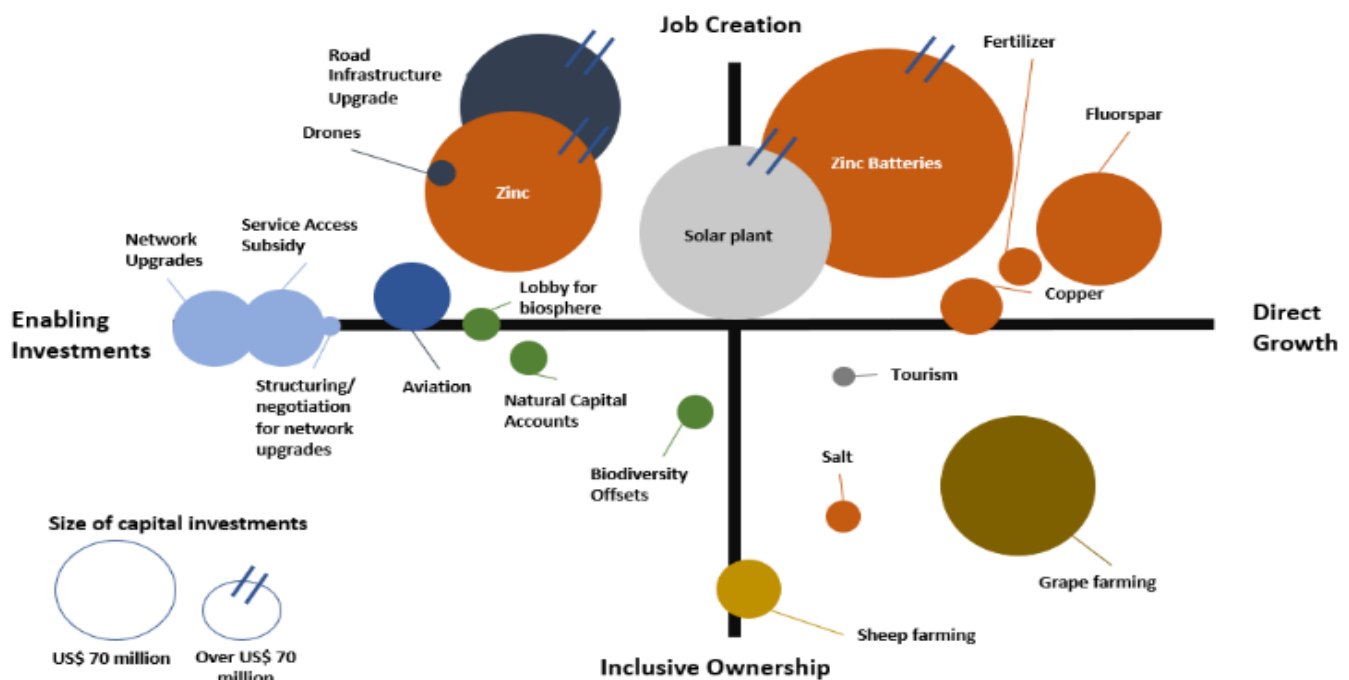
The disruptive impact of mining on communities is much reduced, but so is the potential to create jobs. High skills intensity means the less developed the country or region, the harder it is to involve the local community in the workforce.

This change has placed a high premium on mines contributing to regional social and economic development. To ensure that their economic activity enables the community around them to develop along with them.

⁷ Ibid.

⁸ ICMM, The mining sector in Brazil: building institutions for sustainable development, 2013

Figure 14. Balanced investment view over 20 years



Source: Scaled Impact, 2020

Investments in secondary economic development lie at the heart of this. Understanding the development situation and needs of a society and finding ways to make a meaningful contribution.

Whether voluntarily or mandated by governments or lenders, it is now common to create development funds from combinations of the revenues and profits of operations in a country.

The challenge is to use these funds in collaboration with communities, government agencies and other sectors to drive meaningful social and economic improvement. To deliver net positive outcomes for the societies in which mining companies operate.

The first imperative is to take a lead from existing, democratically engaged development planning.

Policies normally exist in some form around which contributions can form and contributions can be made. This can mean national legislation and policy statements, regional spatial development plans, district development strategies. It is the first step to working within the governance environment.

