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LEAVING A TRACE

A Report on the Potential Economic Impacts
of Mining in Liberia



Traveling directly from mine to port, a train of unprocessed iron ore cuts through undeveloped countryside of Liberia. Will the mining sector spur economic growth without development?

Written by Kayla Casavant and Earnest Musinamwana
July 2014



About Building Markets

Building Markets is a nonprofit organization that creates jobs and sustains peace by championing local entrepreneurs and connecting them to new business opportunities. Operating in over a dozen post-conflict and developing countries, Building Markets addresses the gaps between economic potential and access to opportunity through three channels:

1. Building the capacity of small and medium-sized enterprises (SMEs) and breaking down information barriers preventing local suppliers from accessing business opportunities;
2. Providing access to finance for local SMEs through credit training and loan guarantee programs;
3. Facilitating foreign direct investment by sharing comprehensive local market data and enabling SMEs to integrate into international supply chains.

Building Markets believes that job creation is central to sustainable poverty reduction. In developing economies, over 86% of jobs are created by SMEs but the latter have difficulty accessing the business opportunities and capital needed to grow. Building Markets builds the capacity of local suppliers and partners with all types of buyers – multinational concessionaires, national governments, government aid agencies, international development organizations, and private companies – to increase their local procurement, ensuring money spent on a country is spent on local goods and services.

Building Markets in Liberia

In Liberia, Building Markets implements the US Agency for International Development (USAID) Sustainable Marketplace Initiative Liberia (SMI-L) with additional support from the Australian government, Humanity United and BHP Billiton. SMI-L provides the following services:

1. **The Supplier Directory:** Contains more than 3,200 profiles of local companies searchable by sector and location at Liberia.buildingmarkets.org.
2. **Tender Distribution:** Disseminates tender announcements to local suppliers via SMS, email and on the Building Markets' Web site.
3. **Business Matchmaking:** Helps international buyers identify cost-competitive and high-quality domestic products and services by request and establishes relationships between buyers and local businesses at networking events.
4. **Training:** Trains local businesses on contracting requirements, international standards, customer service and more.
5. **Market Research & Communications:** Promotes local procurement by identifying opportunities and challenges to local sourcing.

Since April 2012, SMI-L supported local businesses to win over USD 31.2 million in contracts and create 960 full-time equivalent (FTE) jobs.

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Acronyms

Organization	Acronym
Aureus Mining Company	AMC
Bong Mining Company	BMC
Business Start-up Center	BSC
Foreign Direct Investment	FDI
Consolidated Tax Amendment Act 2011	CTAA
Deutsche Gesellschaft für International Zusammenarbeit	GIZ
Governance and Economic Management Support Project	GEMS
Government of Liberia	GOL
Gross Domestic Product	GDP
Investment in Business Expansion	IBEX
Inter-Ministerial Concessions Committee	IMCC
Inter-Ministerial Technical Committee	IMTC
Kaiser Economic Development Partners	Kaiser EDP
Liberian American-Swedish Minerals Company	LAMCO
Liberian Mining Company	LMC
Liberia Extractive Industries Transparency Initiative	LEITI
Mineral Policy of Liberia	MPL
Mineral and Mining Law	MML
Mineral Development Agreement	MDA
Ministry of Finance	MOF
Ministry of Internal Affairs	MIA
Ministry of Justice	MOJ
Ministry of Labor	MOL
Ministry of Lands, Mines and Energy	MLME
Ministry of Planning and Economic Affairs	MPEA
Ministry of State	MOS
Mehmet Nazif Gunal Gold	MNG
National Iron Ore Company	NIOC
National Bureau of Concessions	NBC
National Investment Act	NIA
National Investment Commission	NIC
Official Development Assistance	ODA
Poverty Reduction Strategy	PRS
Public Procurement and Concessions Act	PPCA
Public Procurement and Concessions Committee	PPCC
Putu Iron Ore Mining	PIOM
Small and Medium Enterprise	SME
Sustainable Marketplace Initiative Liberia	SMI-L
Technical Vocational and Educational Training	TVET
United Kingdom Department for International Development	DFID
United Nations Industrial Development Organization	UNIDO
United States Agency for International Development	USAID
United States Dollars	USD
United States Geological Survey	USGS
University of Liberia	UL
World Trade Organization	WTO

Foreword

Liberia is going through an exciting transition from reconstruction and recovery to sustained economic growth. Foreign Direct Investment (FDI) in the extractive sector has breached the \$16 billion mark, and the country's economy is projected to grow at 8.2% in 2015. As the UN Mission draws down and traditional aid tapers off, Liberia's best bet for broad-based economic growth lies in the extractive industry and the mining sector in particular. Appropriate policies and programs are needed to ensure that benefits of FDI are widely spread and shared by the majority of Liberians.

Australia has been pleased to share with African countries its own experience in managing the impacts and benefits of mineral resources. We have partnered with African governments to develop skills and systems that support greater and more equitable benefits from a booming mining industry. Our aim has been to help developing countries dependent on extractive industries, including Liberia, achieve sustainable growth with development.

In a country such as Liberia, where 80% of the labour force is unemployed or in vulnerable employment, the mining industry can play a pivotal role in job creation through direct, indirect and induced employment. Building Markets works to bridge the gap between mining companies and the local market to increase the benefits of FDI for all Liberians.

This report was commissioned to engender an understanding of procurement and employment opportunities within Liberia's mining sector. It identifies goods and services directly connected to the mining industry that can be procured locally but are not, or those that have the potential to be sourced in Liberia with additional support. It highlights gaps between demand and supply, identifies barriers to local procurement in the mining industry and makes recommendations to increase local sourcing and employment.

We are pleased to have supported the Building Markets project and we trust that this report will help to promote Liberia's development through mining.

Joanna Adamson
Ambassador of Australia to the Republic of Liberia
18 July 2014

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Finally, a word of thanks to the small and medium enterprises (SMEs), whose openness and participation in surveys, provided valuable information for our analysis of supplier capabilities.

Executive Summary

Historically, mining played an important role in the development of the Liberian economy. A rich mineral resource base, primarily consisting of iron ore, gold and diamonds, saw the mining sector contribute a lion's share of exports and government export revenues in pre-conflict Liberia. Despite this massive economic contribution, past mining operations existed as highly closed enclaves with limited interactions with the local economy. An overreliance on expatriate labor and a dependence on imports for supply needs kept economic spillovers to the barest minimum.

Over the last three years, the mining sector re-emerged as a key growth sector within the Liberian economy. Since 2006, the sector attracted over USD 10 billion in Foreign Direct Investment (FDI). Exploration activity is at an all-time peak and major iron ore companies have started mineral production and exportation. With mining projects transitioning from feasibility to construction, high expectations for the sector's contribution to overall economic growth and job creation abound.

Against this background, this report analyzes the evolution of the mining sector and assesses its current and future potential for local supply linkages and job creation. This report identifies goods and services, directly connected to the mining industry, that can be procured locally and those that have the potential to be sourced in Liberia with additional support. This report analyzes gaps between demand and supply, identifies barriers to local procurement and makes recommendations on how best to increase local sourcing and employment.

Methodology

This report is based on primary and secondary data obtained from past studies, mining stakeholder workshops and in-depth interviews with key informants in government, development and industry sectors. Information on the evolution of the mining sector is based on past study reports and interviews with officials in the Ministry of Lands, Mines and Energy. Relevant policy documents, mineral development agreements and mining company reports were reviewed to establish trends and identify key issues. To gauge current capacity of local suppliers, we used a combination of data obtained from Building Markets' local supplier database and mining buyer surveys, as well as findings from other studies, such as the GIZ Linkages Study of 2011. Mining demand data collected by Kaiser EDP for the World Bank project and associated demand extrapolations form the basis of demand projections contained in Chapter 3 and 4. Interviews with mining companies, the University of Liberia and training institutions informed the employment portion of the report. Please note that for the purpose of this report, the term "local supplier" is broadly used to refer to all business that are registered and have a physical presence in Liberia: both foreign and Liberian-owned businesses. Additionally, the following terms are used interchangeably: supplier, business, firm, enterprise, SME, MSME.

Main Findings

Annual expenditure by mining companies is set to exceed USD 2 billion by 2016. Demand projections show that aggregate demand from the mining sector could reach USD 2.2 billion in 2016. This demand will be driven by major mining construction projects, which include investments in support infrastructure such as railways and roads. Goods and services fall into three broad categories: plant and equipment construction and core services, mining consumables, and non-core products and services. These three categories account for 64%, 21% and 15% of the projected annual demand, respectively. Demand for building materials and relevant services causes procurement of local goods and services to peak during the construction phase.

The local supplier base is not sufficiently prepared for local sourcing opportunities.

Local suppliers are not adequately prepared to tap into opportunities for supplying goods and services to the mining sector. Currently, firms with either more than 50% Liberian ownership or that undertake significant value addition in Liberia account for just 12% of current mining procurement expenditure. This report defines local value addition as the extent to which local raw materials, labor or capital are used in the production of goods and services. Although the number of businesses registered to do business in relevant supply categories continues to grow, the requisite delivery capacity is still lacking. Local businesses face significant financial and technical constraints to meet the level of quality, price competitiveness and scale the mining sector demands. Despite the existence of some dynamic and competitive local suppliers, the typical business is small in size and lacks formal business systems, which are necessary for doing business with corporates. The greatest near-term potential for local supplier participation is in the supply of non-essential goods and support services.

Direct job localization is limited by labor force deficiencies.

The Government of Liberia (GOL) estimates the mineral development agreements (MDAs) signed to date will create between 13,000 and 14,000 direct jobs over the next 50 to 80 years, with the highest level of employment occurring over the next 10 years, as mining projects enter construction phase.¹ In 2017, mines will directly employ an estimated 7,173 persons, based on regional job multipliers that estimate the creation of three jobs for every USD 1 million invested.² However, the Liberian labor force currently lacks the experience and skills to meet the bulk of the immediate hiring needs of mining companies. School attendance remains low and 56% of adults have never attended or completed primary school. Consequently, a large percentage of Liberia's current workforce is unskilled labor. Scholarship programs increased enrollment in the University of Liberia's Geology and Mining Program but lack of practical experience, outdated methods and an unsound grasp of basic mathematical and scientific principles restrict new graduates to assistant positions under foreign professionals. Limited education and experience levels of Liberian labor are a key constraint to local employment by the mining sector. As a result, skilled and specialized expatriate labor will be indispensable for the short and medium-term. A concerted mining skills development program involving government, industry and civil society is necessary to develop a workforce that matches the needs of the mining sector.

Local supply chain linkages present the greatest opportunity for job creation.

Counter to expectations, direct mining jobs will constitute only a small proportion of the overall jobs created. Indirect jobs within the supply chains of mining firms could create three times the number of direct jobs.³ In 2017, aggregate spending suggests mines will support 12,552 jobs (1.5% of the Liberian labor force), indirectly through supply chain linkages and induced through employee income spending.⁴ Therefore, the extent to which the mining sector is able to generate local employment is heavily dependent on the depth of supply linkages with local businesses.

Regulatory and policy gaps and inconsistencies limit local impact of mining.

The lack of a comprehensive local content law and framework created an environment without clear guidance on how mining firms should engage in local procurement and employment of local staff. The end result has been piecemeal efforts with varying approaches and definitions across mining regulatory agencies. Overlaps in monitoring and implementation of different pieces of legislation led to poor coordination and regulatory overload.

¹ "Concessions of Liberia 2006 to present", National Investment Commission database, emailed to author by NIC in January 7, 2014.

