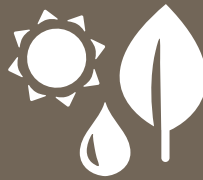


Mining Company of the Future

Development Partner Framework

FEBRUARY 2014



KIN 
CATALYST
at the Kellogg School of Management





CALL TO ACTION

In 2010 the mining industry, including the quarrying and petroleum sectors, represented 11.5% of the world's GDP measured by revenues and products sold.

If we take into consideration our payments to services and support industries, our direct contribution to global economic activity is approximately 21%. But we need to think about mining in a broader context. Mining is part of everything we do and everything we touch. We produce products that make the world work: iron ore and metallurgical coal for steel for buildings, railways and bridges; thermal coal for energy; copper for wiring for our houses, refrigerators and consumer electronics—these are just a few examples. When we include direct revenues from mining, payments made to service sectors and the contribution we make to industries reliant on our materials, mining arguably drives more than 45% of the world's measured economic activity. We know that we are one of the world's most important industrial sectors now and in the future, and we also know that major mines have the power to contribute to society for generations. What we must recognize is that our industry is at a crossroads.

We are among seven billion people who share this planet; by 2020 we are likely to be 700 million more and, in economic terms, the world is growing at 3% year on year. Society's appetite is expanding for raw materials to build infrastructure, generate energy and create products needed to support our growing population. Yet, the mining industry is not supplying the resources in sufficient quantities to support the world's growth. Declining productivity, spiraling costs, community activism, government intervention, deepening pits and lower ore grades,

infrastructure challenges and the industry's poor image are hampering our projects and preventing us from delivering on society's needs. Naturally, as our challenges proliferate, our risk profile balloons and investor uncertainty grows to an all-time high. As an industry, we are failing to live up to our promise.

We no longer have the luxury of choice about how to 'react' and 'respond' to our environment. Our external environment has taken charge and we must accept that if we want to survive and be a profitable, meaningful industry in the long term, wholesale change is necessary and fundamental. This shift includes changing how we think about ourselves and our role in society, how we understand and engage with our myriad stakeholders and how we operate our mines day to day.

Many mining companies have made good progress in securing and retaining their social licenses to operate, becoming pivotal partners in building long-term social and physical infrastructure that creates a positive benefit for local and regional economies. Often, our communication with stakeholders is more open and we are tackling increasingly complex social, environmental and operational issues more deliberately. Our progress, however, is often piecemeal and company, or even project, specific. Meanwhile, the issues we face as an industry are multiplying in quantity, scale and complexity. Put simply, more people are demanding more of us and we all – large companies and small – need to do more. This doesn't necessarily mean that we need to spend more, but we must apply our minds to the challenges and consider how we can reallocate our resources to deliver better outcomes for stakeholders. Getting these issues right must be the foundation for improving our competitive position in the markets in which we operate. We have an opportunity, and more importantly a responsibility, to be leaders and help to set our industry on a new path that will transform our future for the benefit of all of our stakeholders. If we don't, we will be left behind.

We believe that we must reset the way we understand ourselves. What is our identity? For too long the mining industry has seen itself as an 'extractives' industry. We need to shift this mindset, have



more self-confidence, promote our industry without fear and be more open to criticism. This is how we will improve. We need to be proud and purposeful about our role as a development partner and embrace our purpose as a critical actor in an effort to create value for communities, governments, employees, investors, NGOs – value for the collective.

We have to be meticulous about how we are to realize our shared purpose. We need a precise, robust road-map or strategy for each mining company and community. Individuals must accept their responsibility and be relentless in pursuit of these shared goals. We must empower our people to be true custodians of this challenge. Third, we must think practically about the tools and capabilities required so we can be successful.

And finally, we must understand that we can no longer operate in isolation; rather, the mining industry can only thrive into the long-term if our communities and our local environment thrive too. We have to anticipate our challenges into the long term and successfully plan for these, moving away from a short-term reactive approach embedded in 'survival' to a long-term philosophy beyond the life of mine that articulates clear, common goals to creating shared value, and provides the infrastructure to make this a reality.

What we are proposing is a new framework, created by the Kellogg Innovation Network (KIN) Development Partner Working Group and set out in the following draft paper, designed to help mining companies carve out their path to long-term success. The KIN Development Partner Working Group is part of the KIN Catalyst – The Mining Company of the Future initiative that we are co-chairing and was kicked off with 40 leaders from across the ecosystem meeting for four days in Brazil in April 2012.

We are asking leaders of mining companies (and communities) to take an active role in re-shaping our future – to accept that our long-term prosperity depends on the strength of our relationships with all of our stakeholders, to recognize the extent to which we all have skin in the game and to believe that we have a responsibility to work collaboratively to realize our shared purpose.

We are calling for courage to re-set the way we operate and to be willing protagonists in redefining our future – it is time for us to lead and it is time for us to act.



Mark Cutifani
CEO, Anglo American
Co-Chair KIN Catalyst:
The Mining Company of the Future



Peter Bryant
Senior Fellow, KIN
Co-Chair KIN Catalyst:
The Mining Company of the Future

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BACKGROUND

The Kellogg Innovation Network (KIN) at the Kellogg School of Management is a platform for ongoing collaboration between faculty, corporate innovation leaders, nonprofits and government. Founded in 2003, the KIN facilitates strategy and management dialogue to promote innovation-led growth and build long-term value.

In early 2012, the KIN Catalyst conference was held in Brazil to envision The Mining Company of the Future, by creating a platform and opportunity for leaders across the mining landscape to discuss and discover new perspectives and ideas that elevate the industry through fresh approaches to innovation and collaboration. Participants included leaders from mining companies, contractors, suppliers, researchers, academics and nonprofits. At this event, it was concluded that the mining industry must unequivocally accept the need for a new operating model to ensure long-term profitability and success. The industry, faced with intractable business and operational issues, can no longer sustain long-term outlooks with short-term quarterly measurements and current approaches. This short-termism and acceptance of the status quo has resulted in myopic strategies that neither build nor maintain the social and natural systems needed to sustain the industry nor greater society.

The need for a new multi-stakeholder partnership model was identified as a major priority of leaders attending the KIN Catalyst. It was determined that mining companies must reposition themselves as strategic partners for broader sustainable development and exercise their capacity to facilitate and coordinate amongst all relevant partners.

Following the KIN Catalyst, the Development Partner Working Group was convened to analyze mining in its totality and to build a framework that moves the industry towards a more effective model of sustainable development. The working group has taken a clean sheet approach to the future through the lens of innovation and prosperity.



This framework sets a vision and path for the mining industry to:

- ▶ Correct negative impacts from yesterday
- ▶ Minimize the negative and maximize the positive impacts of today
- ▶ Plan for a prosperous, sustainable tomorrow beyond the mine

The goal of the working group is to develop a framework that can be readily applied by all mining organizations at all stages of the mining lifecycle. The intention of the KIN Catalyst work and this document is to be inspirational and directional to the industry but not to be prescriptive in nature. We have attempted to describe “where” we need to go and “why” we need to go there. The details of “how” we get there will develop from subsequent engagement and dialogue.

AngloGold Ashanti and Anglo American have both asserted their leadership in committing resources to develop, test and execute this framework. They will also adopt and implement the framework at a pilot site.

We acknowledge the commitment and vision of all members of the Development Partner Working Group, in particular the leadership and courage shown by Mark Cutifani, Ray Offenheiser, Mark Podlasly and Erik Christensen.



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THE DEVELOPMENT OF THE FRAMEWORK

The Journey So Far

The Development Partner Framework initiative began at the KIN Catalyst Development Partner Working Group Day in Chicago in September 2012. Participants included: Peter Bryant, Kellogg Innovation Network; Erik Christensen, UN-Habitat; Mark Cutifani, AngloGold Ashanti; Kulvir Gill, Clareo Partners, Jennie Hunter-Cevera, Quadrant Managers (Former RTI); David Meldrum, Runge; Ray Offenheiser, Oxfam America; Mark Podlasly, Global Indigenous Solutions; Prishani Satyapal, AngloGold Ashanti; Philip Schwehm, RTI; and Stephanie Wolcott, Kellogg Innovation Network.

Over the following 90 days, detailed development of the framework was undertaken by Kulvir Gill, Prishani Satyapal and Stephanie Wolcott, including meetings in the UK with The Eden Project and Forum for the Future.

To further test and validate the framework, discussions were had with sustainability leaders at major organizations including: NIKE, The Coca-Cola Company, P&G, Boeing, and the Corporate Eco Forum (a summary can be found on page 22). While these organizations are not involved in mining, each has had to transform their operating models to maintain their licenses to operate amidst increased societal and environmental performance expectations from governments, nonprofits and the public. The main takeaway from these discussions is confirmation that our Development Partner Framework is breaking new ground and will hopefully serve as an inspiration to the industry. A cadre of world-class businesses now support this effort.

In December 2012, the KIN Catalyst Development Partner Working Group reconvened in Chicago to review and test the framework as well as develop plans for industry consultations.

The feedback from this session and other external consultations, including from the working team's newest member, Jonathon Samuel from Anglo American, has been incorporated into the current version of the framework.

In addition to the work convened by the KIN, the Vatican hosted a 'Day of Reflection' for leaders associated with the global mining industry on September 6th and 7th. Participants include the CEOs, Chairmans and other senior leaders from Rio Tinto, Anglo American, Anglo Gold Ashanti, Newmont, Fortescue Minerals, African Rainbow Minerals, Areva, Baker Hughes, Curis Resources, MMG, Zamin Group, as well as the heads of Oxfam America, ICMM and the World Gold Council.

The purpose of the day was to provide an opportunity for constructive review and reflection on key mining-related issues and to identify concrete actions that would make a positive difference in the future. This Development Partner Framework paper was a key input for these discussions. Subsequent to this meeting, the working team followed up with meeting participants to appropriately solicit and incorporate their feedback.

In April 2013, the KIN Catalyst: Mining Company of the Future was awarded a silver medal in the category of "Collaborative Innovation" by the prestigious Edison Awards. The working team reconvened in November 2013 to finalize the framework and develop plans for broader industry and stakeholder engagement.

