Fundacion Minera Escondida

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15.915 – Laboratory for Sustainable Business (S-Lab)
Spring 2014

May 15, 2014
EXECUTIVE SUMMARY

Copper is one of the most important minerals in the world, and its demand is growing. For countries like Chile, whose economy relies heavily on mining, this growing demand boosts the economy, but also increases the reliance on a single industry. Additionally, some population groups seem to benefit more than others from the wealth generated by mines, expanding the wedge of inequalities.

This reality is even more pressing for regions such as Antofagasta, whose raison d’être rests heavily on mining. In response, organizations such as Fundacion Minera Escondida have been created to support projects that will help better leverage the economic opportunities brought by the mines, diversify the local economy and better redistribute the wealth to the underprivileged groups. The question constantly faced by the Fundacion, like many other similar organizations, boils down to choosing the projects it will support in order to meet its objectives. This sounds easier than it is in reality.

We propose a 3-step “C-B-A Framework” that we believe will assist the Fundacion in applying a systematic approach to its decision-making process in order to choose the right projects.

![Diagram](https://example.com/diagram.png)

The first step allows a clarification on the stated objectives. The second step puts forward a two-dimensional analytical tool we call the “Triangular-Equilibrium Framework,” which helps achieve a balance in the nature of the chosen project:

Framework for Assessment of Community Investment and Development Projects

The third step uses adaptive measurements to regularly assess the performance and relevance of each supported project.
COPPER INDUSTRY IN CHILE

The importance of copper in today’s world is undeniable. Copper has the second highest electrical conductivity of any metal after silver, making it extensively used in electrical equipment, from power generators to mobile phones. In fact, approximately 65% of the copper produced is used for electrical applications, while other uses include roofing materials, U.S. penny minting, and building of monuments such as the Statue of Liberty.1

According to American Resources, a policy network whose mission is to promote the expansion of American domestic supply of certain minerals, a child born today will use approximately 1,750 pounds of copper during his or her lifetime in housing, transportation, and electrical uses as well as consumer products.2 And given the global proliferation of electrical equipment, that number will almost certainly grow at a fast pace in the coming decades. For example, according to the same pressure group, each new Toyota Prius uses 64 pounds of copper, compared to less than 50 pounds for non-hybrids.3

It thus comes as no surprise that the world refined copper usage has more than tripled in the last 50 years.4 In 2015, total mine production is expected to break above the 20 million ton line5, with Chile being by far the world’s largest producer.6 The size of copper mines can greatly vary, and the Escondida mine in Chile crowns the list with a yearly capacity of 1.15 million metric tons, representing more than 5% of the world’s supply by itself.7

Copper has a huge impact on Chile’s economy: it provides 20% of the country’s GDP and accounts for 60% of its exports. Thanks to it, Chile’s economy is expanding by nearly 6% annually, while poverty rates have tumbled and public services have improved. Yet as it is the case in so many resource-rich countries, Chileans find that copper can be a cursed gift. Chile’s mines are already aging. Since 1991, when Escondida began producing, concentration of copper in Chilean ore went from 1.4% to 1% copper, and that number is expected to drop to 0.7% by 2025. The valuable rock is also much farther down, and taking it up from deeper pits requires more fuel, time, and money.8

Chileans recognize that despite all the benefits the copper mining brings them, their country’s short-term stability and long-term prosperity cannot rely solely on this industry. In an effort to diversify their economy, initiatives such as the National Innovation Strategy of the National Innovation Council for Competitiveness (Consejo Nacional de Innovacion para la Competitividad) were created to support the development of mining technology, sustainable supply chains and improved education. Some initiatives are funded by mining companies.