² "Structural Transformation and Natural Resources" *African Economic Outlook*, last updated May 19, 2014.

<http://www.africaneconomicoutlook.org/en/theme/structural-transformation-and-natural-resources/>.

³ Ethan Kapstein and Rene Kim, *The Socio-Economic Impact of Newmont Ghana Gold Limited*, Haarlem: Steward Redqueen, 2011.

⁴ Calculation based on active labor force in 2010 (1.1 million)

Recommendations

Institute targeted and coordinated local supplier capacity development.

Targeted local supplier development is necessary to upgrade the capacity of local businesses to meet the procurement needs of the mining sector. To address the constraints faced by local businesses, a mix of interventions is required to develop the technical, organizational and financial capacity of local suppliers. Partnerships and joint ventures between local and international suppliers should be encouraged and incentivized as they represent a quick way to bring local businesses on board as suppliers. Learning from the Ghanaian experience described in this report, a Liberia Chamber of Mines could play a central role in mobilizing the mining sector to participate in supplier development.

Standardize and coordinate training of mining-related professions at the national level.

A mining sector training and qualifications authority should be created to manage the development of relevant curricula and coordinate training activities. This body will ensure the training system is responsive and informed by the needs of the mining sector. This will increase uptake of local graduates and boost local employment.

Factor current capabilities and realities into local content policy formulation.

It is imperative for Liberia to create a policy that clearly articulates framework for incorporating local content into the mining sector. Local content requirements for Liberia are separately cited in different legislative documents with no overall guiding framework. The policy framework should strive for a balance between promoting economic participation of citizens and encouraging local value addition. Over-emphasis on either one of these is likely to hurt the overall goal of equitable and broad-based economic growth.

Align regulatory frameworks to be mutually reinforcing.

The Investment Act, the Liberia Minerals and Mining Law and the proposed Small Business Empowerment Act, regarding local content, need to be aligned so that the objectives of investment attraction and local economic participation do not run at odds. Currently, import tax exemptions create a competitive disadvantage for local suppliers. Creating incentives for corporates to buy through local vendors could mitigate this disadvantage.

Streamline mining sector monitoring to increase accountability and transparency.

Current overlap of monitoring roles and responsibilities are cumbersome for business and lack transparency. The role of the National Bureau of Concessions needs to be delineated and its capacity strengthened in order to better execute its monitoring mandate. Additionally, a Chamber of Mines should be created to encourage self-regulation and voluntary initiatives in the mining sector.

In sum, the mining sector presents enormous opportunities for job creation and supply chain linkages but absorptive capacity is weak for both labor and local business. Coordinated workforce and local supplier development is imperative to optimize employment and supply linkage benefits.

Chapter 1: Background

Significant iron ore, gold and diamond deposits bless Liberia with a rich mineral resource base with huge export potential.⁵ Past and present governments relied heavily on Foreign Direct Investment (FDI) to exploit these natural resources and drive economic growth. In the 1960s and 1970s, mining constituted two thirds of exports and 30% of all revenues of the Government of Liberia (GOL).⁶ However, such statistics masked underlying poverty and inequality in Liberia. In the 1970s, a mere 3.9% of the population controlled more than 60% of the income.⁷ In 1970, despite their contribution to Gross Domestic Product (GDP) and exports, concessions only employed 7% of the Liberian labor force, while the majority of the labor force (74%) worked in subsistence agriculture. Due to the enclave nature of mines, foreign investors repatriated a large share of the profits, limiting the economic benefits for average Liberians.

While a recent increase in FDI from the mining sector is expected to drive macro-economic growth, history shows that these projects alone will not create benefits for all Liberians unless an inclusive, locally oriented approach is taken. Developing and managing Liberia's finite resources to increase employment and in-country value addition is at the center of the country's economic growth strategy. To ensure these results are achieved, policy frameworks and supplier capacity must be developed to achieve growth through supply linkages and formal employment opportunities.

A Note on Suppliers:

The term "local supplier" is broadly used in this report to refer to all business that are registered and have a physical presence in Liberia: both foreign and Liberian-owned businesses. Additionally, the following terms are used interchangeably: "supplier," "business," "firm," "enterprise," "SME," "MSME."

This chapter presents an overview of the history, structure and economic significance of Liberia's mining sector. It highlights the challenges and opportunities inherent in mining, which are discussed in more depth in subsequent chapters.

The Role of Mining in Liberia's Economic Development

Natural resources, including minerals (iron ore, gold and diamonds), agriculture products (rubber, oil palm, cocoa) and oil and natural gas, played a critical role in the Liberian economy, both before and after the Liberian civil conflict. Between the 1950s and early 1970s, natural resources extraction carried Liberia through its longest period of economic growth, rising at 7% annually. Iron ore alone represented half of national export earnings in the 1970s and 1980s⁸ and 10% of GDP. In 1980, GDP per capita reached USD 1,765. Due to low commodity prices in the late 1970s, expected revenues for the mining sector did not materialize, resulting in a period of economic decline exacerbated by a military coup and eventually civil war. During the war from 1989 to 2003, most foreign investors left the country, fearing unrest and instability.⁹

⁵ *Annual Economic Review 2013* (Monrovia, Liberia: Ministry of Finance (MOF), 2014), <http://www.mof.gov.lr/>.

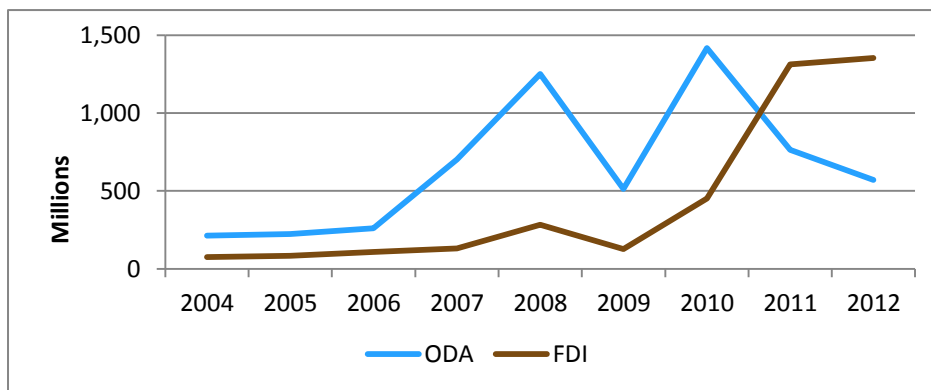
⁶ F.P.M van der Kraaij, "The open door Policy of Liberia," *Liberia Past and Present*, Accessed 2013, <http://www.liberiapastandpresent.org/opendoorpolicy.html>.

⁷ *Republic of Liberia Agenda for Transformation: Steps Towards Liberia Rising 2030* (Monrovia, Liberia: Republic of Liberia, 2013), <http://www.africaneconomicoutlook.org/en/theme/structural-transformation-and-natural-resources/>.

⁸ Van der Kraaij, *Open Door Policy*, 2013

⁹ *Agenda for Transformation*, 2013

Figure 1: Post-war trends of FDI and ODA from 2004 to 2013



“Country Economic Indicators”, *The World Bank*, accessed January 2014.

With the end of the civil war in 2003, Liberia’s economy expanded to include reconstruction efforts and an influx in development assistance. This influx in spending was predominantly in the retail and services sectors.¹⁰ While post-crisis Official Development Assistance (ODA) spurred economic recovery, ODA inflows are now on a decline with a notable drop from USD 1.4 billion in 2010 to USD 571 million in 2012. This decline is expected to continue until spending is closer to West Africa regional averages. Against this decline, however, FDI is increasing rapidly, particularly in the mining sector. From 2010 to 2012, FDI increased by almost 300%, from USD 452 million to USD 1.35 billion in 2012.¹¹

Post-Conflict Economic Trends and the Mining Sector

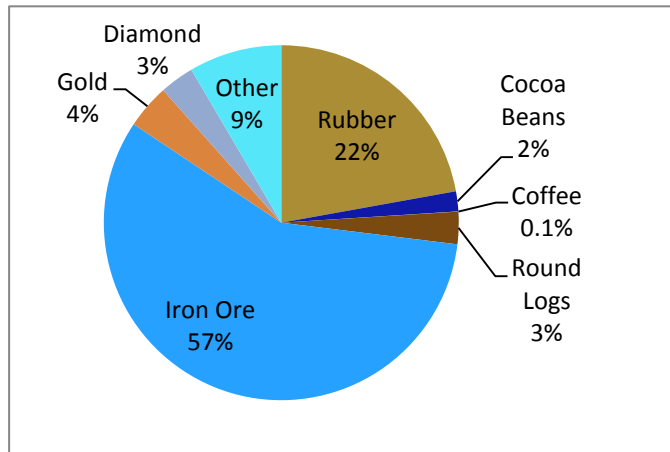
Despite a slow recovery in the post-war era, the mining sector is fast regaining its pre-war role in the Liberian economy. In 2003, rubber emerged as the mainstay of Liberia’s export sector until 2013 when, for the first time since the war ended, export earnings from mining surpassed rubber. Iron ore, gold and diamonds generated a combined USD 351.2 million, up from USD 155.8 million in 2012, and accounted for 64% of overall export earnings. In 2013, the resumption of iron ore exports contributed to 8.1% GDP growth. As a percentage of GDP, growth of the mining sector continues to increase steadily, rising from 4.6% in 2011 to 16.7% in 2013.

The services and manufacturing sectors, which represent opportunities for up-stream linkages in the mining sector, both experienced growth since the end of the civil war. Services accounted for 42% of GDP in 2013; however, the sector relies significantly on demand from development organizations. Continued growth of the services sector will depend on its ability to adapt to new markets (such as mining) as development assistance withdraws from Liberia.

¹⁰“Structural Transformation and Natural Resources” *African Economic Outlook*, last updated May 19, 2014. <http://www.africaneconomicoutlook.org/en/theme/structural-transformation-and-natural-resources/>.

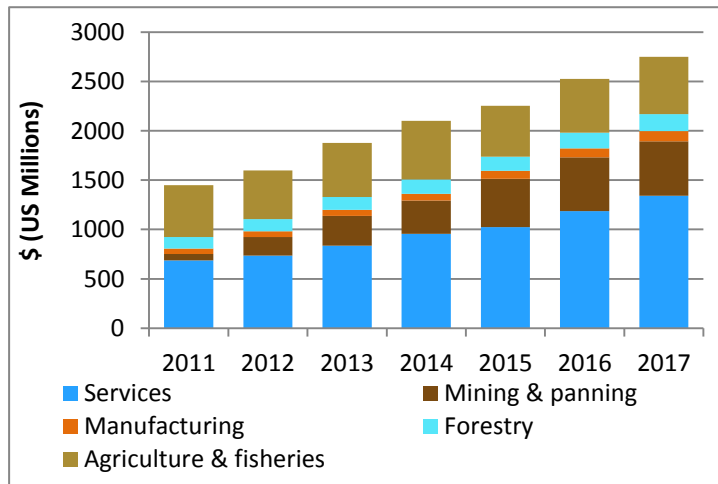
¹¹ “Country Economic Indicators.” *The World Bank*, accessed January 2014. <http://data.worldbank.org/country/liberia>.