With the publication of this paper we have come to the end of our initial phase. Our objective was to catalyze a new level of conversation amongst mining stakeholders and develop a framework to support these interactions. We are now seeing multiple mining companies begin to take the framework and translate it into company specific approaches. The KIN will continue its engagement with the industry to act as a catalyst and platform for the change necessary to meet society's expectations of miners whilst delivering value for all stakeholders.



6

STEPS

to significant change



1

Experience the need
for change



2

Diagnose the system



3

Create pioneering
practices



4

Enable the tipping



5

Sustain the
transition



6

Set the rules of the
new mainstream

Creating Significant Change

As part of the process, discussions took place with the Forum for the Future, a sustainability non-profit working globally with business, government and others to solve global challenges. One of their models, the “Six Steps to Significant Change” is informative of the journey we are undertaking with the mining industry.

The Forum’s Anna Biney shared with the working team:

“A ‘system innovation’ approach – creating interventions which together add up to a shift in the system as a whole. This approach enables us to act on complex problems in a way that is deliberate and focused on where action is most likely to have an effect.”

The 6 steps (above) highlight how a system innovation approach can achieve sustained large-scale change. They are also a useful way to easily understand and inform the journey of this working group.

The first two phases are about raising awareness of the challenges an industry faces, working out what needs to change and how it might happen. In Brazil, the need for change was accepted and acknowledged. Four working groups were launched to understand the current system.

The move into system innovation is where new thinking and practical action are key. Creating pioneering practices involve developing and showcasing new and better ways of doing things. The current efforts of the working group are to complete the diagnosis and begin to create a framework for pioneering practices. Pilots exercised by mining companies will begin to identify specific best practices.

To enable a tipping point, pilots will be conducted more broadly among industry leaders. The final two stages (sustain the transition and set new rules for the mainstream) will be about maintaining the change that has been created.

THE MINING INDUSTRY

CHALLENGES AND OPPORTUNITIES

The mining industry and its stakeholders are in the midst of a severe dip in what arguably remains a sustained-demand growth cycle, often referred to as a super cycle (or, as Rio Tinto more accurately refers to it, a Sawtooth Cycle). Given trends in income and population growth, over the next few decades, the demand trend for most mined commodities will be upwards, albeit with some troughs, as we are now experiencing.

During this Sawtooth Cycle established mining companies have struggled to expand profitable production and meet the surging demand from emerging markets such as China, India and others. This gap has created an opportunity for new entrants and state-backed companies to be both nimble and formidable new competitors.

Although the strong demand growth experienced by the sector might be assumed to have created a “golden era” for mining companies, the sector has in fact faced a number of significant challenges in recent years that have made the operating environment increasingly challenging.

Key issues include:

- ▶ Unsustainable yet persistent increases in both capital and operational expenditures.
- ▶ Related to this, strong investor criticism about over-ambitious investment plans, poor delivery against business plans and the small share of profits returned to investors.
- ▶ Host governments that are unable (or unwilling) to keep pace with the demands for key enablers to investment, such as physical infrastructure, a positive regulatory environment and skilled workforce.
- ▶ Intensified government intervention, including changes in royalty/taxation arrangements, permitting requirements and ownership structures as well as, in isolated cases, outright nationalization or cancellation of mineral concessions.
- ▶ Greater expectations and demands for a share in the benefits of mining operations from host communities – adding “resource localism” to resource nationalism as an issue to be managed.
- ▶ Diminishing tolerance for any negative environmental, health or social impacts from mining.
- ▶ A growing body of international standards on a wide variety of issues (from environmental impact through to revenue transparency and corruption) that set demanding minimum requirements for responsible operators (a significant development for an industry in which companies were often reluctant to publish their own standards).
- ▶ Increasingly effective campaigning on mining issues, including very effective use of social media.
- ▶ A significant number of environmental, health and social legacy issues, from abandoned mines to worker health problems that continue to make headlines and damage the reputation of the sector.



The industry has made solid strides in the way it interacts with communities and the way it tackles myriad societal and environmental issues. Indeed, its responses are now among the more sophisticated of any heavy industrial sector. It is, for example, the only business sector whose peak industry association has a clear commitment to Free, Prior and Informed Consent for Indigenous Peoples.

However, mining faces unique challenges because of its need to be where the ore bodies are, the fact that it develops non-renewable resources, the need to create constructive relationships with host communities and the high level of dependence on governments with respect to licensing, fiscal regimes, infrastructure and other enabling factors. These factors leave mining companies overly vulnerable to community and government interventions.

These issues feed investor uncertainty and have dramatically increased the risk profiles of projects. These in turn increase the cost of capital (particularly problematic in such a capital-intensive industry) and operational costs, leading to negative impacts on balance sheets and income statements.

Therefore, whilst the overall picture of strong demand and relatively high prices (when compared with long-run averages) might suggest a very positive operating environment for mining companies, the reality is somewhat tougher for both the industry and its stakeholders.

One of the challenges for mining companies is that no one “silver bullet” will address the challenges the sector faces. Instead, companies need to recognize that a variety of actions will be required and that these need to be underpinned by a changed mindset that reevaluates the role of mining companies in the societies in which they operate.

Because the industry is in many ways unique, this new mindset needs to reflect the specific characteristics, challenges and opportunities of the sector. Foremost among these is the potential for mining, if properly managed by both companies and governments, to be a significant catalyst for the socioeconomic development of the countries and communities in which mines are developed and operated. However, conceiving of mining as a catalyst for regional and sustainable development requires a philosophical approach that is quite different to that employed by other private sector companies.

This change will require bold leadership from industry, but has the potential to put the sector on a path to a more prosperous future with a much stronger formal and social license to operate.

A large yellow Caterpillar mining truck is positioned in the foreground of a vast, arid mining landscape. The truck is a heavy-duty vehicle with large tires and a complex mechanical structure. In the background, there are long conveyor belt systems stretching across the desert floor, and the terrain is characterized by deep, reddish-brown soil and some sparse vegetation. The sky is clear and blue.

Whilst the overall picture of strong demand and relatively high prices might suggest a very positive operating environment for mining companies, the reality is somewhat tougher for both the industry and its stakeholders.

MINING AND SUSTAINABLE DEVELOPMENT

Following the 1983 World Commission on Environment and Development (WCED), chaired by Gro Harlem Brundtland, a 1987 report named 'Our Common Future' was published. This report defined Sustainable Development as:

"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

The report highlighted three fundamental components to sustainable development: environmental protection, economic growth and social equity. The concept of sustainable development focused attention on finding strategies to promote economic and social advancement in ways that avoid environmental degradation, overexploitation or pollution, and sidelined less productive debates about whether to prioritize development or the environment.

Today, miners may understand sustainable development with this same lens but we must also appreciate that, in many cases, we have already compromised natural systems to the extent that they are not even able to support the current generation. Our work is therefore more urgent than that posed by Gro Brundtland's team—we have to meet current needs but also protect and regenerate ecosystems for the future.

Let's take a look at where the mining industry is on this journey. It is 10 years since the *Mining, Minerals and Sustainable Development (MMSD)*¹ initiative was completed. The MMSD is to date the only cross-industry, cross-sector, independent review of how the mining and minerals industry has performed in relation to broad-ranging sustainable development issues. The MMSD provided a foundation for shared understanding by stakeholders from mining CEOs to community groups. Mining CEOs of the day committed to act on its agenda as a robust and credible way to maximize the sector's contribution to sustainable development.

The following is a snapshot review of the world of mining and sustainable development since the MMSD. Much of the contents of this review is taken from the International Institute for Environment and Development (IIED) review of the 10 years since the MMSD (*MMSD: Reflecting a Decade*).

Progress has been made...

- ▶ A set of global guidelines and standards for best practice in mining and sustainable developments has emerged.
- ▶ There is more awareness of sustainability, but it is not always embedded into day-to-day mindset.
- ▶ There are sustainability initiatives, but they remain separate from operations and not coordinated. Moreover, they are often stove-piped and only come together at the Executive Committee or CEO.
- ▶ The International Council on Mining and Metals has succeeded in implementing many of MMSD's recommendations for the industry and provides the primary basis for collective thinking in the sector.
- ▶ Reporting has improved, but is not necessarily driving intended impact.
- ▶ Companies have in general, increased their capacity to deal with sustainability issues by hiring environmental and social science professionals.

But, the world has changed...

- ▶ The competitive landscape has changed. Investors and operators from China, the Middle East, India and elsewhere—not necessarily involved in the MMSD or in defining the rules 10 years ago—have risen to prominence.
- ▶ The mining industry has broadly taken a 'wait and see' attitude to climate change issues, but harsher operating conditions (government regulation and actual weather changes) are spurring action and debate.
- ▶ UN Secretary-General's Special Rapporteur John Ruggie's work is compelling businesses to engage more convincingly with human rights issues.²
- ▶ The mining industry faces major challenges in ensuring access to the large quantities of freshwater it needs to operate industrial mines.
- ▶ Companies are experiencing multiple cases of the difficulties of operating in conflict regions and fragile states.

¹ <http://www.iied.org/mining-minerals-sustainable-development-10-years-mmsd-10>

² "Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework"
<http://www.business-humanrights.org/SpecialRepPortal/Home/Protect-Respect-Remedy-Framework/GuidingPrinciples>

- ▶ The dramatic increase in community and non-governmental expectations, including for Free, Prior and Informed Consent (FPIC), must be addressed head-on by governments, civil society and companies.³
- ▶ Increasing pressures of ‘resource nationalization’ and national resource endowment⁴ provides an opportunity to rethink existing models of regional development and investment by miners.
- ▶ The ‘green economy’ discourse framing the 2012 Earth Summit in Rio helps shape a renewed agenda around an integrated approach to minerals.

And big challenges remain...