In South Africa and Ghana spatial economic development is a critical part of national and regional development. This physical framework gives guidance

to social and economic investments down to particular forms of manufacturing, service development and the integration of health and education, water and energy infrastructure, transport services and housing and more.

In east Africa at another level, the development of corridors has been a main development driver. The Nacala corridor from the port of Nacala west through Malawi and into Zambia through several switching points and manufacturing hubs combines the development interests of Zambia, Malawi and Mozambique. The Brazilian mining company Vale enabled the upgrade of the rail network and its extension for 916 kilometres across the region, expanding logistics routes serving a region with more than sixty million people.

The second imperative is working with the community to identify the forms of investment that will have the greatest combined social and economic impact. Economic complexity is a valuable tool for creating long-term development paths with investments that mining companies can contribute and collaborate with other sectors.

Figure 14 shows a balance of investments in a southern African country over twenty years. Taking a

long, developmental view, building on the capabilities of the population, the resources available to them, the economic constraints and the comparative advantage of the region gave a fully inclusive, balanced investment programme for development.

The third imperative is to create a common development narrative between the actors involved, private and public, central and local, national and international. Creating a common language and understanding how each enables the other is essential to success. The examples set out above are drawn from economics and provide a starting point that involves both sides. The narrative will only be full, however, once it includes what really

matters to communities, be those water rights, good childcare or protecting archaeological artefacts.

Without a shared perspective and a way to express interests that are common and where the overlap ends, it is hard to set mutual expectations and then deliver against them. One side or the other is bound to be disappointed. That disappointment can have can lead to the loss of the license to operate.

A common development narrative gives the basis for identifying opportunities that have jointly social, commercial and economic impact. It gives the basis for navigating the obstacles to implementing them and it engages with those most affected, the local communities.



Conclusion

Enabled Impact is a framework to build relations between companies and their host communities that lead to sustainable social, economic and commercial benefits.

The mining industry is a strong driver of development in countries that have a high degree of economic exposure to the sector and where there are responsible mining players.

Liquidity from mining operations drives initial economic activity and growth. Over this the sector develops skills and suppliers, it helps lay down infrastructure directly and indirectly, it supports government revenues and it invests in the social structure of communities.

Despite this value, mining has a negative perception in many areas where it operates. In some cases, this is due to actual bad practice or negligence. More often, however, it is down to a failure to find common understanding with host societies.

Governance is the starting point for mining companies and host governments to find ways to drive mutually enabling activities. Approaches to governance vary greatly, however, across the mining cycle and with the level of development of societies. Perhaps the greatest variation is in the differences between national and local capabilities.

Managing at different levels is critical for governance success as is helping host societies to manage their own decision making and resource allocation across these levels.

With a governance environment oriented towards enablement, mining companies can make great contributions to development that in turn improve their stability of operations, the quality and efficiency of production, reduce cost and drive returns.