Figure 2: Export earnings by commodity in 2013



Annual Economic Review 2013, Ministry of Finance, 2014

Figure 3: GDP percentages by sector



EFC Review, International Monetary Fund, 2013

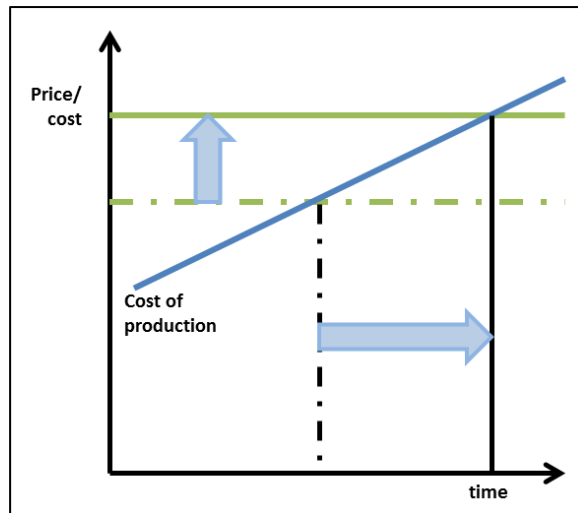
Other factors jeopardize these sectors' dominance in the local economy. For example, the increased demand for cement, on the back of construction, led the manufacturing sector to expand by 13% in 2013. However, this sector faces major constraints, notably the high cost of electricity which increases production costs and renders local products uncompetitive compared to foreign products that mining companies can import duty free.¹²

Economics of Mining Production

The profitability of a mining project is dependent on commodity prices and production cost. Generally, production costs increase throughout the life of the mine as more effort is needed to reach the deposit. When production costs exceed the commodity price, the project is no longer viable.

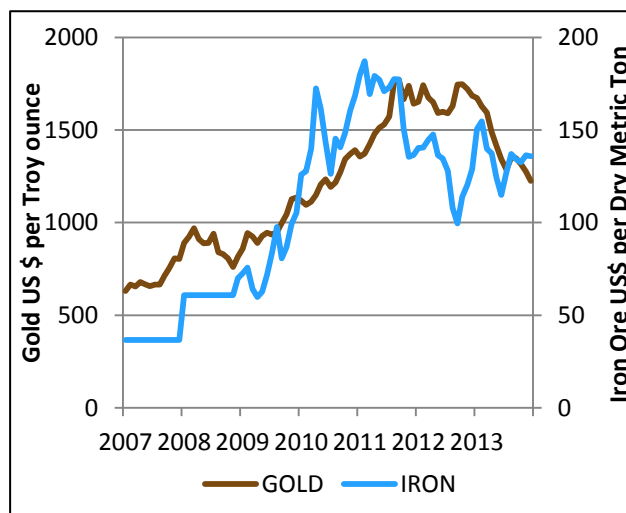
¹² Structural Transformation, May 19, 2014

Figure 4: Higher commodity prices extends life of mine



Kapstein & Kim, *The Socio-Economic Impact of Newmont Ghana Gold Limited*, 2011

Figure 5: Price of gold and iron ore 2007-2013



Commodity Prices, Indexmundi.com, 2014

Global commodity prices impact mining companies worldwide. However, companies doing business in Africa are more vulnerable to price volatility due to the high cost associated with weak infrastructure, including roads, electricity, and water. Recent volatility in gold market prices causes concern for advanced gold projects in Liberia preparing to start production. One mine stated if the price of gold drops below USD 1,400 per troy ounce, the project would be too expensive to continue. Despite economic uncertainty and the recent fall in prices, long-term trends still show increasing value for gold and iron ore.

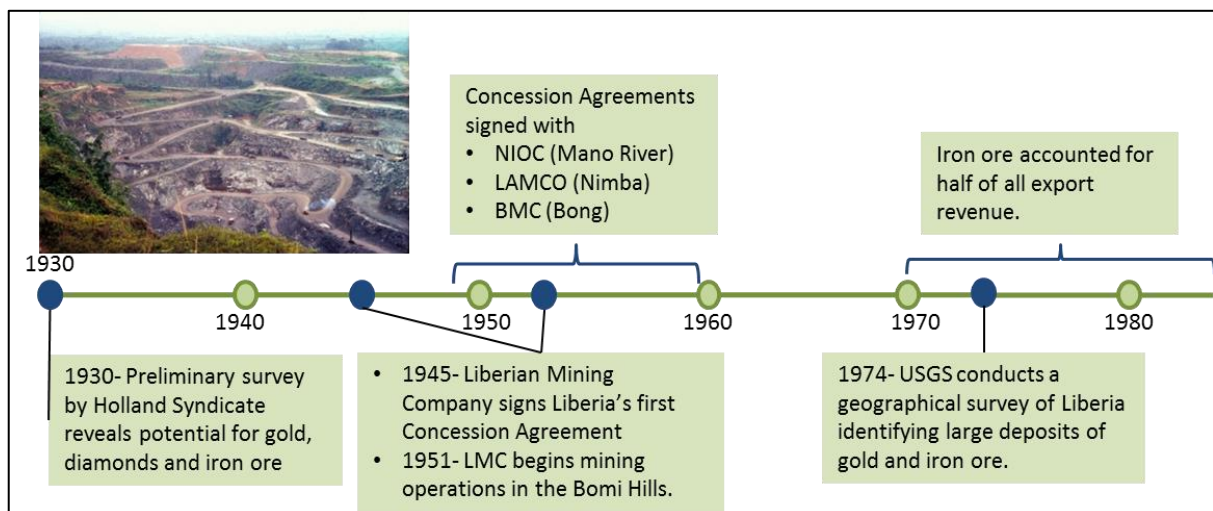
Higher commodity prices create more opportunities for local procurement and employment. When the commodity price is low, the financial squeeze on major companies is likely to decrease the number of locally available jobs and impact thousands of suppliers and their support staff who are

not directly involved in the mining business.¹³ Junior companies, who have less funding than major companies and primarily conduct only exploration activities, are vulnerable to price volatility and often close down operations until prices recover.

Evolution of Mining in Liberia

The history of commercial mining in Liberia dates back to the 1930s when the Holland Syndicate discovered significant deposits of gold, diamonds and iron ore. Artisanal mining of gold and iron ore, however, occurred since the 1500s. In 1945, the American owned Liberian Mining Company (LMC) became the first investor in the Liberian mining sector. LMC signed an 80-year concession agreement with the Liberian government to mine iron ore over three million acres in the Bomi Hills range. They also undertook construction of Liberia’s first port, a bridge over the St. Paul River and the railroad connecting the mine to the port. Soon thereafter, three other companies began operations: the National Iron Ore Company (NIOC) in the Mano river area, Liberian American-Swedish Minerals Company (LAMCO) in the Nimba Mountains and the Bong Mining Company (BMC) in Bong County. Throughout the 1960s and 1970s, Liberia was Africa’s largest iron ore exporter and third largest globally.¹⁴

Figure 6: Early Development of Mining in Liberia (1930-1980)



As the mining sector developed, so did Liberia’s economy. GDP doubled from 1970 to 1980 with growth rates averaging 22% per year.¹⁵ Mining companies improved the country’s infrastructure, constructed education and health care facilities and offered employment opportunities. LAMCO’s operations in the Nimba Mountains, transformed Yekepa from a rural village in northern Liberia into a town with access to a supermarket, tennis courts, golf course, swimming pool, movie theatre, community center, police station, hospital, pubs and discos.¹⁶

Due to the lack of downstream processing activity within Liberia, these developments occurred in concession areas with limited connection to the rest of the economy.¹⁷ Mining companies exported raw materials for processing outside of Liberia, limiting opportunities for value addition in country. Infrastructure development depended on the needs of the mining sector rather than the needs of

¹³ Richard Walker, “Why are mining companies losing money?” *African Business*, posted on September 18, 2013, 08:30, www.africanbusinessmagazine.com/features/mining/why-are-mining-companies-losing-money.

¹⁴ Van der Kraaij, *Open Door Policy*, (p. 162-190).

¹⁵ “Economic Trends,” *UNCTADSTAT*, accessed May 2013, <http://unctadstat.unctad.org/ReportFolders/reportFolders.aspx>.

¹⁶ Heidi Samnoen Aguilera, “Our Beloved Liberia” *Our Liberia*, April 2008, <http://www.ourliberia.com/>.

¹⁷ Van der Kraaij, *Open Door Policy*.

the general economy. Thus, railways and roads transported goods directly from mines to port but failed to encourage internal or cross border trade. Moreover, this mining-centric transportation infrastructure did little to improve movement for the majority of Liberians attempting to conduct trade across distant villages and marketplaces.

Falling commodity prices in the late 1970s led to decreased export revenues and an overall decline in the economy. Crippled by this decrease in revenues and rising prices of imported rice (Liberia's staple food), Liberia faced increased hardship.¹⁸ The situation deteriorated with the outbreak of civil war in the late 1980s, which brought large-scale mining operations to a halt. In 2001, the United Nations placed an embargo on diamond exports from Liberia and mining regressed to small-scale artisanal mining. In addition to an economic collapse, years of conflict resulted in the deterioration of infrastructure (roads, railways, ports) built by mining companies.¹⁹

Figure 7: Evolution of the mining sector in Liberia during the war and post-war periods, including key events in the sector's development



With the cessation of violence in 2003, the government encouraged new companies to invest in Liberia. The entry of ArcelorMittal, the world's leading steel and mining company, into Liberia in 2005 marked the beginning of a new post-war era in Liberian mining. Another milestone occurred in 2011: the first shipment of iron ore left the country, 22 years after LAMCO shut down and eight years after peace was restored.

Mineral Resource Potential and Current Activity

The United States Geological Services (USGS) conducted the most recent survey of Liberian geology in 1972. Published in 1974, the Geological Exploration and Resources Appraisal Project revealed the presence of iron ore, gold and diamonds, as well as other base metals including cobalt, lead, manganese, nickel, and tin, and other industrial minerals such as dolerite, granite, ilmenite, kyanite,

¹⁸ *Agenda for Transformation*, 2013

¹⁹ Yukiko Arai, Ata Cisse and Madjiguene Sock. *Promoting Job Creation for Young People in Multinational Enterprises and their Supply Chains: Liberia*. Geneva: International Labor Office, 2010.

phosphate rock, rutile, and sulfur.²⁰ Currently only iron ore, gold and diamonds are being extracted. With the exception of the Wologisi Range, a large iron ore deposit located in Lofa County, the government already granted the majority of known deposits (see Table 1).