1 Copper Development Association, http://www.copperinfo.co.uk/applications.shtml
2 Copper Matters, “About,” http://coppermatters.org/about/
3 Copper Matters, “Copper Powers Electric Cars,” http://coppermatters.org/copper-powers-electric-cars/
6 International Copper Study Group, pre-cited, note 4.
7 ICSG Directory of Copper Mines and Plants – February 2013
8 The Economist, “Mining in Chile – Copper Solution,” April 27, 2013.
ANTOFAGASTA MINING REGION

The Antofagasta region is located in the arid northern Atacama Desert of Chile, about 1,100 km north of Santiago. Its economy relies heavily on two of its natural resources: copper and the coastline. The proximity of the copper mines to the coastline offers a prime foundation for an extensive mining and port network. The region accounts for nearly 55% of the Chilean copper production. In turn, mining accounts for about 60% of Antofagasta’s gross regional product (GRP).

The Escondida mine is the largest of the region. Located about 160 km southeast of the port of Antofagasta, the mine is a joint venture between BHP-Billiton (57.5%), Rio Tinto (30%), a Japanese consortium (10%) and the International Finance Corporation (2.5%). It came on-stream in late 1990 and now plays a significant role in Chile’s economy, accounting for 2.5 percent of Chile’s gross domestic product. The mine employs around 2,200 people.

The challenges Chile faces as a country on a macro level illustrate well those faced by the Antofagasta region. Mining jobs and their related support structure dominate the local economy, and vastly financially outpace other employment opportunities. The mining industry boosted the living standards of the surrounding communities, but the region’s dependence on that single industry is a major concern. In fact, this “sweet-and-sour” reality is generally well recognized and documented. According to the Organization for Economic Co-operation and Development (OECD):

“Chile has been very successful in turning its natural resource endowments into a generator of growth and modernisation. However, Chile’s mining regions, like many in the OECD, face the challenge of developing a critically important primary sector in a manner that contributes to regional goals, encompassing not only economic growth but broader measures of well-being. Antofagasta is such a region.”

The region’s long-term sustainability requires a more diversified economic base supported by a city with improved life quality and opportunities. This is a complex challenge that needs to be tackled from several angles. One approach the Antofagasta community pursues, with the support of mining corporations, is to develop programs and business enterprises that will allow the in the region to continue to experience positive benefits from their local mining operations long after extraction operations have ended. It is with that objective in mind that the Fundacion Minera Escondida, or FME, has been created.

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11 http://www.mining-technology.com/projects/escondida/
13 OECD, pre-cited, note 9, page 15.
FUNDACION MINERA ESCONDIDA

FME is an independent non-profit whose main objective is to “develop people and communities through innovative, effective, and replicable models.” When established in 1996, FME was the first Chilean foundation set up by a mining company to help a community reduce its economic dependency on the mines in preparation for their long-term depletion. FME works with the mining communities in and around its home location of Antofagasta to implement initiatives focused primarily on education, productive development, and civil society.

Like so many non-profits of its kind, FME faces a conundrum: how should it allocate its limited resources to maximize its impact and advance towards its goals? The problem is not to generate ideas: in fact, FME has shown that it can successfully leverage the Antofagasta community itself to do so. As a recent example, FME recently partnered with other NGOs to organize a business plan competition, called “AntofaEmprende,” that brought nearly 300 groups to pitch social entrepreneur plans for the region.

The problem is rather to choose the best combination of projects to support. Should it focus on social initiatives that redistribute the wealth of the mine to those left behind, or should it prioritize ventures that are economically viable? Should it concentrate on early wins that make the best of the present opportunities such as offering supplies to the mining operations, or look towards diversity and seek autonomous business initiatives?

The problem goes beyond the project selection process. How can FME measure the performance of projects that fundamentally differ from one to another? Should they be held to the same standards, or should FME be more flexible with projects that have a stronger social component? Should all projects be expected to achieve financial self-sufficiency?