- ▶ Mining is still perceived as a laggard in sustainable development and falling behind other industries (especially consumer-focused).
- ▶ Government capacity building—a key MMSD recommendation—remains limited, restricting the ability to harness mining for positive development.
- ▶ Artisanal and small-scale mining is a neglected and underfunded sector in the minerals industry and, in many cases, criminal networks have taken advantage of the lack of regulation of the sector.
- ▶ Community development remains a complicated field in both rhetoric and implementation, although there is evidence of progress and more sophisticated approaches to tackling these issues.
- ▶ An integrated approach to mining, as articulated by the MMSD, is an agenda only just beginning to take shape, but resource efficiency and ‘closed loop thinking’ could become business imperatives in the face of increasing pressures on access to resources.
- ▶ Companies need to attract and develop individuals who can deal with complex sustainability issues and make decisions that are best for building long-term equity but not always short-term profits.
- ▶ There is an increasing cost to running mines particularly in terms of material inputs, attracting talent, energy and impacts of weather changes.
- ▶ Access to water threatens the viability of existing and new projects while water scarcity threatens to cause increased conflict with rural agricultural communities.
- ▶ Finding new deposits, securing the permits to mine and a social license to operate is increasingly complex and challenging.

The opportunity exists to take sustainability out of its functional silo (where it has been largely focused on compliance, measurement and reporting) to a strategic lever for the business—integrated into every function of the mine and overall value chain (from exploration to closure).

GUIDING PRINCIPLES FOR FRAMEWORK

The following principles are core to the creation of the Development Partner Framework. We are building a framework for an industry that moves from:

- ▶ Being known as the “extractive” industry to the “resource development” industry.
- ▶ Cost and production measurement to a long-term, value-creation culture.
- ▶ Short-term profit to long-term equity.
- ▶ Operational risk management to sustainable development.
- ▶ “Check the box” procedure-driven engagement to ongoing, meaningful and substantive collaboration.
- ▶ One-dimensional managers to leaders who can navigate the risks and opportunities presented by geopolitical, environmental, governmental, social and economic issues.
- ▶ Standalone sustainability technocrats to integrated systems thinkers.
- ▶ Prescribed, closed, linear, formulaic approaches to ensuring creativity through inclusion of diverse worldviews.

DEVELOPMENT PARTNER OVERVIEW

The framework architecture encompasses the following four components:

Aspiration: What do we want to create? What is the vision we’re trying to achieve?

Strategic Pillars: What do we have to do? What are the major thrusts of work required to achieve our Aspiration?

Enablers: What capabilities, resources, and tools are needed for the successful implementation of the Strategic Pillars?

Business Imperatives and Rationale: What are the motivations driving our efforts? What do we stand to gain?



³ Definition of FPIC by the United Nations: <http://www.un.org/News/Press/docs/2007/hr4926.doc.htm>

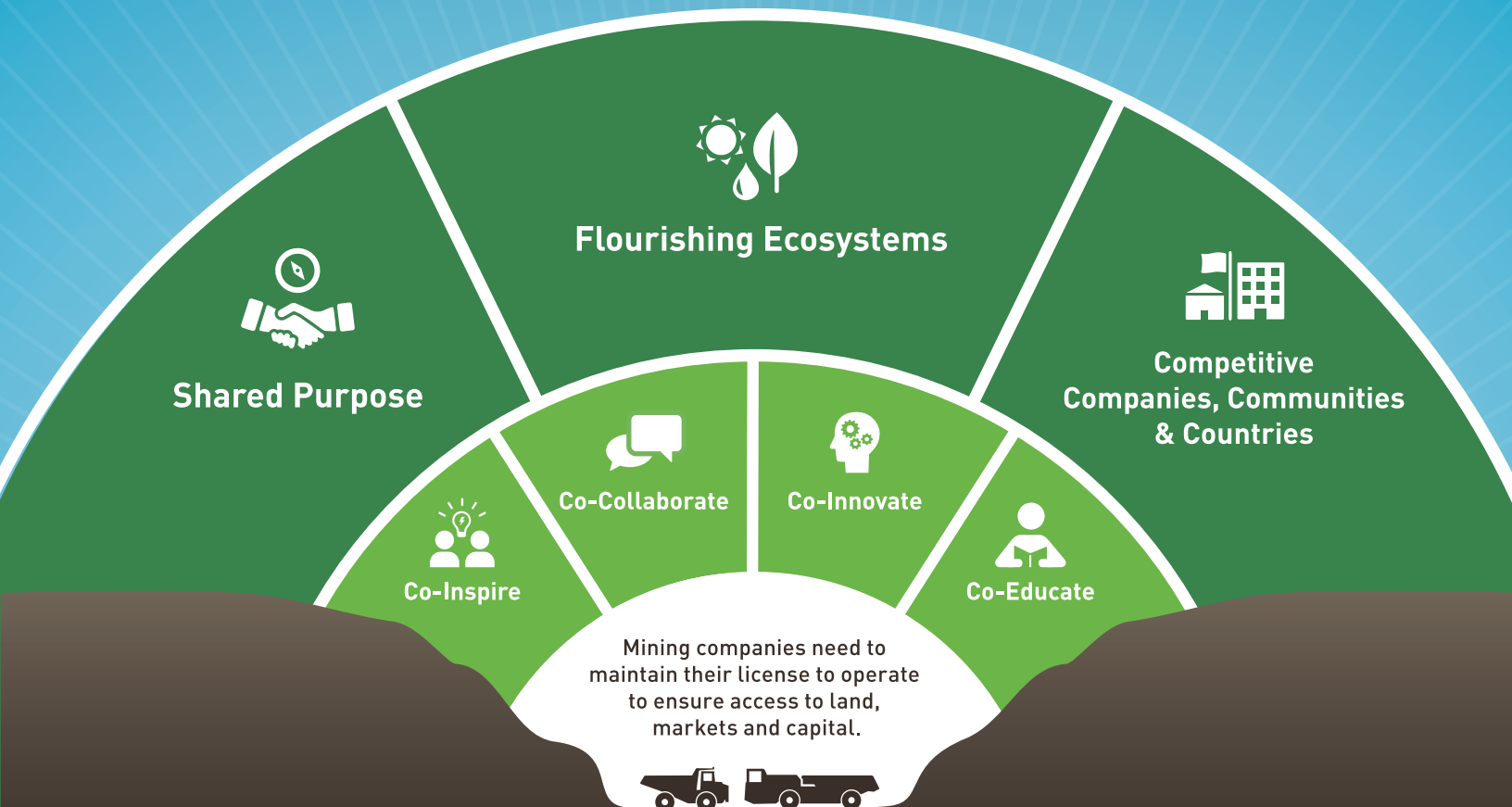
⁴ www.icmm.com/resource-endowment-initiative

MINING COMPANY OF THE FUTURE



INTEGRATED DEVELOPMENT PARTNER

Delivering on economic, environmental
and social shared value.



ASPIRATION

Where we want to be

STRATEGIC PILLARS

What components we need
to focus on

ENABLERS

What will get us there

BUSINESS IMPERATIVE

Why companies need to do this



THE DEVELOPMENT PARTNER FRAMEWORK

A. Business Imperative and Rationale

Mining companies ensure access to mining licenses, resources, land, markets and capital by maintaining their overall license to operate. This license has two components. The first is a legal license granted by the authorities. The second is a social license, which requires the acceptance of the legal license by the society (everyone from local to global) impacted by the exercise of the legal license. Therefore, the mining sector cannot promise nor deliver sustainable benefits to any stakeholder groups (investors, employees, communities, governments etc.) if healthy environments, thriving communities and broader national developmental benefits do not go hand-in-hand.

Leading mining companies are already participating in a range of multi-sector dialogues and initiatives, driven by a desire to ensure that the industry maximizes its contribution to sustainable development. However, these initiatives are often reactively developed in response to local circumstances or in response to the demands of particular campaigns. Moreover, these initiatives are often driven by more general international policy debates, rather than the needs of host communities surrounding most mining operations. Conversely, initiatives can also be driven by more general international policy debates, rather than the needs of host communities surrounding most mining operations.

The industry therefore needs to provide leadership in ensuring that its collective efforts are addressing the needs and expectations of all stakeholders. This requires a shift in mindset—from isolated actor to regional development partner and from being a participant in debates initiated by others to proactively facilitating a development conversation.

This Development Partner Framework speaks to the scale of change required for the industry to succeed and have a successful future. The framework is articulated in a manner that provides all key ingredients. Each company can use those ingredients to create a master plan that responds to its own particular circumstance.

This mindset shift will require CEOs who understand the new reality of stakeholder expectations on the sector and will make decisions

to drive this new corporate agenda. These CEOs will run their mining operations with societal expectations in mind, with mines becoming developmental hubs that make positive contributions to local societies, economies and the environment. These actions turn will drive improved shareholder returns and reduce risk, uncertainty and the number of surprises.

Running safe operations is not delegated to the head of safety at a mine. That person's role is to provide expertise, resources and support to the rest of the organization but safety leadership must be demonstrated across management. The same must hold true for sustainability. Enlightened CEOs understand that sustainability is core to survival, growth, and legacy, not an optional add-on that can be delegated or afforded when profits are good.

This approach will build upon core competencies of the mining sector and leverage its value chain to support local development through:

- ▶ Procurement, including implementing local procurement strategies and small business development initiatives.
- ▶ Recruitment, supported by local workforce development.
- ▶ Leveraging employee technical and managerial skills to build the capacity of local government, communities and businesses.
- ▶ Designing mine infrastructure (power, water, transport, communication, health, etc) in a manner that benefits host communities.
- ▶ Discretionary development programs such as social investment. These programs will leverage core business competencies and value chains.



The mining company that adopts the Development Partner ethos will:

- ▶ Reduce operating expenses (through reduction in energy, water and material usage) and realize more predictable and manageable cost structures.
- ▶ Improve the long-term economic viability of the industry by moving from boom/bust survival mode to long-term value creation.
- ▶ Move from a largely risk management mindset to a more proactive participant in society, thereby attracting and retaining holistic and futuristic thinkers as employees, consumers, suppliers and investors.
- ▶ Implement operating systems that go beyond just the mine to a more complete materials stewardship perspective.
- ▶ Reduce the likelihood of conflict by building better relationships with all key stakeholders especially local communities and artisanal miners avoiding lengthy delays and accelerating permitting.
- ▶ Take a proactive stance on emerging regulations.
- ▶ Contribute to the development of empowered citizens who can motivate governments for transparency, increased security at mine sites and protection of natural resources.