Table 1: Mineral Deposits in Liberia

Iron Ore Deposit	County	Mining Project- Current ownership
Wologisi Range	Lofa	N/A
Western Range	Nimba	Yekepa project- ArcelorMittal
Putu Range	Sinoe	Putu project- Severstal/ Putu Iron ore Mining (PIOM)
Geo-Fantro	Grand Bassa	Goe-Fantro- Jonah Capital
Bong Range	Bong	Bong Mines- China Union
Mano River/Bomi Hills/Bea Mountain	Margibi	Western Cluster- EIENILTO/Vedanta Resources Plc

Gold Deposit	County	Mining Project- Current ownership
Bea Mountain Range	Cape Mount	New Liberty project- Aureus Mining Co. (AMC)
Kokoya Range	Bong	Kokoya project- Mehmet Nazif Gunal (MNG)
Dugbe Range	Sinoe	Dugbe Shear project- Hummingbird Resources

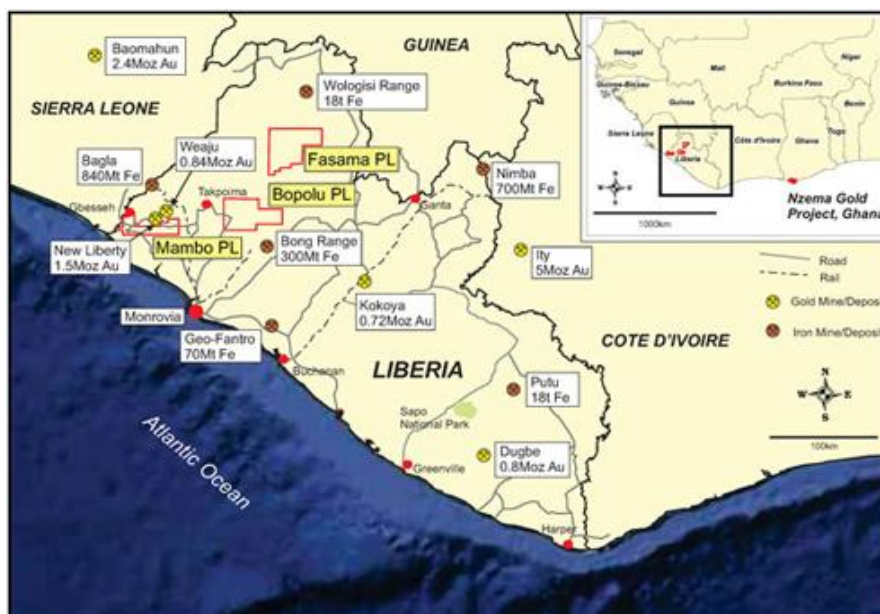
Due to outdated survey information, the majority of Liberia’s potential mineral resources have yet to be uncovered. MLME, responsible for Liberia’s mineral resources, believes the full potential of mineral resources in Liberia is unknown, and a lack of equipment and insufficient human capacity renders them ill-equipped to conduct geological surveys. Meanwhile, investors are transitioning from bidding on known deposits to exploring new deposits. Having accurate information on Liberia’s mineral wealth is essential to constructing an informed plan for the country’s mineral development strategy.²¹

Currently, 55 companies hold 108 mineral rights for commercial exploration and/or mining (see Table 2). The majority of companies (47) are in the exploration phase while eight have signed agreements with the government to begin mining. Of the eight, only ArcelorMittal and China Union began iron ore production. Not included in this list are companies in possession of licenses for non-commercial mining, including artisanal miners and small-scale non-industrial explorers. Mineral rights licenses and regulations governed by MLME are defined further in Chapter 2, Policy and Regulatory Frameworks.

²⁰ Behrendt, John C. and Wotorson, Cletus S. *Geophysical Surveys of Liberia with Tectonic and Geologic Interpretations* (Washington, DC: United States Government Printing Office, 1974).

²¹ Boiyan K. Kpokolo (MLME Assistant Minister of Exploration), interview by Kayla Casavant, May 2014.

Figure 8: Distribution of known mineral deposits, current mining activity and mineral potential in Liberia



Operations in Liberia, Endeavor Mining, May 2014

Table 2: List of companies with exploration and mineral rights

Iron Ore Mining Companies	
ArcelorMittal	Putu Iron Ore Mining Inc.
BHP Billiton Liberia Inc.	Western Cluster Ltd.
China Union (Hong Kong) Mining Co.	
Iron Ore Exploration Companies	
Acquarian Commercial Holdings Inc.	Southern Cross International LTD.
B.S.D. Inc.	TAWANA Liberia Inc.
Bao Chico Resources Liberia Ltd.	Tietto Minerals Liberia Ltd.
Iron Resources Ltd.	W.D.L. Corporation
IRONBIRD Resources	West Peak Iron Ltd.
Jonah Capital (BVI) Liberia Ltd.	WINESTOCK Development Liberia Corp.
MONNET Global Liberia Ltd.	KPO Resources
NIMBA RESOURCES LIMITED	Viola
Gold and Diamond Mining Companies	
Bea Mountain corp. (Aureus)	Bukon Jedeh Resources Inc. ²²
Gold and Diamond Exploration Companies	
MNG (formerly owned by AmLib)	Mining & Exploration services Liberia Ltd.
Aforo Resources liberia Ltd.	Noya Mining Ltd.
African Gold Mining Lib. Ltd.	PEDSAM Mining Corp.
Archean gold Liberia Inc	Planet Minerals Ltd.
BCM International liberia Ltd.	SALMEC Resources Ltd.
BG Minerals Lib. Ltd.	Sarama Mining Liberia Ltd.

²² Activity currently under review by the Supreme Court; Mineral License has expired.

Birimian Gold Ltd.	Sinoe Exploration Ltd.
Bopolu Commercial Ltd.	Sinoe Mining & Explorations
GEMROCKS Mining Resources Inc.	SINO-LIB. International Company
GEOMBLY (Liberia) Ltd.	Solomon Resources Corporation
Golden Saint (Liberia Ltd.	Superior Minerals Resources Inc.
Hummingbird Resources Inc.	TASK International Ltd.
Knights Group Inc.	Thackett Mining Inc.
Louis D'Or	Treco Mining Co.
Liberia Development Initiatives	West African Resources Ltd.
Middle Island Resources Liberia Ltd.	Youssef Diamond Mining Co.

“Map of Liberian mineral rights” MLME, March 2014.

Mining sector activity is expected to increase in the short-term through 2024 as mining companies progress from initial exploration activities into construction and mining activities.²³ Advanced iron ore exploration projects, wherein drilling already revealed significant deposits, include Western Cluster, Putu and BHP. Recent slow-down of activity at Western Cluster and Putu’s mining sites is due to pending approval from the government. Once approval is received, Putu will begin the construction phase and plans to build 140 km of railway from its mine site to Greenville port. Initially, Western Cluster planned to rehabilitate the former LMC railway to the port but now faces resistance from MLME due to the potential disturbance construction may cause communities that now live next to the tracks.²⁴ Although BHP recently announced their intention to maintain their 25-year concession agreement with GOL, the company is currently reviewing their global portfolio. Progress into the exploitation phase in Liberia will depend on the size of deposits discovered and whether it is economically feasible to extract them.²⁵

Advanced gold mining exploration projects include Aureus’s New Liberty Gold project, Mehmet Nazif Gunal’s (MNG) recently purchased Kokoya Gold project and Hummingbird Resources Dugbe Shear project. Aureus, which already began construction of the production plant and relocation of communities for its New Liberty Gold Project, is also exploring gold at their Ndablama project in Lofa County. Early results, estimated a cache of 450,000 oz., favor the future development of a second mine. The Kokoya project, recently purchased from AmLib Group by MNG, anticipates production by 2016. Hummingbird Resources is awaiting rights to the Dugbe range concession area. These rights are currently in the hands of Bukon Jedeh under an expired mineral license, which is being reviewed by the Liberian Supreme Court.

²³ Full descriptions of phases in the life of a mine are located in Chapter 3 of this report.

²⁴ Kpokolo, interview May 2014

²⁵ BHP Director of External & Community Relations, email message to Kayla Casavant, April 30, 2014.

Figure 9: Short-term developments in the mining sector

Mine Life Timeline	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Color Key	Feasibility Studies		Construction		Production		Rehabilitation				
Iron Ore Projects											
Yekepa Mine (Arcelor Mittal)	Production Phase I		Production Phase II								
Bong Mines (China Union)	Production Phase I		Production Phase II								
Western Cluster (EiENILTO/Vedanta))		Construction		Production (60-80years)							
Putu Project (PIOM)		Construction			Production (60-80years)						
BHP Billiton (Nimba, Bong, Margibi, G.Bassa Counties)	Feasibility Studies		Undecided project development based on further feasibility studies								
Gold Projects											
New Liberty Gold Project (AMC)	Construction		Production (8 years)								
Kokoya Gold Project (MNG)		Construction		Production (8 years)							
Dugbe Shear Zone (Hummingbird Resources)		Construction		Production (5-8years)							

Conclusion

Spearheaded by mining operations, the extractive sectors are expected to fuel much of Liberia's growth as the country transitions from reconstruction and recovery to sustainable economic development. By 2017, contributions of the mining sector to GDP are expected to reach 30% surpassing pre-war records.²⁶ However, macro-economic growth on its own is not enough. To maximize the impact of FDI on the local economy, measures must be introduced to encourage business linkages between international mining firms and local enterprises. In light of this, GOL should enact investment requirements aimed at prioritizing the procurement of local goods and services.

²⁶ EFC Second Review, 2013

Chapter 2: Regulatory and Policy Frameworks

Liberia enacted various policies and initiatives that attracted a sizeable amount of foreign investment in the mining sector. Unfortunately, some of these policies created additional barriers for local Small and Medium-sized Enterprises (SMEs) when providing goods and services to concessionaires. Designing policies, which attract foreign investment and strengthen development of SMEs in the mining sector, is crucial for inclusive and sustainable economic growth.

Prior to the civil conflict, the policies Liberia passed encouraged investment in the natural resources sector without supporting SME participation. As a result, the mining sector had limited connection with the rest of the economy.²⁷ To address this, the government recently revised and updated legislation to promote sustainable inclusive growth, including a Mineral Policy, Revenue Code of Liberia, Investment Act and Mineral and Mining law.

Due to the niche nature of the mining sector, lack of market information and the remote location of mining activities prevent Liberian businesses from accessing existing and future business opportunities without additional support. Although varying in approach, countries in similar contexts utilize local content policies to respond to this challenge. While local content is mentioned in some form across a variety of legislation in Liberia, no cohesive strategy for the mining sector exists.

This chapter provides a summary of Liberian regulatory and policy frameworks governing the mining sector and discusses existing regulations that support or impede opportunities for local SMEs and employment. This chapter also identifies regulations supporting local content and examines some regional examples of local content policies.

An Overview of Policies and Regulations

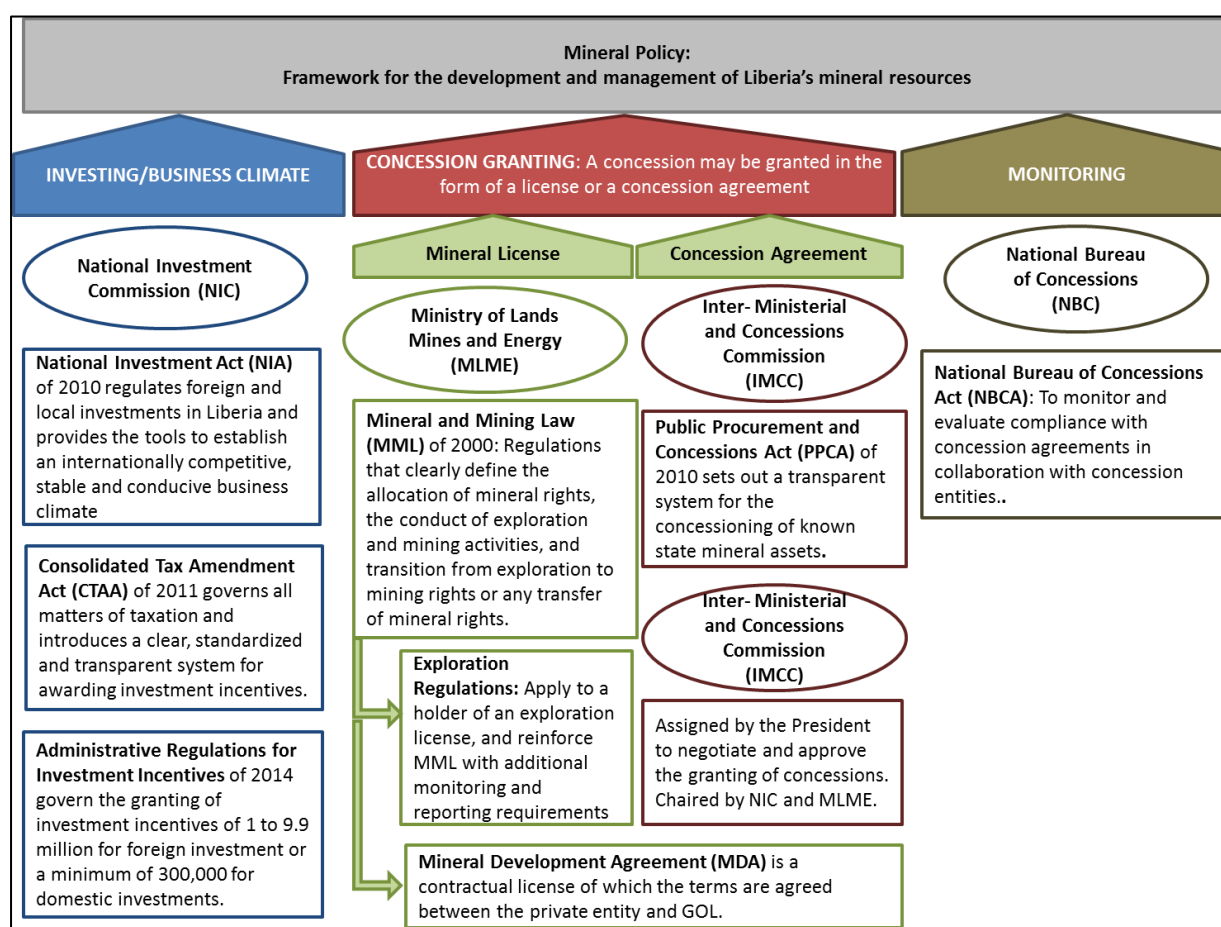
In Liberia, a variety of policies and legislation monitor and govern how investment enters and is undertaken within the country. Due to the complexity and number of entities involved in the mining sector in Liberia, understanding and navigating the investment climate can be daunting. Simplifying the number of policies and agencies may contribute to a more efficient use of resources and pro-growth policies.