Intuitively, striking a balance among the opposing approaches seems to make the most sense. However, without a systematic approach to those problems, execution can be extremely difficult. To help FME set a clearer path in choosing, and following-up on, the projects and initiatives it will support, we propose the following frameworks that will hopefully guide the organization towards an improved selection process and help it achieve its goals.
RECOMMENDED FRAMEWORK

In selecting and overseeing projects that FME can support in order to help the Antofagasta region diversify its economy as well as improve its life quality and opportunities, we recommend the following 3-step C-B-A Framework:

1. The first step, Clarify the Objectives, encourages the organization to define the impact it hopes to achieve within the community and prioritize its goals.

2. The second step, Balance the Undertakings, assists the organization in systematically choosing projects by introducing a triangular-shaped analytical tool we call the “Triangular-Equilibrium Framework.” The Framework is made of two fundamental axes of short-term/long-term timing and social/economic nature. The goal is to locate each potential project on the conceptual triangle and choose those projects that allow the tool to be at equilibrium and in line with the set objectives.

3. The third step, Assess the Results, proposes the adoption of objective measurements that are adapted to the location of each project on the Triangular-Equilibrium Framework in order to correctly assess performance and relevance.

STEP 1: CLARIFY THE OBJECTIVES

In the first step, Clarify the Objectives, FME should detail, and ideally quantify, its objectives. For example, stating that their objective is to “develop people and communities through innovative, effective, and replicable models” is a good start, but as we will later see in this paper as we analyze real-world examples and models, identifying key performance indicators could go a long way in facilitating the decision process.

FME’s objective could be to support projects that will create x new jobs per year, $y in revenues, or redistribute $z to underprivileged people.
STEP 2: BALANCE THE UNDERTAKINGS

The Triangular-Equilibrium Framework is meant to capture the spectrum of impact created by community development investments as well as generally quantify the intent of the investments. Exploring this in more detail, the triangle represents the array of project types that can be undertaken by corporations or foundations investing in community development. Each vertex of the triangle represents a different project focus: (i) Local Economy Development, (ii) Social/Community Development, and (iii) Industry-Specific Development.

Using these three types of development investments as the extreme ends of the scales, we believe that all community initiatives can be evaluated within the three-pronged spectrum. That is, an initiative can be fully focused on one type of development in the Framework or a blend across types. The goal is for organizations to ultimately balance their portfolio of initiatives such that efforts are equally distributed across the Framework in accordance with their clarified objectives.

**Framework for Assessment of Community Investment and Development Projects**

**Industry Specific Development** – Defined as development projects focused on building businesses and capabilities specific to the industry making the investments, generally with the intent to allow the community to more actively support and participate in the business of the investor. On the horizontal axis, we believe these efforts are focused on economic goals. Given that many of these services could be rendered more inexpensively via traditional suppliers for the
company, we recognize that these efforts are also aimed at improving the overall baseline quality of life in the community. On the vertical axis, we rate industry specific development to be heavily geared toward short-term sustainability in that the development is fundamentally tied to the industry of the company. If the company’s industry is unsustainable from a resource perspective, as is the case with extractives and petroleum, the local businesses built around these industries will themselves be unsustainable in the long-term. These businesses could potentially move to nearby regions to work with other similar industry partners, but this falls outside of the scope of creating sustainable development within a specific community.

**Social & Community Development** – Those projects are focused on making communities more habitable through improvement of social services, independent of any economic gain. We rate these efforts medium on long-term sustainability because they make the communities a “place to live rather than just a place to work” by creating access to public goods and services to the community as a whole. These public goods and services are not sufficient on their own, however, to maintain the longevity of the community after the parent industry has exited. On the horizontal axis, these efforts are fully focused on quality of life as they do not generate profit or create sustainable sources of scalable employment.

**Local Economy Development** – This category encompasses all initiatives focused on growing or establishing for-profit ventures in the local economy that function independently of the investing organization’s industry. These, at their core, are businesses creating sources of sustainable economic growth for the community that can exist even after the funding industry has exited the region. On the horizontal axis, these efforts are pure economic in focus. The primary intent of any initiative in this category is to create jobs and economic growth. On the vertical axis, we rank these initiatives to be the most focused on the long-term sustainability of the communities as they alone will create economic legs for the communities to continue to stand upon after the parent industry has departed.