B. Aspiration of the Development Partner Framework

The aspiration is to fundamentally change the extractive business model of the mining industry from insular and reactive, to an integrated and proactive Development Partner Framework, delivering on economic, environmental and social Shared Purpose.

C. Pillar: Shared Purpose

Definition: Shared Purpose means that a clear understanding and articulation of the long-term vision, goals and methods for a potential project and the surrounding region have been co-created, discussed and agreed to by all relevant stakeholders.

Explanation

“ Without a deeply held, commonly Shared Purpose that gives meaning to their lives; without deeply held, commonly shared, ethical values and beliefs about conduct in pursuit of purpose that all may trust and rely upon, communities steadily disintegrate and organizations progressively become instruments of tyranny. This isn't a bunch of platitudes, but a manifesto of what the people in the organization believe in and care about in their gut. And getting there is going to be downright excruciating... What we're trying to do is build a community. And it's only when that community has solid agreement on purposes and principles that you can start talking about the concept and structure of the organization. ”

—Dee Hock, Founder of the Visa Corporation

Miners, employees, communities, governments, NGOs, other businesses and even the environment—every stakeholder in a mining project has at least one thing in common. They are all concerned about what's going to happen at the mine and the area around it. While over-all agendas may never fully align, for the sake of each project, a shared purpose must be collaboratively developed and diligently enacted.

A Shared Purpose enables us to:

- ▶ Be prepared to resolve difficult questions about not only how land is developed but whether it is developed at all (i.e. no-go zones)⁵ and if land is to be mined, under what conditions.
- ▶ Engage and consult to resolve conflicting rights (see sidebar) agendas to develop a balanced multi-decade plan for land use that unlocks its full potential for all stakeholders.
- ▶ Acknowledge the interdependencies of the mining value chain including the shared opportunities and the shared risks.
- ▶ Dismiss old models, roles and processes including formulaic models of stakeholder engagement or the traditional roles of the sustainability practitioner.

5 Robert Goodland identifies “no-go zones” in mining to be those that are in 1) Indigenous Peoples Reserves, 2) Conflict Zones, 3) Fragile Watersheds, 4) Biodiversity, Habitats, and Wildlands or 5) Cultural Property. (Responsible Mining: The Key to Profitable Resource Development, Robert Goodland, 2012)



Examples of Conflicting Rights

In the context of this framework, conflicting rights refers to competing views regarding the entitlement to participation, land, wealth and/or environmental sanctity of an area rich in minerals. Examples include:

- ▶ Realizing mineral wealth vs. Ensuring food security
- ▶ Developing for economic gain vs. Needing a functioning ecosystem
- ▶ Resettling communities vs. Preserving cultural/spiritual practices, heritage and identity
- ▶ Addressing past grievances vs. Making new promises or taking on new commitments
- ▶ Nationalization vs. Privatization vs. Local wealth creation
- ▶ Traditional land use vs. Economic land use
- ▶ Ownership vs. Stewardship
- ▶ Community cohesion vs. Migrant labour
- ▶ Corporate planning vs. Community timelines
- ▶ Those at the table vs. The vulnerable and unrepresented
- ▶ Reliance on imported skills vs. Local skills development
- ▶ Automation vs. Job creation
- ▶ Shared wealth vs. Individual wealth

While conflicting rights are typically seen as an either/or situation, the framework aspires to find a third way that reconciles both perspectives into a new bold approach.

Practical Steps to Creating Change

Regardless of how long the mine is expected to operate, every site will create an integrated multi-decade Shared Purpose Plan that includes not just the life of mine including closure but is also focused on delivering Shared Purpose beyond the mine to the surrounding region.

Generic social, environmental, health and economic impact studies are reframed as overall systems assessments that occur much earlier in the mine development process. These studies will generate data needed to identify and evaluate the most sustainable use of the natural capital (e.g. land, water) in question and to delineate the rights landscape. The studies will also provide information for all those with interest in the land to make informed choices about protecting and creating the future. This includes equal voice to preserving the environment by including greater scientific and natural systems perspectives.

Development opportunities are identified and evaluated through the process of discovering a Shared Purpose, not on the presumption of mining as the central industry. Mining is not a given. It will take place only with the free, prior and informed consent of local communities.

The focus and skills of engineers moves from designing just mines to designing for the Shared Purpose plan. Long-term plans are created that capture Shared Purpose and design for the regions, not just for the mines.

Power dynamics in development and implementation of the Shared Purpose model are explicitly managed. Currently, mining entities and in some cases governments hold most of the power in the decision making around mining endeavors. In a Shared Purpose environment, the power dynamics are understood and balanced through innovative methods of engagement and negotiation.

Incentives are created for decision making that delivers the future. Businesses need to ensure they harness the strength of leaders who can make decisions for the future, today.⁶ Commitment to the Shared Purpose mindset throughout operations will require training miners to engage in Shared Purpose thinking and decision making.

⁶ See Elliot Jaques's Requisite Organization Model at www.requisite.org.



Realizing a Shared Purpose

It will take time to arrive at a shared understanding of the purposes and principles of the reconfigured system and this may create deep impatience with the process. It is all too easy to ‘streamline’ this stage in order to jump directly to action and commit valuable time, energy and resources to immediately doing something about the host of chronic problems that cry out for urgent attention. However, there are several reasons why this stage is so significant and must be properly addressed.

As we work towards increased understanding and a greater sense of Shared Purpose, we will gain a growing awareness of the web of interdependencies—a greater understanding of the way the whole system works and of our part in it.

Having achieved a Shared Purpose, we will be able to tackle the system’s most difficult problems with much more confidence, and produce more effective results in a much shorter time, while at the same time learning from the mistakes that will inevitably occur. The mining entity will take on the role of a catalyst for realizing Shared Purpose, not just extracting mineral wealth. This will require a fundamental change in the way mining companies create their corporate strategies. Shared Purpose is not just a CSR buzzword but is now a requirement and source of value creation for business. The consumer products company Unilever has had significant recent success by adopting a Shared Purpose to build long-term equity. Recently their Chief Executive Officer Paul Polman was quoted as saying⁷:

“We’re not going into the three-month rat races. We’re not working for our shareholders. We’re working for the consumer, we are focused and the shareholder gets rewarded.”

Business cannot survive in a society that fails, so it is stupid to think that a business can just be standing on the sidelines of a system that gives them life in the first place. So this is not idealistic at all. All of the actions that we do are hard-wired to our business purposes, hard-wired to our brands.”

D. Pillar: Flourishing Ecosystems

Definition: A flourishing ecosystem⁸ means that the environment is robust and resilient, supporting a healthy community and thriving business. Natural capital⁹ and ecosystem services are considered and valued in business planning. Mining companies work to not only minimize environmental impact but actively contribute to make the ecosystem richer and more vibrant than before the mine was built through reversing prior degradation and preserving biodiversity. Flourishing ecosystems are viewed as a requirement to maintaining a social license to operate.

Explanation:

“How long can we go on and safely pretend that the environment is not the economy, is not health, is not the prerequisite to development and is not recreation? Is it realistic to see ourselves as managers of an entity out there called the environment, extraneous to us, an alternative to the economy, too expensive to protect in difficult economic times? When we organize ourselves starting from this premise, we do so with dangerous consequences to our economy, health and industrial growth. We are now just beginning to realize that we must find an alternative to our ingrained behavior of burdening future generations resulting from our misplaced belief that there is a choice between economy and the environment. That choice, in the long term, turns out to be an illusion with awesome consequences for humanity.”

— Charles Caccia, Member of Parliament, House of Commons
WCED Public Hearing Ottawa, 26–27 May 1986

The Biosphere II Experiment, started in 1991, tried and failed to generate sufficient breathable air, drinkable water and adequate food for just eight people, despite an expenditure of US\$200 million. Even the most advanced space programs have to rely on very basic supplies from the Earth for astronauts to survive. In contrast, the Earth ecosystem performs those functions every day for 7 billion of us; demonstrating its priceless and irreplaceable role as the sole life-supporting system of humans and as the natural capital of the economy. Today, many ecosystems are facing mounting pressures and decline from rapid population growth, economic development, climate change, biodiversity loss and pollution.¹⁰

⁷ Full article is in Appendix 3 and at <http://www.reuters.com/article/2012/11/02/us-sustainability-unilever-ceo-idUSBRE8A11FH20121102>

⁸ An ecosystem is defined here as a community of living organisms (plants, animals and microbes) in conjunction with the nonliving components of their environment (things like air, water and mineral soil), interacting as a system.

⁹ Natural Capital was coined by Amory Lovins of the Rocky Mountain Institute. http://en.wikipedia.org/wiki/Natural_capital

¹⁰ <http://www.unep.org/ecosystemmanagement/Portals/7/Documents/policy%20series%206.pdf>



Laws of Biomimicry:

- ▶ Nature creates conditions conducive to life.
- ▶ Nature runs on sunlight.
- ▶ Nature uses only the energy it needs.
- ▶ Nature fits form and function.
- ▶ Nature recycles everything.
- ▶ Nature rewards cooperation.
- ▶ Nature banks on diversity.
- ▶ Nature demands local expertise.
- ▶ Nature curbs excesses from within.
- ▶ Nature taps the power limits.

Key practical design questions to evaluate innovation:

- ▶ Does it run on sunlight?
- ▶ Does it use only the energy it needs?
- ▶ Does it fit form to function?
- ▶ Does it recycle everything?
- ▶ Does it reward cooperation?
- ▶ Does it bank on diversity?
- ▶ Does it utilize local expertise?
- ▶ Does it curb excess from within?
- ▶ Does it tap the power of limits?
- ▶ Is it beautiful?

Fostering Flourishing Ecosystems means working within natural laws and the carrying capacity of the planet. We need to ensure that we understand what the planet can sustain and remodel businesses to fit within these parameters. This the only way we can ensure business success.