The new Mineral Policy of Liberia (MPL), enacted in March 2010, provides MLME “a framework for the sustainable management of the country’s mineral resources and guides interventions by government institutions as well as other stakeholders.” The MPL facilitates “equitable and optimal exploitation of Liberia’s mineral resources to underpin broad-based sustainable growth and socio-economic development.”²⁸ To achieve this, the policy draws from the entire regulatory framework that governs Liberia’s mining sector. This framework consists of legislation described below and can be categorized under the following headings: Investment and Business Climate Regulations, Concession Granting Regulations, and Monitoring Regulations. Different government agencies oversee different aspects of the regulatory process.

²⁷ Van der Kraaij, *Open Door Policy*, 2013.

²⁸ *Liberian Mineral Policy*, (Monrovia, Liberia: Ministry of Lands Mines and Energy (MLME), 2010).

Figure 10: Policy and regulatory frameworks for the mining sector



Investment and Business Climate Regulations: Established in 1979, the National Investment Commission (NIC) is the government institution responsible for investment promotion. NIC is mandated to promote Liberia's many investment opportunities, attract and support the growth of value-adding FDI and advocate for and strengthen the domestic private sector.²⁹ NIC works closely with private companies in the mining sector to facilitate investment and is responsible for the administration of incentives. Incentives, or tax breaks, are used by NIC and GOL to make investment in Liberia more attractive to private companies, particularly in the mining sector.

The National Investment Act (NIA), originally signed in 1974 and updated in 2010, regulates incentives for mining companies and provides protection for investment. The NIC 2010 improves upon the 1974 Act by implementing practices consistent with international best practices.

The Consolidated Tax Amendment Act of 2011 (CTAA) governs all matters of taxation in Liberia and introduces a clear, standardized and transparent system for awarding investment incentives. Applications for investment incentives are evaluated and approved (or rejected) by NIC. In 2014, NIC published Administrative Regulations to provide additional conditions for awarding investment incentives to both foreign and domestic investors. These regulations provide a list of requirements, which must be met by investors before an incentive can be approved. In addition, NIC's responsibilities go beyond the initial investment and continue throughout the entire concession process as highlighted in the following sections.

²⁹ *Investors Guide to Liberia*, (Monrovia, Liberia: National Investment Commission (NIC), 2011), http://www.nic.gov.lr/public/Liberia_Investors_Guide_2011.pdf.

Concession Granting Regulations: The Amended Public Procurement and Concessions Act of 2010 (PPCA) describes a concession as “the grant of an interest in a public asset by the Government or its agency to a private sector entity for a specified period.”³⁰ By law, minerals in Liberia are a public asset; therefore, any exploration or mining activity can only take place under a concession agreement. The granting of a concession can be in the form of a license, granted under power and authority set out in the mining law, or in the form of a Mineral Development Agreement (MDA) which is a contract whose terms are agreed upon by the private investor and the government within the limits of existing legislation.

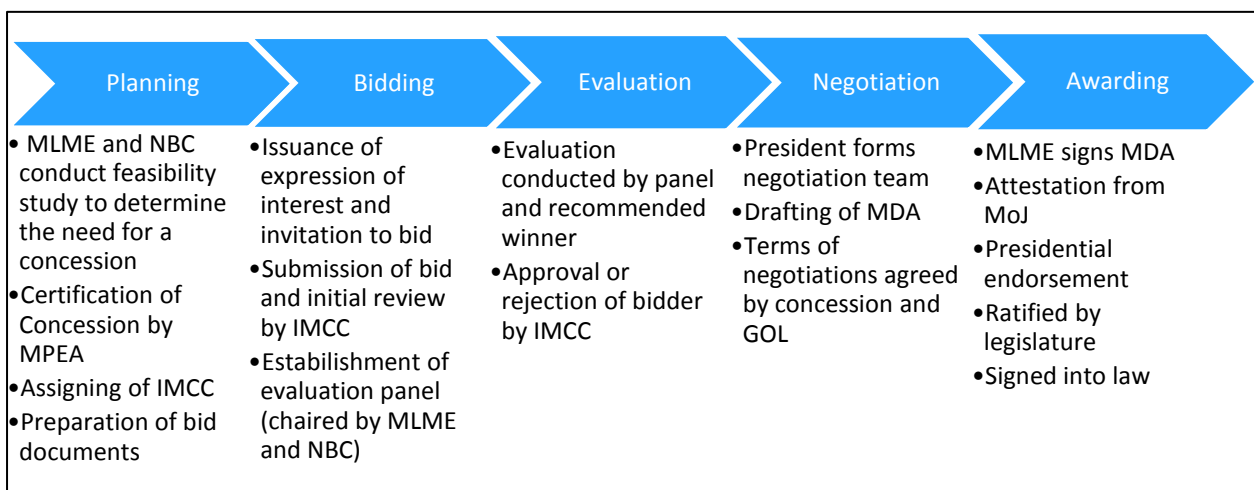
Licenses are awarded by MLME and regulated through the Mineral and Mining Law (MML). Licenses are available for the following activities:

- For non-mechanized exploration: Reconnaissance license and Prospecting license
- Mechanized exploration: Exploration license
- Non-commercial mining with local or foreign ownership respectively: Class B and Class C mining licenses
- Commercial mining: Class A mining license

Terms, activities and eligibility criteria for applicants are defined in the MML. Exploration Regulations from 2010 apply only to holders of an exploration license and spell out additional monitoring and reporting requirements.

Concession agreements, or MDAs, are another form of concession granting, requiring a processing procedure defined in the Public Procurement and Concessions Act (PPCA). MDAs grant an additional 25 years to concessions that discover significant mineral deposits and plan to engage in mineral exploitation. According to the mining law, an MDA is also a prerequisite for a Class A mining license. MDA negotiations in response to a tender are processed according to an open, transparent and competitive auction procedure for known mineral deposits detailed in Part VI “Procedures for Processing Concession Agreements”³¹ of the PPCA, and regulated by the mining law.

Figure 11: PPCA Process of an MDA



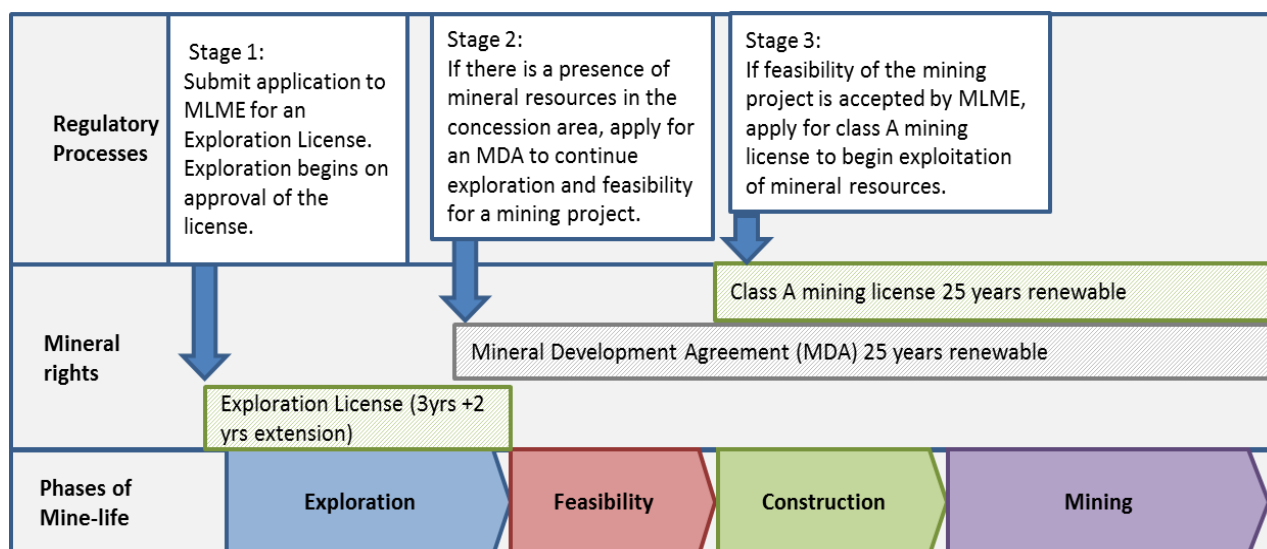
The Public Procurement and Concessions Commission (PPCC), established to uphold the PPCA, oversees MDAs and ensures concessions are awarded in a fair and non-discriminatory manner. However the PPCA doesn’t apply to unsolicited bids, which describes the majority of MDAs signed to

³⁰Amendment and Restatement of the Public Procurement and Concessions Act, 2005, (Monrovia, Liberia: Ministry of Foreign Affairs, 2010).

³¹ Ibid

date.³² The entity established by the PPCA as the decision-making body responsible for evaluating, negotiating and awarding concession contracts is the Inter-Ministerial Concessions Commission (IMCC). The IMCC is chaired by the NIC and has a membership comprised of ministers of MLME, Justice (MOJ), Finance (MOF), Labor (MOL), Planning and Economic Affairs (MPEA), Internal Affairs (MIA) and two additional ministers appointed by the President.

Figure 12: Regulatory processes for a commercial mining project



The granting of an exploration license by MLME is the first stage of the process. An exploration license is granted for a term of three years and can be extended for an additional two years. At the end of the three year term, the exploring company is expected to have conducted sufficient exploration to identify the primary deposit areas and is required by law to relinquish 50% of the remaining concession area to the government. This measure is meant to discourage companies from holding onto large areas of land while only conducting extraction on a limited portion. If exploration reveals a presence of mineral resources, an application for an MDA must be submitted to MLME before the end date of the exploration license. As stated above, MDAs consist of a 25-year term, renewable until mining is complete, and allows the company to continue exploration and feasibility studies. To obtain a Class A mining license, a mining company must submit a feasibility report, describing a plan for efficient and economic mining, to MLME, which has 90 days to review, approve or reject.