**STEP 3: ASSESS THE RESULTS**

After the best projects have been identified, FME should set adapted and quantifiable goals for each project to reach. The adaptive feature of performance measurement here is crucial. For example, projects located at the “Social & Community Development” end of the Triangular-Equilibrium Framework could be asked to lift a certain number of families out of poverty every year without being asked to be financially autonomous, or, an entrepreneurial project in the “Local Economy Development” area could be asked to annually reduce its dependency on financial support from FME, setting expectations for financial autonomy in a precise timeframe.

Regardless of the metrics used, setting up those performance measurements as soon a project is adopted is crucial. Indeed, these clear key performance indicators will not only serve the supporting organization in evaluating the performance and ongoing relevance of the project, but will also be indispensable to communicate clear objectives to the project managers.
BEST PRACTICES OF FRAMEWORK APPLICATION

In order to help FME better apply our C-B-A Framework to allocate its resources among potential projects, we reviewed and selected the below cases of corporate and foundational best practices in community development. The goal in capturing these examples is to showcase best practices across industries and geographies that are portable to FME, while recognizing areas for improvement through the lens of our Framework. These examples, while at times very different in scope than FME, show that striking the right balance is difficult and generally requires years of sustained effort in order to succeed.

1. “Clarify the Objectives”: Starbucks

Looking at the Starbucks “Global Responsibility Report – Goals and Progress 2013,” Starbucks stands out as a model in setting out quantitative objectives that are easily measurable and for which the company can show progress in the upcoming years. These objectives include:

- “Ensure 100% of our coffee is ethically sourced by 2015”
- “Invest in farmers and their communities by increasing farmer loans to $20 million by 2015”
- “Build all new, company-operated stores to achieve LEED® certification”
- “Reduce water consumption by 25% in our company-operated stores by 2015”
- “Reduce energy consumption by 25% in our company-operated stores by 2015”
- “Serve 5% of beverages made in our stores in personal tumblers by 2015”

This clear approach drives two huge advantages that we can relate directly to the second and third steps of our C-B-A Framework. First, the clear objectives drive an easier decision process when determining which sustainability improvements and initiatives that Starbucks wishes to invest in given the Triangular-Equilibrium Framework. Reading the excerpt of objectives above, we understand how the company wishes to “tip triangle equilibrium” towards the Social and Community Development end. This will allow Starbucks to systematically analyze different project opportunities and evaluate how each project positions itself on the triangle. Second, the continuous performance assessment of each initiative can be measured much more efficiently by later referring to these objectives. For example, we truly appreciate Starbucks’ candid communication of its performance metrics, which can point to areas that “need improvement.”

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<th>GOAL</th>
<th>PROGRESS</th>
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<td>Serve 5 percent of beverages made in our stores in personal tumblers by 2015</td>
<td>Despite offering a low-cost reusable cup and discount for the personal tumblers, we have been challenged to reach our 5% reusable goal. We continue to explore new ways to encourage customers to bring their own personal cups and reduce waste.</td>
</tr>
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Starbucks Global Responsibility Report Goals & Progress 2013
2. “Balance the Undertakings”: Chevron, Starbucks and Minera San Cristobal

Analyzing sustainability initiatives of these large corporations, we found a deeper understanding of the balance that each company is trying to achieve. This can, in turn, help FME identify where it stands on the Triangular-Equilibrium Framework.

Based on our analysis, the following table illustrates where Chevron, Starbucks, Minera San Cristobal (“MSC”) and FME stand on this Equilibrium:

**Comparison of Organizational Performance Across Framework**

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<th>Industry Specific</th>
<th>Social/Community</th>
<th>Local Economy</th>
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<td>Chevron</td>
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- **Chevron**

Chevron stands out as an extractive industry leader in sustainability. While large donations and significant tax revenue for the local economy have been a long standing expectation for oil and gas operations around the developing world, Chevron claims to be focused on creating “investments that move beyond a philanthropic model to those that are more sustainable, focused on capacity building, and closely aligned with core business objectives”.