The Laws of Biomimicry¹¹ present ideal principles to guide the mine design processes (see sidebar). For the mining industry to realize a vision of flourishing ecosystems, we must acknowledge our impact. The very act of removing a natural resource from the environment is unsustainable and disruptive to the environment. In most cases, the legacy of mining has been anything but flourishing. Thus a reset is required in the industry that injects a new wave of design thinking and innovation into our entire approach from exploration to closure.

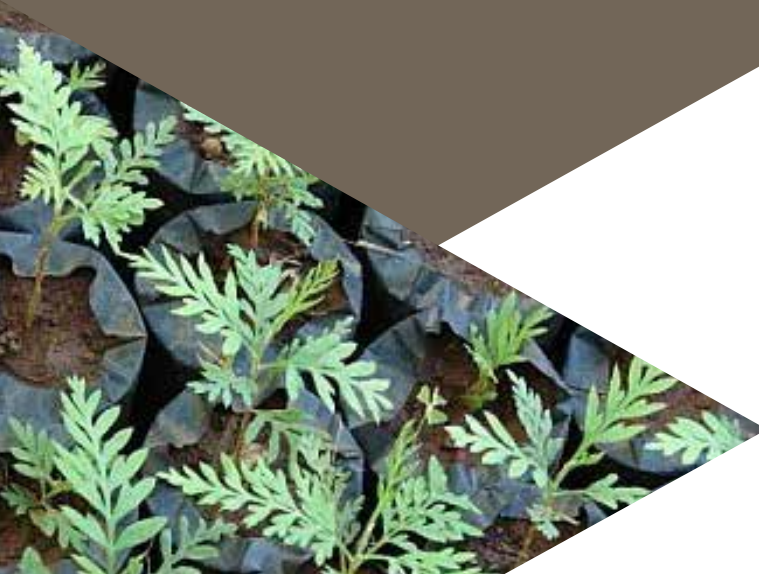
The three R's (Reduce, Reuse and Recycle) of early environmental awareness campaigns remain a basis for this environmental ethos. Rehabilitation is not the first option. Furthermore, environmental management or ISO14001 certification is a tiny part of ensuring a flourishing ecosystem.

We will also work to prevent the cycle of poverty caused by environmental degradation. A thriving economy cannot exist without a healthy environment. Environmental issues such as soil erosion, deforestation, lack of clean water, poor air quality and species loss, trap communities in poverty. In many countries, mining companies pay nothing for their use of water. This will increasingly become untenable as water becomes increasingly scarce.

A healthy environment is also key to disease prevention, which is more desirable and cost effective than treatment. A robust environment is the first step in preventing opportunistic disease and malnutrition and ensuring healthy employees. A clean environment is more beneficial to society than a polluted environment with excellent primary healthcare.

Achieving Shared Purpose starts by reducing the environmental footprint of everything a mining company does, including supply chain and human resource plans. Stakeholders will collectively be stewards for future generations and support regeneration of natural systems to restore balance in already disturbed environments. We will need to find ways to help nature achieve homeostasis. Systemic design can help to restore ecosystems and address basic needs while ensuring operational excellence. Most importantly, we can begin to think in terms of 'natural capital' and create a new design culture where we design for zero long-term liability.

¹¹ Biomimicry: Innovation Inspired by Nature, Janine Benyus, 2002.





A clean environment is more beneficial to society than a polluted environment with excellent primary healthcare.

Practical Steps to Creating Change

- ▶ Spaces will be designed to incorporate flourishing natural systems—natural drainage, forests, water, air, soil systems—and also ensure thriving biodiversity. We will integrate biomimicry into our processes.
- ▶ Operational efficiencies will be further developed and enhanced by learning from nature. The available natural capital and resultant biodiversity will be leveraged as an insurance plan for the future.
- ▶ Recognizing that the boundary of a mine is a human construction, companies will understand that water, soil, air—all natural systems and migration patterns—do not adhere to these boundaries.
- ▶ Understanding that we cannot negotiate with nature, mine design will be robust in the face of increased extreme and unexpected weather events, drought and flooding.
- ▶ Acknowledging that we cannot compensate monetarily for damage we do to the environment, we will restore the natural ecosystem now and not wait for the end of mine life. This also means that we must avoid projects or mining methods that require the perpetual treatment of water or waste or destroy existing natural bodies of water.
- ▶ We will both reduce energy use and responsibly source or generate the energy we need.
- ▶ We will deliberately move from curative public infrastructure development (building hospitals) to entrenching our practice in prevention and the right to a healthy environment.
- ▶ Managing environmental impacts will be seen not as liability management but as enhancing long-term value (natural and economic) by ensuring a flourishing ecosystem.

E. Pillar: Competitive Communities, Companies & Countries

Definition: Mining will be at its best when the value created by its activities contributes to long-term sustainable prosperity for all of those associated with its operations. Significant efforts and resources from all relevant stakeholders are required to make a mine successful and, appropriately, long-term benefits need to be generated for each of them, not just company shareholders. This goal will be reached when all communities, companies and countries have the ability to reach their full potential and realize their individual definition of prosperity.

Explanation: This is not about complex macro-economic theory but rather the need for mining companies to ensure that mineral wealth improves the overall capabilities and options of a local community, regional and national economy through and beyond the life of a mine. This may involve building coalitions of organizations and providing them a bridge to deliver valuable products and services to the community. The mining company as a catalyst should gear its engagement of the Shared Purpose agenda to improve, in the words of Amartya Sen,¹² the freedom of the local community:

“In judging economic development, it is not adequate to look only at the growth of GNP or some other indicators of overall economic expansion. We have to look also at the impact of democracy and political freedoms on the lives and capabilities of the citizens.”

Realized freedoms and capabilities improve the overall competitiveness of individuals, communities, countries and regions. The Global Competitiveness Index has twelve criteria to measure competitiveness (see illustration next page). Each component provides direction to miners on how to invest in the capacity of communities.

¹² Development as Freedom, Amartya Sen, 1999

Global Competitiveness Index



Basic Requirements Subindex



Key for Factor-Driven
Economies

Efficiency Enhancers Subindex



Key for Efficiency-Driven
Economies

Innovation & Sophistication Factors Subindex



Key for Innovation-Driven
Economies

Global Competitiveness Index¹³

Global companies have a significant role to play in focusing on development where it matters. Our presence must enhance a country's ability to improve the lives of its citizens. This, in turn, provides miners with real benefits. A better trained local workforce will reduce reliance on expensive expats. A thriving local supplier base will reduce the costs and risks associated with having to import goods and services from abroad.

Our economic development mandate needs to be derived from sound decision making, participative evaluation of the existing context and willingness to support a community and country in achieving sustainable economic independence. A mining company is ideally placed in this context as it is able to unlock natural mineral wealth already inherent in an economy but unrealized.

Competitive Communities, Companies, and Countries mean that, where it is appropriate, we will act as a catalyst to convene institutions and organizations to help communities understand their long-term economic opportunities. We will enhance a community's ability to realize opportunities by working with local agencies to restore damaged ecosystems and also to develop local capabilities to target long-term growth options. We will see communities as vital to our ability to deliver on our value. High-performing, capable and successful communities mean high-performing, capable and successful mining companies.

The mining industry will move from individual, company-focused wealth creation to collective investments in Shared Purpose plans. This will require that we view the community as integrally connected to the mine. In a Shared Purpose environment the mine is part of a wide community that has a joint view of the future. The mine is one aspect of the future as it becomes "Our mine within our community."

Mining companies will work with governments to move beyond royalties and taxes to local investments in the Shared Purpose plan. Furthermore, they will disclose all payments to governments and the underlying contracts on which the payments are based.

Steps to Creating Change

Mining companies need to understand the changes required in their strategy and decision making processes if they want to reinvent themselves from the Extractives business model to the Development Partner Framework.

Mining companies will have to change the value proposition to investors. Mining companies will work hard to attract investors that understand the worth of this new value proposition that will result in lower risks and improved returns.

As Colonial First State Global Asset Management states in their Responsible Investment Report:

"Colonial First State Global Asset Management seeks to integrate a consideration of ESG (environmental, social, governance) issues into every investment process across the organization. This is driven by a belief that ESG issues are material investment issues that have the potential to impact long-term investment performance."

In Competitive Communities, Companies and Countries...

- ▶ Towns and cities will have moved beyond a one industry mining monoculture, to diversified economic centers with sustainable connected regions.
- ▶ Mining is welcomed as a catalyst for enhancing capabilities: intellectual, managerial and technical knowledge.
- ▶ How much/how long equations are not just for mine production but for future competitiveness.
- ▶ Urbanization is offset by rural vitalization and infrastructure development linking mining territories, protecting ecosystems and opening markets.
- ▶ Mining communities are more competitive because they have options as more investments are realized locally.
- ▶ Long-term costs of production for mines are lowered as infrastructure is shared and developed based on multi-use.
- ▶ Market access is expanded for local communities.
- ▶ More levers are created to support increased stability, security and safety including a strong civil society.
- ▶ Regional long-term food security strategies are integrated into all mine plans and project cost-benefit analyses.
- ▶ The local community has a vested interest in mining success and vice versa.
- ▶ Regional planning will take into account the long-term combined social and environmental impacts of multiple mines operating in proximity to each other.

F. Enablers

To successfully launch and implement the pillars of the Development Partner Framework, a series of supporting mechanisms needs to be created. These enablers will allow all of the stakeholders to collectively inspire, collaborate, innovate and educate one another through each step in the journey. They will ensure that the necessary components of leadership, governance and design are in place to deliver on the aspirations. The enablers will provide platforms for the internal capacity development within each company and within the mining industry. They will also create the necessary forums for communication, consultation and collaboration with external stakeholders to integrate them into all aspects of the journey.

The discussion of enablers, like the rest of this framework document, is meant to be directional and not prescriptive in its focus. The intention is to describe the greater context required for successful implementation. How each enabler is to be developed will be determined in subsequent engagements and dialogue.

¹³ The Global Competitiveness Report 2012–2013, World Economic Forum

Co-Inspire

Sustainable change in the mining industry will only take place with the deep personal commitment and leadership of mining CEOs. They must move beyond ‘corporate speak’ and embed a development partner mindset into how their corporate strategy is developed, how resources are allocated and how they engage with the rest of the world. Individually as company CEOs and collectively as industry leaders, they will need forums to articulate this philosophy to their respective stakeholders from both a moral and business perspective—that this is the right thing to do for the world and their companies. These forums will benefit from engaging external experts from a variety of backgrounds (geopolitical, government and civil society) who will be able to inspire and support leaders through this brave new process.