Updated Draft Minerals and Mining Law³³

Conflicting legislation, due to several updates in legislation introduced over the past ten years, created inconsistencies and friction among administrative entities involved in granting and regulating concessions. One example is seen in the definition of concession. Under the PPCA, all mineral rights constitute a concession, but under the mining law, only MDAs are subject to the processes for awarding concession agreements under the PPCA.³⁴ To address these inconsistencies, MLME is currently drafting a new mining law to define conflicting terms, clearly allocate responsibilities and streamline procedures for the Liberian mining sector.

The introduction of a mineral licensing system with comprehensive regulations is included in the revisions. The system will obviate the need for MDAs for projects with initial investments under USD

³² National Investment Commission, NIC response to mining policy, July 2014.

³³ This refers to Draft 1 of the updated Minerals and Mining Law, which is currently under revision by MLME.

³⁴ Kpokolo, interviewed May 2014.

500 million.³⁵ The updated law will also address gaps in legislation for the awarding of unknown mineral deposits, currently granted using a “first in, first assessed” principle. Processes for awarding concessions described in the PPCA are for known deposits. The new mining law will provide clarity on processes for transitioning from an exploration license to a mining license for unknown deposits. To ensure the updated mining law does not conflict with the PPCA, sections of the PPCA will need to be amended.

Though the updated mining law proposed significant changes to the current law, the impact on the mining sector will be minimal, as licenses and MDAs signed before the law comes into effect will not be held to new legislation.

Monitoring: Established under the National Bureau of Concessions Act (NBCA), the National Bureau of Concessions (NBC) evaluates and provides technical expertise for effective monitoring of concession agreements. MLME is responsible for monitoring mineral rights, which include all licenses and MDAs under the mining law. Lack of cohesive and standardized reporting mechanisms, along with weakness of government systems and monitoring capacity, hinder the monitoring compliance of mining concessions.³⁸

Table 3: Reporting guidelines for concessions submitting reports to MLME and NBC based on license type

License	Submission requirements
Exploration License	<ul style="list-style-type: none"> ▶ Work programme and budget³⁶ (to be submitted within 90 days of issuance of License to MLME)³⁷ ▶ Submissions as required by the EPA including an Annual Environmental Audit ▶ A Licensee must maintain records sufficient to demonstrate its compliance with Section 9.2 on Liberian goods and services (Exploration Regulations 2010) ▶ Quarterly reports covering: <ul style="list-style-type: none"> – Exploration progress report – Exploration expenditure – Proposed activities for the next quarter ▶ Annual reports covering: <ul style="list-style-type: none"> – Full details of all operations and studies – Exploration expenditure, which must show all eligible exploration costs in reasonable detail – Proposed program for the next annual period (except in the case of a final report)
Mining License: Class A	<ul style="list-style-type: none"> ▶ Feasibility report describing the mining and processing methods to be used, the design, costs and construction schedules for the proposed plant, facilities and equipment to be used ▶ An Environmental Impact Assessment Study Report prior to the grant of any application
Model MDA	<ul style="list-style-type: none"> ▶ Annual reporting on local procurement to the Minister within 60 days of the end of the fiscal year. ▶ Feasibility report including a project local purchase plan describing terms of an increasing percentage of local purchases of goods and services.

³⁵ *Update of the Liberian Minerals and Mining Act*, (Monrovia, Liberia: Ministry of Lands Mines and Energy, 2013).

³⁶ Work means all activities undertaken, including preparation for exploration, conduct of exploration, shutdown and demobilization, and all post-exploration environmental and other restoration and remediation

³⁷ *Regulations Governing Exploration Under a Mineral Exploration License of the Republic of Liberia ('Exploration Regulations')*, (Monrovia, Liberia: Ministry of Lands Mines and Energy, 2010).

³⁸ *Liberian Mineral Policy*, 2010.

Overlapping monitoring responsibilities between MLME and NBC serve as a validation mechanism but also create confusion when the two agencies do not coordinate their activities.³⁹ The lack of standardized reporting templates leads to inconsistent reporting by concessionaires. In response, NBC is currently drafting a reporting template for mining concessions, which includes information on company’s operations, production, exports, expenditure on labor and education, training or scholarships programs. Having a reporting template can standardize the information received by NBC from different concession holders and ensure better compliance by concessionaires.

Reports of non-compliance are submitted by NBC to the relevant ministry for corrective action. Issues to do with payments to GOL are referred to the Ministry of Finance (MOF). Reports of a mine’s non-compliance with labor law are forwarded to the Ministry of Labor (MOL). Lack of a transparent process or a designated entity responsible for the oversight and resolution of compliance issues creates potential opportunities for corruption.

Regulations and Local Content Requirements

Liberia lacks a local content policy for any sector, including mining. Various legislation pertaining to the mining sector, however, include regulations to support local content through the procurement of local goods and services, technology transfers and local employment. These regulations are inconsistent in their definitions and requirements to mining companies. Developing a local content policy for the mining sector is a high priority of NIC and is intended to provide clarity on Liberia’s local content requirements. Other countries in West Africa recently adopted local content policies for extractive sectors, including oil and gas and mining. Below is a comparison of the local content policies from Sierra Leone and Ghana, two countries with similar cultural and economic contexts as Liberia.

Examples of how governments have approached local content policies in the West African region:	
Ghana: Local Content Policy (2010)	Sierra Leone: Local Content Policy (2012)
<p><i>Definition of “local”: Local Content and participation refers to the level of use of Ghanaian local expertise, goods and services, people, businesses and financing.</i></p> <p>Highlighted Policy Prescriptions:</p> <ol style="list-style-type: none"> 1. Achieve 90% local content and local participation in all aspects of the oil and gas industry value chain within a decade. 2. A preference of Ghanaian entities even if they are up to 10% more expensive. 3. Specific targets for local participation in management and technical positions. <p>Implementation of Policy:</p> <ol style="list-style-type: none"> 1. Governed by regulations and other legal instruments. 2. National Local Content Committee comprised of public and private stakeholders to oversee and implement policy. 3. Business development and Local Content Fund to support capacity development aspects. 	<p><i>Definition of “local”: No clear definition of Sierra Leonean service providers. Just that they are registered in Sierra Leone.</i></p> <p>Highlighted Policy Prescriptions:</p> <ol style="list-style-type: none"> 1. A preferential margin of 10% to domestic firms. 2. For the beer industry, manufacturers shall utilize at least 20% locally produced sorghum. 3. In cases where bids are within 5% of each other at financial stage, preference to Sierra Leonean bids with at least 5% higher local content. <p>Implementation of Policy:</p> <ol style="list-style-type: none"> 1. Use as a benchmark when negotiating investment agreements. 2. Grant incentives with conditions aligning with the policy. 3. Coordination of roles for existing institutions. 4. Assigning a local content committee to oversee and coordinate monitoring of investors local content plans.

³⁹ Jerome Anderson (GEMS Concessions Advisor), interview by Kayla Casavant, March 2013.

Ghana's approach is slightly more aggressive, setting an ambitious goal of 90% local content in every aspect of the oil and gas sector in a decade, whereas Sierra Leone set a goal of 10% and increased percentage in targeted sectors. Both policies are less than five years old, so it is difficult to draw any conclusions or comparisons. In Ghana, preferential treatment for Ghanaian goods and services is inhibiting their accession to the World Trade Organization (WTO), which does not accept countries with restricted trade policies that conflict with the WTO's open trade policy. This should be taken into consideration by Liberia as they are also in the process of WTO accession.

Another approach to local content is South Africa's "Local Procurement Accord" signed in October 2010 by government, business, labor unions and community bodies. The accord commits to increasing the number of goods and services bought locally to 75%.⁴⁰ A similar compact was implemented in Sierra Leone as a strategy to implement their local content policy. This alternative to policy and regulation could incorporate mining companies that signed a concession agreement. Signing a pact also gives both the private and public sector ownership of the agreed goals. Ultimately the impact of such a policy will only be effective if it has the buy-in of all relevant stakeholders.

Requirements for Procurement of Local Goods and Services

The current mining law does not regulate local procurement of goods and services by large-scale mineral mining license holders; however, more recent regulations including signed MDAs, Exploration Regulations (2010), Administrative Regulations for Investment Incentives (2014) and the draft of the updated mining law support local procurement.

MDAs differ in respect to local procurement. Compared with older MDAs, more recent MDAs contain varied definitions and requirements of mining companies' procurement practices. The country's Poverty Reduction Strategy (PRS) of 2008 recognized the need for a model MDA to standardize concession agreements and align them with current legislation.⁴¹ Though the model MDA is not yet approved by the legislature, the two sections in the draft model related to local procurement were included in more recent MDAs.

The first section is the requirement of a written Project Linkages Plan to be submitted to MLME that defines the company's strategy for gradually increasing local procurement. The plan is to be included in the feasibility report required for a Class A mining license and authorization to start operations. Western Cluster MDA, Section 5.6 (e) states:

The Feasibility Report shall include a project linkages plan that (i) identifies the potentials for local suppliers, contractors and service providers to service the project, and (ii) sets out a project local purchase plan with clear milestones identified in terms of increasing percentage of local purchases of goods and services and providing for bidding preferences for local suppliers, contractors and services providers (provided that such persons offer quality, terms, delivery, service, quantity and price at least comparable to those obtainable from other sources)

Since the Project Linkages Plan does not require yearly progress reports or sanctioning for failure to adhere to the plan submitted, companies are not motivated by law to implement the plan they submit. Another weakness is the definition of "local suppliers," which can be interpreted as suppliers registered in Liberia or suppliers with Liberian ownership.

The second section relating to local procurement requires the company to give preference "to the maximum extent possible" to Liberian goods and services in their procurement for operations. The definitions of "local" and "procurement" vary between legislation. Aureus's MDA contains a definition of "local" and "procurement" that does not apply to Aureus's sub-contractors. The

⁴⁰ "The local procurement accord." *Proudly South African*. accessed April 2014. <http://www.proudlysa.co.za/local-procurement-accord>.

⁴¹ *Liberia: Poverty Reduction Strategy Paper—Annual Progress Report* (Washington, D.C.: International Monetary Fund Publication Services, February 2012). <http://www.imf.org/external/np/prsp/prsp.aspx>.

Exploration Regulations of 2010 and more recent MDAs specify preference be given to services provided by Liberian citizens or entities where citizens of Liberia residing in Liberia are entitled to at least 60% of the profits and extends this requirement to any contractors or subcontractors.

The updated mining law⁴² includes a section for local content, which addresses both local participation in hiring practices and procurement of local goods and services. If signed, the updated mining law will require that all holders of mineral licenses “prepare and implement a plan for linkages and local content” and designates MLME the right to prescribe a framework for monitoring, including definitions of linkages and local content which will guide the linkages and local content plan.⁴³ This law will improve the clarity of former legislation, but only if the Ministry develops a framework that includes definitions of “local content” and “linkages” that are driven by the Liberian context. Careful consideration should be given to the capabilities of the Liberian marketplace before any restrictions on local procurement are placed on the mining sector.

The updated mining law’s section 161 on “Linkages and Local Content” provides a collaborative approach between MLME and mining companies by listing goods and services that can be purchased from local suppliers. The section also requires mining companies to provide information on procurement needs to identify suitable products and services in the local economy. Subsection 4(b) requires that “preference be given to material and products made in Liberia and to businesses located in Liberia, in particular businesses that are owned or managed by Liberian citizens.” However, unlike the Exploration Regulations, the mining law does not define what constitutes Liberian ownership.