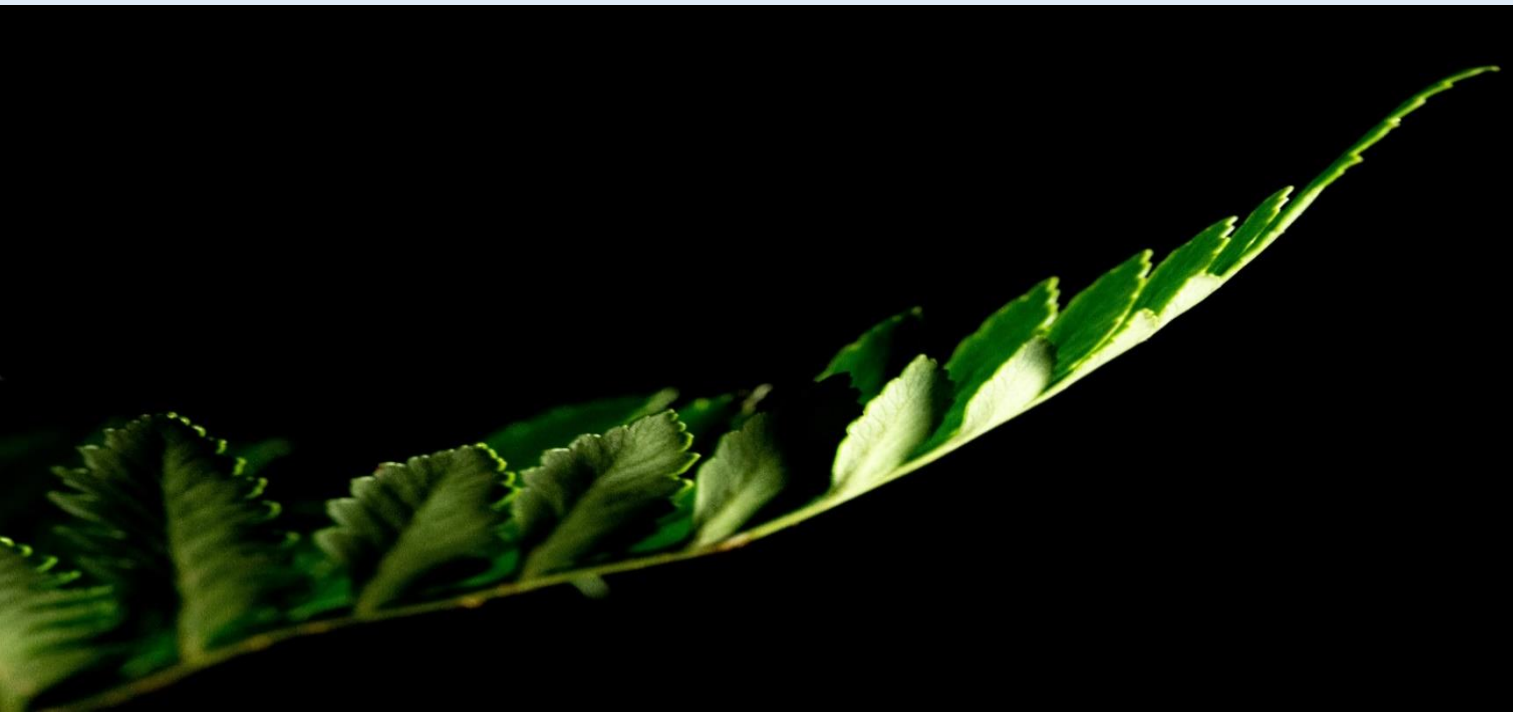
Localised procurement sounds easy. Turning the block of supplier spend to benefit local companies and workers. The reality is acutely hard, determined by the high-precision, safety-driven needs of mines and the consequent mismatch to often emerging suppliers.

It can be done, but it needs a rigorous, category-by-category match of suppliers' abilities to operational needs. It requires investment in suppliers and collaboration with trade and government groups.

It is worth the investment for this is a core pillar in developing the secondary economy, mining's greatest potential driver of social and economic benefit.

Large-scale infrastructure investments extended to serve wide populations, baseload demand for energy, water and logistics, enabling investments in adjacent product and service sectors, support for education, training and academic collaboration.

Understanding this economic and social co-operation across the levels of state and community relations as Enabled Impact can help create a common development narrative. It can form the basis for deep public and private collaboration for their societies best long-term interests



Environmental epilogue

The research underlying this report started before ESG (Environmental, Social and Governance) investing as a term became widely recognised and accepted. The three concepts were seen as rather distinct from one another.

This report is written to address the S and the G in ESG. We tend to view the E in terms of the old story about three fish on the seabed.

Two young fish are swimming along. An older fish swimming the other way nods at them and says, "Morning boys, how's the water?"

One young fish turns to the other and asks, "what's water?"

Without E there is no S or G, but that is the subject of another publication.

With thanks to David Foster Wallace.

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If you wish to discuss this document, please get in touch with one of the authors.

About Scaled Impact

Scaled Impact is a project development and advisory company. Founded in 2016, it has offices in Johannesburg and Berlin and operates across Africa.

A not-for-profit social enterprise, Scaled Impact combines strategy, development finance and analytics to carry out research and convert this to implementation through project development.

Focusing on full value chain initiatives, Scaled Impact contributes to inclusive economic development.



Enabled Impact