Co-Collaborate

As all key stakeholders are to be engaged in the mine planning process like never before, the ability to communicate and collaborate will become even more essential to success. To effectively design and implement the details of the Development Partner Framework, miners will need to identify and address the right problems/tipping points as well as find pilot projects with the right conditions for implementation. Also, local engagement cannot be from the perspective of mine owners and stakeholders but rather as neighbors and co-creators of a shared destiny.

A wide variety of new perspectives (i.e. from ecologists and economists to systems thinkers) will be needed to design the architecture of the new model. Policies, laws, processes and regulatory environment will need to support new systems design.

Organizations involved in building out the pillars of the framework will likely require the separation of this new function from existing business and perhaps even locating within an innovation hub to ensure creation and execution of strategy. Mining companies and suppliers will need to transform their transactional, often combative relationship into deeper more collaborative partnerships focused on innovation and long-term value creation.

The mining industry will also need to support the development of new economic modeling that can show the business case for Shared Purpose, Flourishing Ecosystems and Competitive Communities,

Companies and Countries within the investment model (e.g. leveraging Paul Ekins work on environmentally sustainable economies¹⁴). This work can then be extended into building performance management systems needed to ensure accountability and transparency.

Co-Innovate

The adage “what got us to where we are isn’t going to get us to where we need to be” fully applies to the current situation. The role of science and technology investments to reinvent mining practices that support new systems design cannot be overstressed. Compared to other industries, mining (including miners and the supply base) have invested a fraction of revenues back into R&D efforts. It should not be surprising that mining today looks remarkably similar to how mining was done half a century ago.

The journey to becoming development partners will require sustained investment in innovation across the entire value chain, regardless of where we are in the business cycle. It will also require new players to be invited to participate in the process. Local businesses, entrepreneurs, educational institutions, technology firms, VC firms and incubators all need to be activated and engaged. The face of mining could rapidly change if new products and services were invented and reinvented with the same pace and momentum as other industries with robust networks of schools, start-ups and funders.

Co-Educate

Mine managers will need to truly become general managers and the educational system will need to be transformed to support this. The next generation of miners will need to be systemic designers and not one-off problem solvers. They will understand the ethos of “Do right to the land that is entrusted to you.” Forums will be needed to teach a new holistic design ethos that changes how employees view their careers and the legacy they hope to achieve.

Specifically this will mean education institutions will need to develop appropriate executive education for current executives and a new multidisciplinary curriculum for undergraduates including: engineering, environment stewardship, geopolitics, social sciences, etc. This will not only improve capability but attract a much wider group of young people into mining, that in turn will help alleviate the shortage of skilled people.

¹⁴ More information on Paul Ekins at <https://iris.ucl.ac.uk/research/personal?upi=PEKIN72>

The Institute for Sustainable Resource Development Concept

The working group recognizes that over time a home will be needed to be responsible for and continue work on evolving and enhancing the Development Partner Framework. It would serve as a think tank, convener, researcher and educator and be a platform for broad industry and external engagement. A proposed concept is the creation tentatively titled the Institute for Sustainable Resource Development.

The Institute for Sustainable Resource Development, funded by the industry, will be established to co-create sustainable solutions for the long-term health of the industry and entirely new business ecosystems.

It will operate with the understanding that a sustainable future requires multidisciplinary innovation in non-traditional disciplines as well as broad and inclusive participation. Thus it will seek out participation from leaders in industry, academia, nonprofit, government, environmental and energy, social, political and safety sciences.

The institute will have four primary functions:



Think Tank

- Conduct interdisciplinary research for all stakeholders including government and commercial clients
- Evolve and enhance the KIN Development Partner Framework
- Apply advanced thinking to solve complex problems
- Develop comprehensive views on future trends & identify insights and implications
- Drive thinking from outside the mining industry into all work



Executive Education & Outreach

- Collaborate with and encourage educational institutions to develop executive education that enhances their capabilities in line with the Development Partner Framework and then a more holistic undergraduate and post grad curriculum
- Develop new knowledge and skills for social and environmental capabilities



Applied Research and Development Center

- Fund applied research on multidisciplinary sustainable resource challenges
- Provide a platform for creating new IP and spin off business opportunities



Resource Center

- Provide a central reference center for all best practices
- KIN has already received a registration of interest from the UN-Habitat to establish such a center similar to the one for Oil & Gas in Brazil



EXTERNAL PERSPECTIVES ON FRAMEWORK DEVELOPMENT AND IMPLEMENTATION

To infuse the framework with the best thinking in this space, the working group engaged with corporate sustainability leaders who work in similar contexts to mining—operating large facilities in underdeveloped communities around the world: NIKE, P&G and The Coca-Cola Company. Boeing was also interviewed to bring in a B-to-B perspective and the Corporate Eco Forum provided a high-level view on change at the industry level.

For many of these innovative corporations, the initial journey grew out of crisis response—the need to maintain a license to operate amidst increased societal and environmental performance expectations from the government, the public and nonprofits. Instead of responding defensively, they switched their approach from reactive to proactive, positioning sustainability as a competitive advantage:

“It’s simple. Sustainability drives innovation. Innovation drives growth.” — The Coca-Cola Company

“Sustainability is an important point of innovation and opportunity for NIKE. We go beyond compliance to engineering, design and manufacturing.” — NIKE

“Being a development partner allows our company to expand into new markets and grow responsibly into the future.” — P&G

Social and environmental expectations are not only focused on the company but also expanded to the performance of their:

- ▶ Supply chains (factories producing NIKE shoes, Coca-Cola bottlers, P&G raw materials)
- ▶ Distributors
- ▶ Product lifecycle (recycling, extended producer responsibility, etc.)

These corporate leaders understand that their brand extends beyond company walls to encompass every stage of production, consumption and disposal.

Sustainability expands in another dimension as well, that of a company as development partner. For instance, acknowledging that P&G’s primary future growth will occur in communities without sufficient waste management, they created the Waste2Worth initiative, partnering with government and local community to redesign and pull value from the waste stream.

In recognizing that a thriving local economy is good for business and that empowering women is an important step in a healthier community, Coca-Cola created the 5by20 program, committing to help 5 million women entrepreneurs by 2020.

To drive systemic change, NIKE participates in broad coalitions such as the Clean Cargo Working Group and the Business for Innovative Climate and Energy Policy (BICEP). They have also been a main mover in their own lifecycle measurement by hosting a Climate & Energy Summit, bringing together employees, suppliers and NGOs to discuss and incorporate the new GHG Accounting Protocol.¹⁵

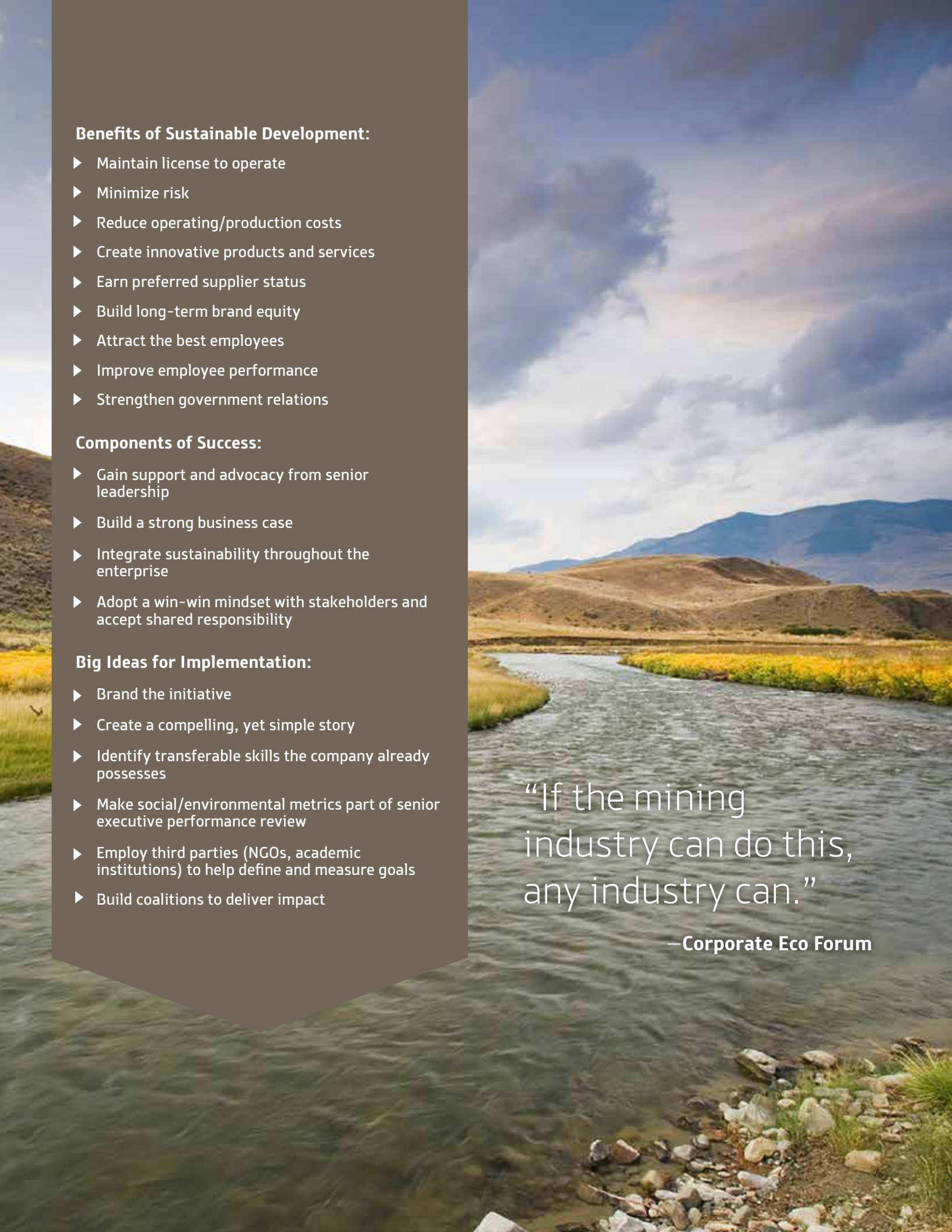
Boeing also has experience being a development partner, working with businesses and universities around the world to create a sustainable biofuels industry that will dramatically reduce carbon emissions.¹⁶

This feedback group emphasized a virtuous circle—a stronger community makes for a stronger business, which makes for a stronger community, which makes for a stronger community. A healthy environment is positioned as supporting both a strong business and society.