In 2002, as Angola emerged from nearly 30 years of civil war, Chevron made a commitment to President Jose Eduardo dos Santos that Chevron would “help rebuild this African nation torn apart” by war. The company committed $25 million over five years to the Angola Partnership Initiative (API), which was later co-sponsored both financially and in name by the U.S. Agency for International Development (USAID).

In a 2012 panel for the U.S. Institute for Peace, Mamadou Beye, the company’s manager of International Governmental Affairs reiterated Chevron’s goals for Angola as a launching pad for future sustainability movements: “The whole concept was always how can we quickly move

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14 Case Study, Executive Council on Development p. 24
15 Ibid, p. 24
away from aid to sustainability”. The company invested millions of dollars in a program to identify business opportunities within their operations for Angolan entrepreneurs, and then steered local entrepreneurs toward those contracts. In 2011 alone, out of the $2.5 billion that Chevron spent in Angola in total, $900 million of it was spent directly on developing Angolan companies.

Similar to the business environment of Antofagasta, much of this economic growth and entrepreneurialism was tied directly to the extractive industry. Viewed through our Triangular-Equilibrium Framework, while Chevron attempted to make significant progress with industry specific development, the balanced growth in social/community and sustainable local economic development trailed far behind. However, API’s efforts also resulted in a wide range of socially relevant microfinance schemes, such as NovoBanco, which provided credit to both small entrepreneurs and low-income households. NovoBanco alone was responsible for over $40 million in loans reaching 30,000 small businesses. That funding led to a tremendous rebound in much of Angola’s decimated farming industry and NovoBanco’s support for “micro, small, and medium-sized businesses outside the oil industry helped to train 200 entrepreneurs in business planning and to create 143 new jobs in 2010.” Exact information about what those jobs truly entail and to what extent they are fully “outside the oil industry” is unclear, but what is clear is that Chevron acknowledged the need for local entrepreneurship, at least in the capacity of initial financial support.

Beginning in 2005, collaboration between Chevron and local communities in the Niger Delta began to follow a similar course. In this instance, Chevron partnered with regional councils in an attempt to empower Nigerians themselves to decide where corporate funds would be spent. By late 2009, eight Regional Development Councils (representing 850,000 people) were in charge of “managing 192 infrastructure projects including solar water projects, housing and electrical expansion projects.” While these measures were generally considered a success, Chevron believed their most innovative and scalable model lay in their ongoing work in Angola. As a result, in 2010, Chevron doubled the initial investment they had begun with in establishing the API. They made a $50 million investment in Nigeria aimed at scaling their successful model from the past eight years working in Angola. The approach was “premised on the systematic analysis of local markets – to seize economic opportunities and find market-driven solutions to local problems – and on partnerships with local communities, development partners, and companies.” While focus was again placed initially on secondary oil production support companies (food services to support workers moving to the area; marine services to build the aquaculture of the area), the overarching goal was to continue to foster local entrepreneurship in the region.

Analyzed through our Triangular-Equilibrium Framework, Chevron clearly has yet to fully balance their efforts in Africa. Understanding that achieving long term, sustainable success takes time and that initial local business support most naturally comes through extractive-related businesses, it is still unclear how successful Chevron’s efforts have been to diversify the local economies in Angola and Nigeria. However, they appear to be headed in a better direction than most extractive efforts before them, and are worth further evaluation during the next few years.

16 US Institute for Peace, web
17 Ibid, web
18 Africa.com blog, web
19 Ibid, web
20 Corporate Responsibility at Chevron
21 The Guardian
Starbucks

Building long-term community sustainability through investments in developing and improving pre-existing sources of local revenue is a strategy also practiced outside of the extractive industry. Starbucks, the world’s largest coffee retailer, sources much of its coffee from low income farming communities in Latin America, Asia, and Africa. Understanding this, the company has launched initiatives across their growing communities to improve the standards and practices of the farmers from which they source. The goal of this initiative, as stated by Starbucks, is to “help farmers increase both coffee quality and yields to help them become economically stable and more resilient.”