Clear and consistent definitions of “local,” “procurement” and “Liberian” businesses in all legislation will reduce inconsistencies in the regulatory framework, ensure compliance by concessions and potentially result in increased local procurement. International entities with Liberian registered businesses may use unspecified terms to bypass any objectives the policy aims to achieve. A more precise definition of “Liberian suppliers” may take into account ownership, value addition and employee makeup to better capture their intended socio-economic impact.

In addition to unclear requirements regarding local content, some mining regulations also impede the ability of local suppliers to compete with foreign companies. For example, tax exemptions allocated to mines through investment incentives regulated under the revenue code, make local suppliers (who must pay taxes on imports) unable to compete with foreign prices. With respect to investors engaged in mineral exploration or development, the following sections apply:

Table 4: Provisions for incentives for mines under CTAA

Chapter 7 Income taxation of Natural Resource Extraction; Subchapter A. Mining	- Income tax of 30% - Royalties and Surface Rent - Special rule for Mining Exploration and Development Expenditures; allowing deduction of any expenses attributable to a mining production project in the first tax period in which commercial production begins.
Section 1708. Exemption from Import Duties; (b) Special Rule for Mining Projects.	Import duty exemption on plant or equipment and capital spare parts, intermediate inputs; and raw materials during the period from inception of exploration until commercial production begins.
Section 2009. Exemptions from real property taxes	(i) Real property within a mineral exploration/mining license area and used for a mining project.

⁴² Currently being reviewed and revised by MLME

⁴³ *Updated Minerals and Mining Act, 2013*

To help counteract the advantage the law provides to foreign suppliers, the NIC published Administrative Regulations (Feb. 2014), which encourage increased local content for foreign companies applying for investment incentives. Since much of the procurement of mining companies takes place through the contracting of foreign companies, these regulations will have an impact on local content in the mining sector.

The Administrative Regulations govern the granting of incentives for foreign investments between USD 1 and 9.9 million (minimum of USD 300,000 for domestic investments) in priority areas including manufacturing; hospitals and clinics; air, sea, rail and road transport infrastructure; all of which are targeted sectors for mining project procurement. For foreign firms that are applying for incentives, the following conditions apply to procurement:

Conditions to Prequalify for Special Investment Incentives (NIC 2014)

- Submit a plan that links Liberian business service providers and vendors to its operations.
- Submit a business plan that clearly articulates adherence to internationally accepted local content standards including a plan for knowledge and technology transfer.

Definitions of “internationally accepted local content” and “Liberian businesses,” and an outline for the anticipated linkages plan will determine the extent to which these regulations impact the local economy. Monitoring of companies’ compliance with these conditions is also important to its successful implementation.

Local Content Requirement for Local Employment

The current mining law prioritizes Liberian citizens over foreign employees at all levels of operation and forbids the hiring of non-citizens for unskilled labor and is extended to all contractors and subcontractors of the operator. A few MDAs go a step farther to specify targets for employment, particularly an increasing percentage of Liberians in management positions. However, these targets are impractical due to another sub-section, which notes companies can “choose its employees and be free to employ non-citizens required for efficient conduct.”⁴⁴

Considering the existing skills gap in Liberia, a more practical approach to local employment will encourage the creation of opportunities for skills development. The current mining law requires mines to provide their employees with continuous training to prepare Liberians for skilled, technical, financial, administrative and managerial positions. Training requirements in the MDA vary from unspecified descriptions of training facilities to specific monetary contributions to scholarships and the UL geology and mining department. Despite scholarships given to students in this program, many students struggle with the mathematics and basic science needed to complete the coursework, and no more than 10 graduate in a given year.

A few MDAs require companies to take on two professionals seconded from MLME. This provides an opportunity for Liberian professionals (usually geology or mining engineers) to gain experience working for a mine. One exploration company stated that secondment provides them time to train Liberians who will then be qualified to accept a position within the company.

The updated mining law contains additional details of training requirements. Absent is any reference to adherence by contractors or sub-contractors to priority recruitment of Liberian citizens, expressed in the current mining law. Since mines often contract and sub-contract much of their on-site services, the lack of their inclusion as part of the new mining law will lessen the potential impact on local employment in the mining sector. Incentives for mining contractors to increase local

⁴⁴ Republic of Liberia, *An Act to ratify the concession agreement among the government of the Republic of Liberia, Western Cluster Limited, Sesa Goa Limited, Bloom Fountain Limited and Elinilto Minerals and Mining LLC*. (Monrovia, Liberia: Ministry of Foreign Affairs, 2011).

employment and training are provided through Administrative Regulations created by NIC under the investment code, which require the following as conditions for receiving special investment incentives available through the revenue code:

- Partnership with established Technical Vocational and Educational Training (TVET) institution operating in Liberia to create demand-driven recruitment pipelines.
- Hire one Liberian apprentice for each expatriate operating complex machinery or equipment to be able to operate said equipment within one calendar year.
- Submit a plan for how 20% of expatriate managerial staff will be replaced by Liberians within two calendar years.⁴⁵

Monitoring the employment practices of mines is a challenge, as mines are not required to submit a report on their employment.

Conclusion

The Agenda for Transformation, Poverty Reduction Strategy, Investment Act and Mineral Policy all stress the importance of assuring mineral extraction creates maximum local economic linkages before Liberia's natural resources are exhausted. However, there is a lack of coordination between agencies to achieve this goal. Increasing monitoring capacity to fully implement the regulations currently in place while developing transparent processes and clearly defining roles for various agencies will help improve concession compliance. A unified strategy for implementing policy across agencies, as well as an empowered entity to lead the process, is critical to the implementation of regulations that encourage linkages between mining enclaves and Liberian SMEs. The development of a Liberian local content policy will be successful if accompanied by an in-depth understanding of mines' procurement and employment needs as well as the current capacity of Liberian suppliers. An analysis of goods and services in demand from mines in Chapter 3 and analysis of local capacity in Chapter 4 highlight opportunities for linkages. These opportunity areas can benefit from supporting regulation and policies.

⁴⁵ *Administrative Regulation No. 002/NIC/01: Conditions to Prequalify for Special Investment Incentive* (Monrovia, Liberia: National Investment Commission, February 1, 2014).

Chapter 3: Mining Procurement and Local Sourcing

Utilizing demand data compiled by Kaiser EDP from selected mining companies, this chapter gives insight into the nature of procurement needs of mining operations and discusses local procurement opportunities in the Liberian mining sector. Goods and services procured between 2011 and 2013 are classified into three demand categories and further analyzed to determine the spending distribution between different types of suppliers. A projection of mining procurement needs is presented up to the year 2016 including estimated aggregate demand for the mining sector. The chapter concludes by highlighting the goods and services with high potential for local sourcing, identified by mining companies and local suppliers.

Mining Life Cycle and Procurement

A mining project advances through a number of different phases, varying in duration depending on the size and location of the mineral deposit. The mining life cycle consists of five major phases including exploration, feasibility, design and construction, production and close-out. As illustrated in Figure 13, each phase has unique procurement requirements, providing opportunities for a variety of local suppliers.

Figure 13: Mine Life-Cycle and Procurement

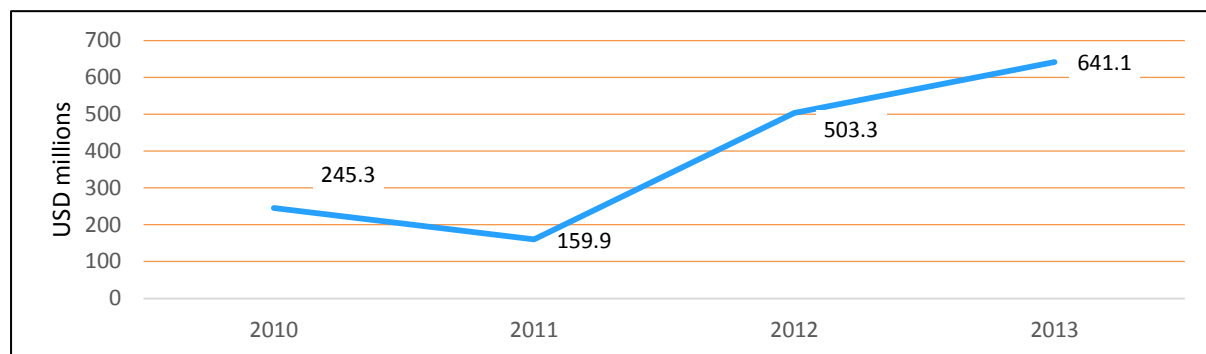


During the beginning stages of the mine life cycle procurement is minimal and centered on specialized technical equipment and services to conduct drilling and sampling. In developing countries with low human capital development, these equipment and services are largely imported with local procurement confined to support services in hospitality and logistics associated with setting up field camp. Involving the construction of roads, railways, staff housing, processing and port facilities, the construction phase presents the greatest opportunity for local employment and procurement and often marks the peak for local goods and services distributed over a range of skills.

Procurement levels off as construction winds down and production, the longest phase of the life-cycle, begins. Due to the capital-intensive nature of modern mining, specialized global suppliers fulfill major procurement needs in this phase. In the production phase, local firms in less developed economies tend to provide on-going, non-core support services such as catering, environmental services and logistics. Procurement needs diminish in the close-out stage as goods and services are only required for environmental management.

Data from five mining companies (four iron ore companies and one gold company) demonstrate typical spending levels of the Liberian mining sector. They spent a total of USD 1.5 billion on procurement of goods and services from 2011 to 2013. Breaking down spending into categories of procurement associated with relative phases reveal trends in spending throughout the life cycle. The majority of spending, 75% (USD 1.13 billion) was spent on a combination of feasibility and construction phase-related activities. Just 4% (USD 60 million) was spent on exploration-related activities, and production phase activities accounted for only 24% (USD 360 million). Low procurement in production from 2010 to 2013 is due to only two of the five companies operating in the production phase.

Figure 14: Evolution of goods and services spending by mining companies in Liberia (2010-2013)



Kaiser EDP for World Bank, "West Africa Local Procurement: Framework for Categorizing Local Businesses", April 2014

Overview of the Procurement Structures for Mining Companies in Liberia

The procurement structure of mining companies, such as using a hybrid supply chain management approach and informal procurement plans, has implications for local sources of goods and services. All five mining companies interviewed for this report use a hybrid supply chain management approach in planning and executing their procurement activities from both headquarters and field offices. During the exploration and feasibility phases, procurement is low and inconsistent, managed through weekly ad hoc purchases. All of the interviewed companies engaged in exploration/feasibility reported they did not work from a formal procurement plan. During this phase, companies develop vendor lists and build relationships with local suppliers identified through site visits and recommendations, giving firms a short window of opportunity to prove their ability. Suppliers that secure a good relationship with a mine at this stage are more likely to provide goods and services over the long-term. However, the informal nature of procurement in these early phases limit opportunities for local suppliers to link with mines.

Once production starts, a more formal procurement plan is developed to regularize purchases in accordance with a comprehensive project plan administered from headquarters. An open bidding process is used to purchase large orders or identify subcontractors; however, since mining companies establish relationships with suppliers in the exploration and feasibility phase, the bidding process can be unfairly biased toward known suppliers. Within Liberia, the procurement function is often split between a central office in Monrovia and a field office based at the mining site. A significant portion of procurement for camp services and construction work is done through sub-contractors who have considerable freedom to source from second-tier suppliers of their choice. Sub-contracted work mainly falls within the areas of construction and civil works, integrated camp services, drilling and mining.