The main takeaway from these interviews is that our Development Partner Framework is groundbreaking and inspiring. We now have a cadre of world-class businesses as cheerleaders and supporters.

¹⁵ Nike: <http://www.nikeresponsibility.com/report/content/chapter/energy-and-climate>

¹⁶ Boeing and Bio Fuels: http://www.boeing.com/aboutus/environment/environment_report_11/3_biofuels_pg_2.html



Benefits of Sustainable Development:

- ▶ Maintain license to operate
- ▶ Minimize risk
- ▶ Reduce operating/production costs
- ▶ Create innovative products and services
- ▶ Earn preferred supplier status
- ▶ Build long-term brand equity
- ▶ Attract the best employees
- ▶ Improve employee performance
- ▶ Strengthen government relations

Components of Success:

- ▶ Gain support and advocacy from senior leadership
- ▶ Build a strong business case
- ▶ Integrate sustainability throughout the enterprise
- ▶ Adopt a win-win mindset with stakeholders and accept shared responsibility

Big Ideas for Implementation:

- ▶ Brand the initiative
- ▶ Create a compelling, yet simple story
- ▶ Identify transferable skills the company already possesses
- ▶ Make social/environmental metrics part of senior executive performance review
- ▶ Employ third parties (NGOs, academic institutions) to help define and measure goals
- ▶ Build coalitions to deliver impact

“If the mining industry can do this, any industry can.”

—Corporate Eco Forum

Appendix

APPENDIX 1: WORKING TEAM MEMBERS

Co-Chairs:

Mark Cutifani

Anglo American

Peter Bryant

Kellogg Innovation Network

Working Team Members:

Allison Forrest

Resource Capital

Carlos Duarte

Schlumberger

Clare Lockhart

Aspen Institute

Institute for State Effectiveness

David Meldrum

Runge

Erik Christensen

UN-Habitat

Jennie Hunter-Cevera

Quadrant Managers

Jonathan Samuel

Anglo American

Kulvir Gill

Clareo Partners

Luiz Mello

Vale

Mark Podlasly

Global Indigenous Solutions

Harvard University

Miriam Mendez-Montalvo

The Ford Foundation

Phillip Schwehm

RTI

Prishani Satyapal

AngloGold Ashanti

Ray Offenheiser

Oxfam America

Ricardo Viscovi

Samarco

Sean Knierim

MacArthur Foundation

Stefano Angioletti

Schneider Electric

Stephanie Wolcott

Kellogg Innovation Network

APPENDIX 2: GLOSSARY

Biodiversity

This term relates to diversity of life in an environment as indicated by numbers of different species of plants and animals. Biodiversity is important for an ecosystem as it provides options and the ability to adapt to changing environmental conditions. Biodiversity is important to business, human health, and agriculture and ecosystem health.

Biomimicry

Innovation inspired by nature. Based on the precept that through 3.8 billion years of research and development, nature has developed efficient, long-lasting and elegant design, biomimicry is the discipline of observing nature to find solutions to engineering and process problems. It introduces an era based not on what we can extract from the natural world, but on what we can learn from it.

Carrying Capacity

This refers to the limit of the natural environment's ability to maintain quality of life for all living species. Carrying capacity is affected by human population, climate change and business activities.

Closed Loop Design

Engineering both products and processes to reuse waste, recycle and repurpose to increase efficiency while decreasing environmental impact.

Conflicting Rights

Refers to a situation where the rights of a group or entity to prosper appear to restrict the ability of another group or entity to prosper.

Development Partner Framework

A model for prosperity, reflecting the interdependency of business, society and the environment and understanding that business success is impacted by the strength of the communities and regions where they operate. Businesses are given the role of coordinating all actions to ensure wellbeing of impacted groups and the health of the environment, thus ensuring the long-term success of their business.

Ecosystem Services

The environment provides businesses with numerous benefits or 'ecosystem services'. Forests supply timber and wood fiber, purify water, regulate climate, and yield genetic resources. River systems provide freshwater, power and recreation. Coastal wetlands filter waste, mitigate floods, and serve as nurseries for commercial fisheries. Ecosystem degradation is highly relevant to business because companies not only impact ecosystems and the services they provide but also depend on them.

Flourishing Ecosystems

In this paper, flourishing ecosystems refers to nature's ability to maintain, grow and diversify life and the ability to adapt successfully to changing conditions.

Free, Prior and Informed Consent (FPIC)

A principle that a community has the right to give or withhold consent to proposed projects that may affect the lands they customarily own, occupy or otherwise use. The principal also gives companies the responsibility to be transparent about the impact the project will have.

Global Competitiveness Index

The World Economic Forum assesses the competitiveness landscape of 144 economies, providing insight into the drivers of their productivity and prosperity.

International Council on Mining and Metals (ICMM)

The ICMM is an industry association that brings together 22 mining and metals companies as well as 35 national and regional mining associations and global commodity associations to address core sustainable development challenges.

International Institute for Environment and Development (IIED)

IIED is an international development and environment policy research organization dedicated to building a fairer, more sustainable world, using evidence, action and influence in partnership with others.

APPENDIX 2: Glossary (continued)

Mining, Minerals and Sustainable Development (MMSD)

Between 2000 and 2002, the IIED conducted the Mining, Minerals and Sustainable Development (MMSD) project to carry out research, analysis and consultation on the state of the mining industry as it related to sustainable development and areas for improvement.

Natural Capital

The goods or services nature provides to humanity. Existing in a finite world, there is a growing recognition that the economy is dependent upon the responsible management of natural resources and the ability of nature to clean air, filter water, enrich soil and provide raw materials into the future.

Resource Nationalization

Refers to a government acting to de-privatize the development and extraction of resources. Normally this involves retracting a mining company's license to operate. Governments might move to nationalize resources if they feel that corporations are extracting natural wealth without providing value in country or if they want to increase revenue.

Shared Purpose

A clear understanding and articulation of the long-term vision, goals, and methods for a project have been co-created, discussed, and agreed to by all relevant stakeholders.

Social License to Operate

Communities and governments give companies the ability to operate in their country if they feel that the company provides value to the people without putting a strain on the environment. This is referred to as a social license to operate.

Stakeholders

Groups of people or organizations that have a vested interest in how a company operates. Stakeholders include but are not limited to: customers, employees, suppliers, investors, shareholders, media, politicians, nonprofits and others.

Sustainable Development

The economic development of a region without the reduction of the ability for future generations to prosper. This frequently involves minimizing environmental impact of operations, responsible management and conservation of ecosystem services, development of a local workforce, diversifying and localizing supply chains and other initiatives that strengthen the community.

System Innovation

Refers to not only internalizing the new development partner framework throughout the enterprise, but also, instilling the new framework into the entire industry, from mining companies to their suppliers and customers.

APPENDIX 3: CHANGING CORPORATE STRATEGY

Unilever Swaps Earnings Rat Race for Sustainability

WASHINGTON (Reuters) – Around the time of the 2008 global financial meltdown, consumer products giant Unilever decided to make a dramatic shift in strategy, away from meeting investors' quarterly expectations to a long-range plan that treads lightly on the environment and supports social goals. Confident in profiting through doing good, the Anglo-Dutch maker of Dove soap, Ragu sauces, and Lipton tea is working with the United Nations to save children's lives through hand washing and joining other corporations to stem illegal logging, among other things.

"We're not going into the three-month rat race," Chief Executive Paul Polman said in a telephone interview last month. "We're not working for our shareholders. We're working for the consumer, we are focused and the shareholder gets rewarded." Unilever's philosophical shift reflects increased awareness among corporations that long-range planning and future competitiveness depend on sustainability —doing business without damaging or depleting natural resources. At Unilever, the company's share price has doubled since its Sustainable Living Plan was implemented in November 2010. Unilever's quarterly sales growth, reported October 25, beat forecasts as demand for cleaning and personal care products in China helped it outshine rival Nestle.

"Business cannot survive in a society that fails, so it is stupid to think that a business can just be standing on the sidelines of a system that gives them life in the first place. So this is not idealistic at all. All of the actions that we do are hard-wired to our business purposes, hard-wired to our brands." The hope, Polman said, was to save the lives of 600 million children under the age of five by curbing diseases like pneumonia and diarrhea—a "noble cause" that also happens to be good for business. Another product Polman sees as a potential billion-dollar brand is Pureit, a home water purifying system that requires no gas or electricity. "It's the mobile phone of drinking water," he said. "So yeah, we advocate clean drinking water, we advocate sanitation, but we do that with our brand. That's not altruistic, that's just common sense."

Like its competitors, Unilever has made inroads in emerging markets, but Polman said his company's strategy aims to lift up the 2.5 billion people on Earth who lack access to clean water and the 1 billion who go to bed hungry. Unilever's sustainability plan also looks to mid-century, when world population is expected to rise to 9 billion.

Polman said companies must embrace sustainability because "the political environment is breaking down," evidenced by the weak sustainability agreement reached at the United Nations Summit in Brazil and the inability to conclude pacts on curbing climate change or global trade. "The need for companies to play a more active role is very transparent to me," he said. "It's too late for business to say, government should give me this or the government should give me that." Instead of governmental agreements, he sees coalitions of corporations and sometimes non-governmental organizations as the way forward.