The breadth of initiatives supported by Starbucks is impressive and goes a long way in attacking the sustainability challenges it faces from a multitude of angles. For example, the help Starbucks provides to its community includes Community Service, Community Stores, Youth Leadership, Farming Communities, and Diversity & Inclusion, among other groups of initiatives. This wide approach to community development highlights the need for change to be driven from a variety of angles for the impact to be maximized. That is to say that Starbucks’ support goes far beyond ethical sourcing, i.e. making sure its coffee and tea farmers are paid an equitable wage for their work. For example, the commitment of Starbucks towards better education in Guatemala is impressive. Since 2005, Starbucks has committed $2.6 million to support its Guatemala Education Initiative. Such a commitment may bring change that are less tangible on the short term, but the company can still rely on compelling non-financial metrics to evaluate the performance of its program. For example, its program has allowed training of more than 250 people, helping to increase staff capacities in schools.

From the perspective of our Triangular-Equilibrium Framework, Starbucks is making great strides at supporting two of our main tenets. By attempting to improve the way coffee beans are grown and the quality of life of the farmers, Starbucks sends a strong message about their commitment to industry specific development. Better coffee and sustainable best practices benefit both the sourced farmers of Latin America, Asia, and Africa as well as the Starbucks company brand. Furthermore, through financial support of local educational efforts, Starbucks is planting seeds that begin to address our Framework’s social and community development requirement while potentially laying the groundwork for a better educated workforce capable of meeting the demands of a diversified local economy in the future. Starbucks still has significant progress to make in order to enjoy a truly balanced effort in its coffee growing regions, but a stronger focus on local economic development not related to the coffee industry would go a long way towards addressing that imbalance.

Minera San Cristobal

Investing in local communities to establish license to operate and develop long-term sustainability for the local population has become an increasingly utilized tactic in extractive industries. Perhaps our most highly comparable example is that of Minera San Cristobal (MSC), who established a foundation to support the communities surrounding the San Cristobal mining operation located outside of Potosí, Bolivia.

After discovering a major silver deposit in the San Cristobal region in the late 1990’s, a Colorado based mining company began negotiations with the local communities to gain access to the ore, much of which was located under an existing village. To gain social license to begin operations, the Minera San Cristobal Corporation agreed, amongst other concessions, to establish a foundation that would provide for the long term support and development of the communities affected by the mining operations.

While the mine itself provides employment to a significant portion of the local population, the ultimate goal of the foundation is to create new sources of economic growth in the communities so that much of the new population brought to the communities by the mine would have sources of income and employment in the area once the mine was exhausted. That type of community model, if supported with strong social/community development initiatives, would represent a fully balanced example of our Framework.

Similar to FME, the Fundacion San Cristobal (FSC) focuses their efforts on driving growth in areas specific to regional foundations of the communities in which MSC operates. In the San Cristobal region, the three core economic sectors outside of the mine are considered to be agriculture, tourism (due to the mine’s proximity to the Uyuni Salt Flats), and cultivation of llamas for their meat and wool. To achieve this, FSC has established development programs specific to each component of the economy.

For the llama farming, the foundation established programs to promote herd health and gain access to wider markets for sale. Promotion of the main local staple crop, quinoa, is managed through a cooperative established by FSC to assist farmers in generating higher yields, obtaining organic status for crops, and establish partnerships with large global buyers such as the Canadian Development Agency.

Finally, in support of tourism, the foundation aids in branding efforts to promote the region as a tourist attraction while helping to establish hotels and other tourist infrastructure. Beyond these economic efforts, the foundation and MSC have also invested in social/community development efforts, including environmental and health improvement projects, and community infrastructure projects such as public soccer fields. While still trying to strike the right overall balance, as evidenced by the positioning of their initiatives on the Triangular-Equilibrium Framework, FSC has shown great strides at attempting to make San Cristobal a place to both work and live sustainably.

3. “Assess the Results”: Acumen and iBakery

As mentioned earlier in this paper, regardless of the metrics used and the precise steps put in place to assess them, the point of this third step of the C-B-A Framework is to underline the importance and value of setting up adaptive measurements properly and as soon a project is adopted. Indeed, the metrics and processes we describe here, and that are used by Acumen and iBakery, may be ill-suited for FME given the very different circumstances faced by each group. In all cases, however, clear key performance indicators not only serve the supporting organization in evaluating the performance and ongoing relevance of its projects, but are also indispensable to communicate clear objectives to project managers, and potentially set appropriate incentives.
Acumen

Acumen, formerly known as Acumen Fund, is a “non-profit that raises charitable donations to invest in companies, leaders, and ideas that are changing the way the world tackles poverty.” Its approach focuses on entrepreneurship to solve poverty through sustainable organizations. Focusing in Eastern and Western Africa, India and Pakistan, Acumen manages total assets of more than $103 million.

As part of their efforts to support social entrepreneurial initiatives, Acumen has developed methods to measure the impacts of its investments. The measuring methods are very important for Acumen: “Measurements Matters.” The measurements are Acumen’s way of making sure the projects are fulfilling their goals and objectives, and allow Acumen to realign initiatives on a continuous basis. Accurate measurement is essential to ensure success in both the Social / Community Development and the Local Economic Development regions of our Triangular-Equilibrium Framework, and few appear to do it as well as Acumen.

Acumen’s evaluation is divided in three phases: due diligence, deal structuring, and post-investment performance management. The structure provides Acumen with systematic tools to evaluate and apply the necessary adjustments to supported initiatives as quickly as possible, without having to wait until a problem becomes too big to be addressed. In order to conduct these analyses with precision, Acumen has developed three sets of metrics that it can apply to every investment: financial, operational and social.

The financial metrics are built into the initial business plan at the time of the due diligence and use commonly-known measurements and datasets. The operational category typically includes factors such as number of new facilities launched or under construction, and these factors are again found directly in the business plan. Some of these can be rolled up as measures of social impact.

The main challenge, once these metrics are established, is to set up a system of data collection and tracking. This requires both using information that can be generated by businesses and providing the guidance and support for such businesses to be able to provide new sets of information it potentially would not collect otherwise.

iBakery

iBakery was the name of two of the social entrepreneurship initiatives established and operated by Tung Wah Group of Hospitals in Hong Kong (the “TWGH group”). Their mission fell mainly in the Social/Community Development area of our Triangular-Equilibrium Framework: to promote the inclusion of disabled people in the community through the operation of businesses serving bakery products and offering catering services. Unlike FME’s situation in Antofagasta, ensuring a long-term economic sustainability that exists well after the funding entity has moved on is not the ultimate solution for TWGH, though a competitive bottom is highly desirable.

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23 http://acumen.org/about/
24 http://acumen.org/investments/
After receiving a HK$2M grant from the Hong Kong government, the two projects were started, employing a roughly equal number of disabled and non-disabled employees. As expected, the projects had higher operating overhead that other comparable businesses: the operating efficiency of disabled staff was lower, and the flow of operations was not aimed at maximizing efficiency but rather to allow every staff member to contribute equally to the production cycle. It quickly became obvious, however, that the reality of the financial losses made by the project had to be addressed. The challenge was described using the metaphor of a pendulum: it was a constant struggle between the “commercial bottom line” and the “social mission bottom line.” Indeed, although the goal of the TWGH group was not to obtain any investment return from the two projects, financial breakeven was desirable.