Polman said Unilever had cut carbon emissions by 50 percent over three years, and developed detergents with lower washing temperatures, which use less energy and sustainable and alternative farming techniques, which also can decrease the emission of climate-warming carbon. To combat illegal deforestation, which he said is estimated to be responsible for 17 percent of global warming, Unilever joined an industry consortium that agreed not to sell any products made as a result of this illegal practice by 2020. "You focus on the right things, you put the consumer in the middle of all you do, and ultimately your shareholder will benefit as well, as a result, but not as an objective in itself," Polman said.

APPENDIX 4: EXAMPLES OF SUCCESS

Case Study: Sustainable Juruti Program by Alcoa

“Setting up a large, new project in any town always affects the selected region economically, environmentally and socially. We must make a positive impact without altering the region’s unique culture and heritage, and we must earn our social license to operate by living Alcoa’s sustainability framework every single day.” – Franklin L. Feder, Alcoa vice president and president of Latin America and Caribbean

In the heart of the Amazon, Alcoa’s bauxite mining project in the pristine Juruti region of Brazil has been recognized as a sustainability benchmark for generating positive social and economic effects in the local community while minimizing environmental impact. In November 2010, Alcoa was recognized by the prestigious Exame business magazine, as Brazil’s Most Sustainable Company, primarily for its initiatives related to the Juruti Bauxite Mine.

At an estimated 700 million metric tons, Juruti has one of the single largest high-quality bauxite deposits in the world. Alcoa’s Juruti project, inaugurated in September 2009, consists of a bauxite mine, a port along the Amazon River and a 55-kilometer (34-mile) railway that transports bauxite from the mine to the port.

Alcoa’s approach to sustainable development in Juruti, consists of three pillars:

- Sustainable Juruti Council (CONJUS) – A multi-stakeholder council, that serves as a channel for dialogue between civil society, the company and the public authorities.
- Sustainability Indicators – A system of social, environmental and economic indicators and metrics agreed upon by the CONJUS, to create a baseline and measure on-going performance.
- Development Fund (FUNJUS) – A significant source of funding to create a thriving diversified economy that will live beyond the mine. Projects are proposed by the community and the CONJUS allocates the funding.

Shared Purpose

To help ensure that all key stakeholders have a voice, the Sustainable Juruti Council (CONJUS), was established to serve as the key channel for dialogue between civil society, the company and the public authorities. The 15-member council brings together three representatives from the private sector, three representatives of government institutions and nine representatives from civil society.

The council’s mandate is to guide and monitor the overall regional development plan of Juruti, whether by the private or government sector and provide a forum for discussion and collective action. The council contains eight working groups: environment, health, education, security, infrastructure, culture & tourism, economy & labor & rural development, and citizenship.

Flourishing Ecosystems

From the outset of the Juruti project, Alcoa made a commitment to mine bauxite and return the area to the same, if not better, condition. Understanding the importance of the Amazon forest within the context of climate change, Alcoa set out to reduce their environmental footprint significantly below the parameters set out in its installation license. Moreover, Alcoa conducted flora and fauna surveys to revegetate with native species post-mine.

To track performance, sustainability indicators were selected with input from over 600 individual community members, through town hall meetings and online consultation.

The indicators also provide valuable input to the Environmental Control Plans (PCAs), totaling 35 programs, which were part of the bauxite mine’s installation license covering activities such as the monitoring of climate, air, noise and water, biodiversity conservation, environmental education, medical, sanitary and educational support, public security and local culture.

Competitive Communities, Companies and Countries

The Juruti region is home to 47,000 people, with 65% of them living in about 150 rural communities. The economy traditionally has been based on fishing, cattle, Brazil nut extraction, and subsistence agriculture. The average per capita income is US\$23 per month, and the population has an illiteracy rate of 21%.

To build a healthy, diversified economy that would survive post-mine, Alcoa formed a development fund (FUNJUS) to increase community capacity and support sustainable businesses. Initially, Alcoa invested in upgrading healthcare facilities, schools, deepwater wells and a cultural center. Once basic services were in place, Alcoa established a new business training program and with the CONJUS, conducted an open call for sustainable business funding in areas such as sustainable fisheries, agro-forestry, organic farming and food processing co-ops.

Case Study: Zimele – Anglo American’s Enterprise Development Programme

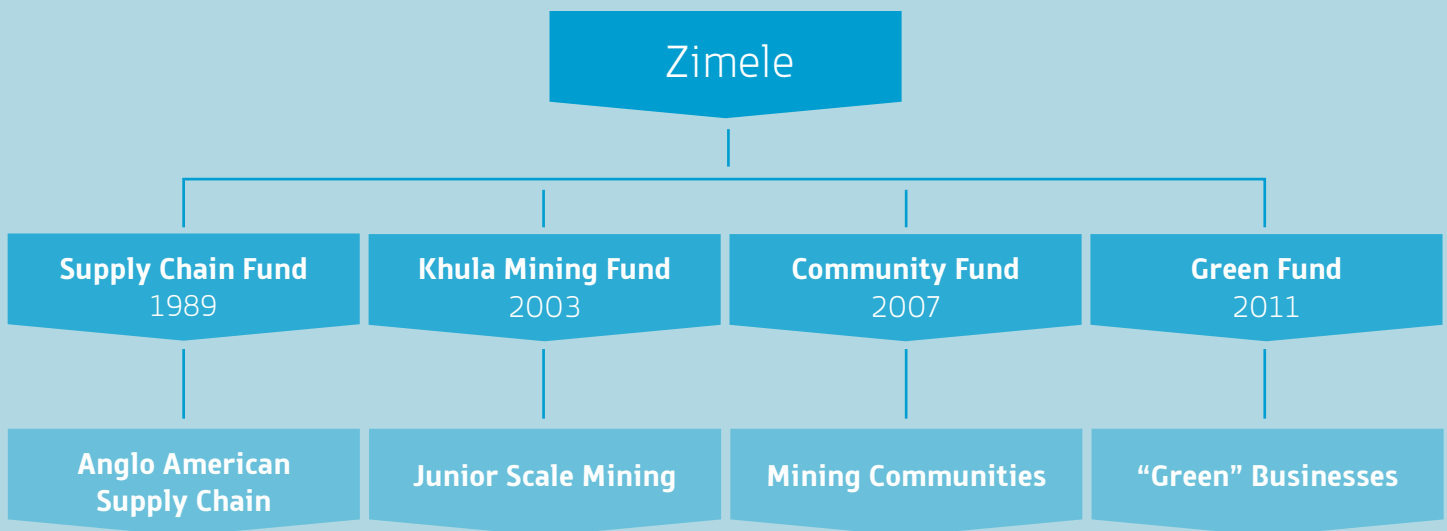
“The purpose of the company is to make profits for its shareholders, but to do so in a way that makes a real and lasting contribution to the countries and communities in which it operates”.

– Sir Ernest Oppenheimer, 1954, founder of Anglo American

Anglo Zimele is an enterprise development and empowerment initiative Anglo American started in 1989. The word Zimele is derived from the African languages Zulu and Xhosa and is translated as ‘to be independent’ or ‘to stand on one’s own feet’. Over the years, Anglo Zimele has supported sustainable, commercially viable small and medium size enterprises (SMEs) and empowered entrepreneurs in all business areas, equipping them to operate independently in the mainstream economy of South Africa.

Anglo American’s approach to enterprise development through Zimele in South Africa consists of four pillars:

- Provide access to capital either through subsidized loans (~6% annual) or equity participation (<40%)
- Provide access to markets mainly via Anglo American’s supply chains
- Provide business advisory before, during and after the application process
- Provide mentoring support during the implementation process



Zimele Structure

Figure 4 – Global enterprise development leadership, Anglo American plc, 2012

Shared Purpose

Anglo American procured 14.8 billion USD in 2012. This represents one hundred times more than the 150 million USD invested via corporate social investment initiatives. These numbers reflect the power of incrementing local procurement as a lever for local economic development. Each percentage point that migrates to a local supply chain has a massive impact on the local economy.

Zimele has supported the process of building more resilient supply chains in South Africa since 1989. Most importantly, this activity has also benefited Anglo American since the efficiency and reliability of the local suppliers has improved over time. Since 2008, the Zimele supply chain fund has supported more than 6,500 jobs and provided more than 10.6 million USD in funding to more than 40 SMEs.

There is also shared value outside the supply chain. Zimele has responded to the strengths rather than the weaknesses of host communities—for example, their capacity to innovate and their potential to create value. This key characteristic has changed the mentality of communities which now think more on how to identify and exploit opportunities instead of depending on the charity of a mine operation. This process allows SMEs to deliver socioeconomic benefits such as jobs, capital accumulation and better salaries but also reduces the costs of delivering socioeconomic benefits to Anglo American since the recovery rate of loans is between 70 to 90% compared to 0% via social investments.

Since 2008, Zimele's community fund has created a network of 32 business hubs which typically offer services such as internet access, phone calls and office space for meetings coupled with business and mentoring support. The fund supported more than 17,000 jobs outside the supply chain in communities around Anglo American operations and has provided more than 50 million USD in small subsidized loans.

The table below summarizes the impact of Anglo Zimele:

All funds 2008 to May 2012 (BCTA)	Zimele – Enterprise Development Scheme
Number of transactions	1,689
People employed in SMEs supported	22, 113
Number of SMEs participating	1,213
Repeat transactions with the same companies	476
Total number of transactions	1,689
Average loan repayment rate	> 80%

A Platform for Partnerships

Enterprise development schemes also work as long-term platforms for partnerships. They are designed to bring together services that can be provided by Anglo American, but also by third parties, such as governments. For example, Zimele partners with governmental agencies in the Mining Khula fund and has already agreed to co-fund two new programmes, the Sebenza fund that follows the community fund approach based on hubs but this time outside the mining areas and the Transnet fund that leverages freight logistics chains from state owned enterprises. The government contribution to these funds has amounted to:

- Khula Mining Fund: ~10 million USD
- Sebenza Fund: ~25 million USD
- Transnet Fund: ~5.5 million USD

Zimele has also been approached by other corporates such as Mondi and Hitachi which have asked the Community Fund to establish hubs in their areas of impact. The partnership allows these companies to leverage Zimele's successful approach to enterprise development to deliver socioeconomic benefits in a cost effective manner.

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