One solution the TWGH group came up with to address the challenge was to set specific and objective metrics that could be used to quantify and assess the social impact of the iBakery initiatives. Those measurements included financial tracking and social impact assessment tools or performance indicators such as the number of jobs created and employee profiles, the benefits created for the disabled (training hours, skill advancement, etc.), the enhancement of community awareness, etc. This allowed the TWGH group to assess the viability of the iBakery projects in a more favorable way despite financial losses, and the iBakery managers to benefit from better guidance in making tough managerial decisions.

Ultimately, iBakery is an example of how the TWGH group came to realize the importance of adopting clear metrics to drive the success of the community projects it supported. The metrics the TWGH group has now established go a long way in quantifying the less tangible social benefits the iBakery projects bring to their community. Those measurements could in turn be helpful to any organization supporting non-profits whose goal is to serve a greater good despite sacrificing some portion of their bottom line in the process.
CONCLUSION

Achieving the long-term sustainability of industry-focused communities requires a balance of initiatives. For a community to endure after the industry around which it was formed has exited, these initiatives must provide social assets to make the area more livable for residents as well as effectively build a backbone of local economic enterprises that will provide surrogate sources of revenue and employment. The C-B-A Framework and the Triangular-Equilibrium Framework presented in this paper attempt to succinctly capture this concept so that organizations such as FME may clearly identify where their current and future initiatives fall on the spectrum. Observing this, the organization should be able to systematically identify the projects it wishes to support and achieve a balanced portfolio of initiatives.

To realize how the Frameworks apply to FME, it is necessary to understand the priorities and objectives that drive FME’s programs and projects. FME’s mission is to “create an ecosystem that empowers a network among social organizations to enable them to grow their businesses through social entrepreneurship and thus contribute to the sustainability of Antofagasta”.[25] The main focus for FME is to identify young people with leadership skills who can bring the community together for the implementation of local projects addressing issues such as poverty, environmental problems, and education. FME strives to strengthen the work of social organizations in the community by implementing projects that aim to generate sustainability, development, and participation within the community.

Currently, FME’s major initiatives focus primarily around the areas of education, productive development, and civil society. In order to accomplish these goals, FME shifted its strategy in 2013 to concentrate on promoting social entrepreneurship within the Antofagasta region and the surrounding areas defined by the mining operations. Since then, FME has developed and implemented a series of programs to support social entrepreneurship in the community and in social organizations.[26] These include the Incubator of Social Entrepreneurship program in conjunction with NGO NESsT, several funding contests and hackathons in partnership with institutions like MIT and other local organizations. Additionally, FME also partners with groups like the YMCA and Ashoka to help create management training and professional skills development programs.

The lens of the Triangular-Equilibrium Framework, applied to FME, indicates a need for greater balance in the area of “Local Economy Development”. Industry specific connections have been well established in the region due to the heavy reliance of the extraction companies on the population of the Antofagasta region as their primary source of labor. Similarly, FME has made significant strides in Social/Community Development through funding of quality of life focused projects such as the mobile skate park and interactive experience museum. These projects have made progress in establishing community infrastructure that will provide residents with reasons to remain in the area apart from economic necessity. However, this infrastructure will not provide income for residents once mining industry jobs are no longer an option. Therefore, FME still must make progress in their social entrepreneurship initiative efforts to encourage ventures specifically focused on creating sources of economic growth independent of the extractive

industries in the region. Achieving this will make FME balanced on the Triangular-Equilibrium Framework.

As shown in this paper, the C-B-A Framework and the Triangular-Equilibrium Framework can be applied as a lens to assess the efforts of a wide range of companies. While the Frameworks were constructed for the purpose of understanding efforts of an organization in an extractive industry, it can be used across a range of situations. Specifically, the Frameworks will be applicable in any situation where an organization is seeking to lead developmental initiatives with the intent of creating long-term community sustainability in a region. As noted, fundamental to the success of any of these initiative types in achieving that goal will be a balance of all initiative types. Thus, we believe FME and any other similarly focused organization may use these Frameworks and the examples given here to better frame, understand, and direct their development efforts.