Goods and Services Demand by Mining Companies in Liberia

Mining companies' procurement falls into three main categories: plant and equipment construction and core services, mining consumables, and non-core products and services. A detailed description of each category is given in the sections below.

Demand Category 1: Plant and equipment, construction and core services

Demand Category 1 goods and services are core to mining operations and account for the bulk of mining company procurement spending over a mining project's life cycle. This category accounted for 52% of spending by mining companies in Liberia between 2010 and 2013. However, local supply firms' inability to access the latest technologies and skills needed to execute core mining functions forced mining companies to turn to global contractors with the resources and expertise. Foreign suppliers accounted for 89.1% of all recorded spend in this category.

Figure 15: Examples of goods and services in Demand Category 1

Plant and equipment, construction and core services
<ul style="list-style-type: none">• Geological and exploration services• Analysis and testing• Supply chain services• Environmental services• Feasibility, design and engineering• Construction, and related materials and services• Contract mining• Equipment & Plant maintenance and repair• Equipment rental• Drilling equipment and services• Plant and equipment - mining/general• Auxiliary equipment• Electronic equipment and supplies• Electrical equipment and supplies• Spare parts for mining equipment

The number of local firms developing to meet opportunities in this demand area increased over the past three years. However, local firms' comparatively low experience and limited skill base undermined their ability to win contracts.

Demand Category 2: Mining consumables

Demand Category 2 goods and services are essential to the operation of mining activities but have a low level of technical sophistication and low performance risk compared to the Category 1. Participation of local firms in procurement opportunities in Category 2 is slightly higher than in Category 1 but mostly restricted to gap-filling roles. Local companies provide the bulk of goods and services in the telecommunications and petroleum sectors. The ability of local firms to capitalize on opportunities in this category is currently hindered by the lack of a manufacturing sector, which is necessary for some value addition activities, such as chemical mixing, small parts manufacturing and machining.

Figure 16: Examples of goods and services in Demand Category 2

Consumables
<ul style="list-style-type: none">• Exploration consumables• Explosives and accessories• Mine supports (underground mining)• Process consumables: chemicals, reagents, grinding media, etc.• Fuel and lubricants• Tires• Small equipment replacement parts and tools• Wear parts and ground engagement tools• Electricity• Water services (including general waste management)• Telecommunications

Demand Category 3: Non-core products and services

Demand Category 3 are non-essential but necessary services needed to support general operations of mining companies. This is the most amenable category to local sourcing because of the low performance risk and relative simplicity of the goods and services needed. The bulk of local firms doing business with mining companies feed into the supply of goods and services in Category 3, resulting in several reputable and reliable suppliers. Liberian firms are especially active in the supply of security services, food and beverages, home essentials, office supplies and equipment and general logistics.

Figure 17: Examples of goods and services in Demand Category 3

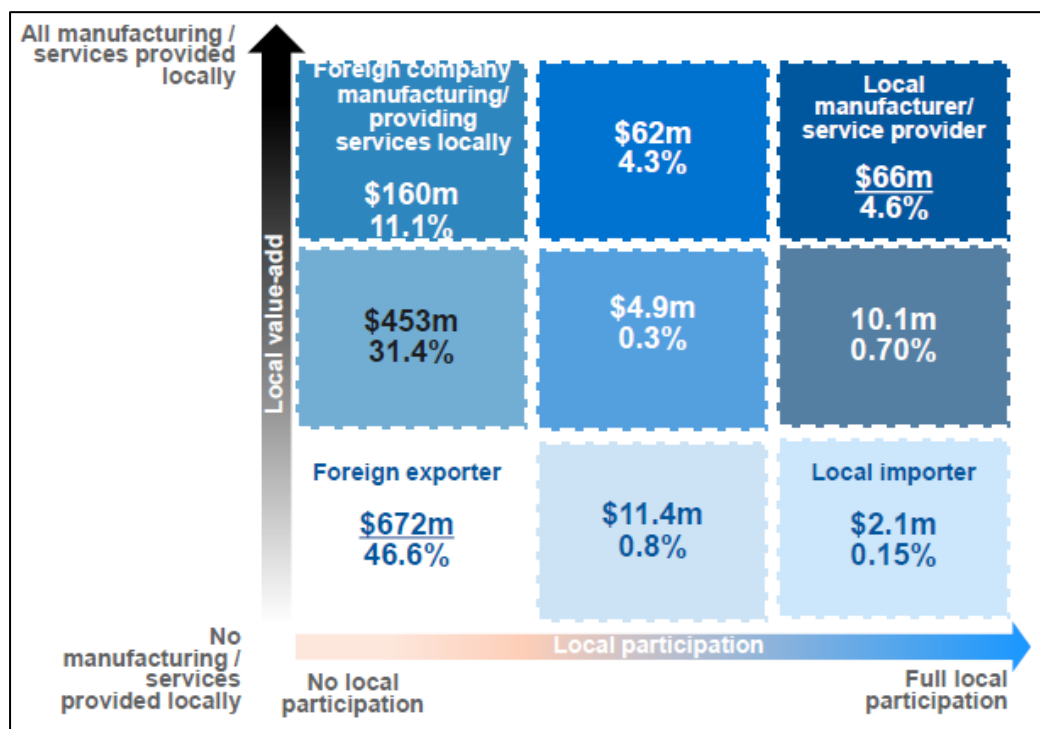
“Non-core” goods and services
<ul style="list-style-type: none">• Site related services• Corporate/administrative services• Personnel related services• General repair and maintenance• Safety and protective equipment• Office supplies and equipment• Camp/site supplies (general)• Furniture• Software• Food and beverages

Current Performance on Local Procurement

From 2010 to 2013, 21.4% (USD 308 million) of spending reported by the five mining companies was through locally registered businesses (businesses that are registered with LBR). However, this group of suppliers does not capture the full socio-economic benefits of local procurement. Further analysis determined the local content of each supplier based on local participation through ownership and value addition of goods transformed or services provided in Liberia. Using a scale that draws from each of these components gives a more accurate description of the impact of local procurement. Goods that are manufactured or assembled in Liberia are considered to have more local value-add compared to goods that are imported in their final form.

Based on the above characterization of local content, available data shows a dominance of foreign suppliers in the provision of goods and services to the mining industry. Of USD 1.55 billion spent by five mines from 2010 to 2013, foreign-owned business (whether producing locally or not) made up 89.1% of total spending whereas just 4.6% of total spending was on value-adding Liberian-owned businesses. Low value-adding Liberian suppliers accounted for less than 1% of the total spending. It is noteworthy that foreign-owned firms with high value-addition ratings account for a modest 11.1%. These suppliers are registered in Liberia and either undertake manufacturing in-country or employ Liberian people to provide goods and services.

Figure 18: Distribution of mining expenditure by supplier category (2010 – 2013 data)

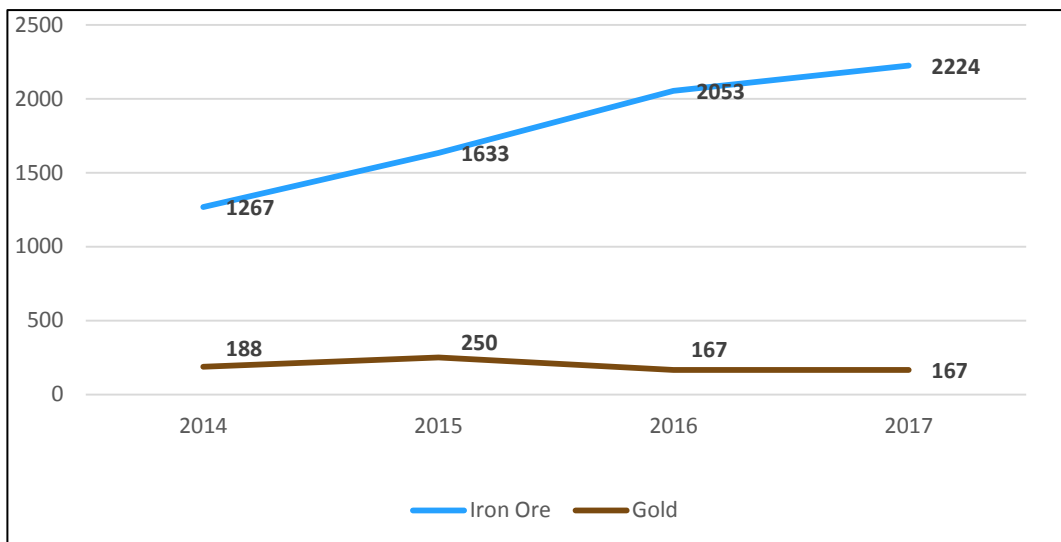


Kaiser EDP for World Bank, "West Africa Local Procurement: Framework for Categorizing Local Businesses", April 2014

Demand Projections for Mining Companies in Liberia

As additional mining projects progress from exploration and feasibility to construction and production phases over the next three years, annual expenditure on goods and services is projected to spike. This rise will be led by developments in the vast iron ore sector with additional demand driven by gold. Annual demand for goods and services is forecasted to reach USD 2 billion in 2016. Category 1 goods and services will drive demand with an estimated 64% of the total demand value. Category 2 goods and services will make up 21% of the total demand with Category 3 accounting for only 14%.

Figure 19: Mining expenditure forecasts for the period up to 2017

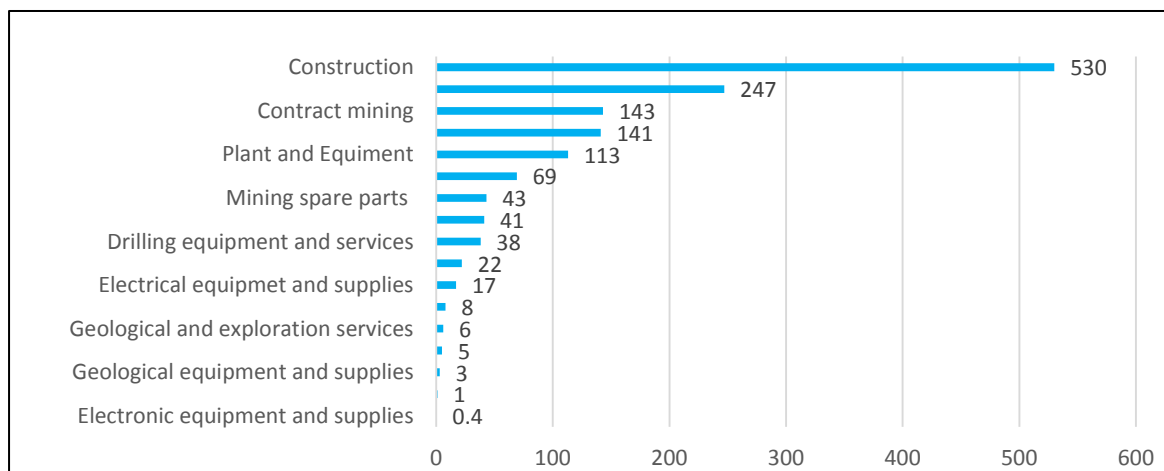


Kaiser EDP for World Bank, "West Africa Local Procurement: Framework for Categorizing Local Businesses", April 2014

Demand Category 1 Forecasts

Demand for plant and equipment, construction and core services is projected to reach USD 1.4 billion in 2016. Eighty percent will come from construction, equipment rental, contract mining, feasibility, design and engineering, and plant and equipment. Construction goods and services will dominate demand in the entire category as major iron ore projects are set to commence construction activities.

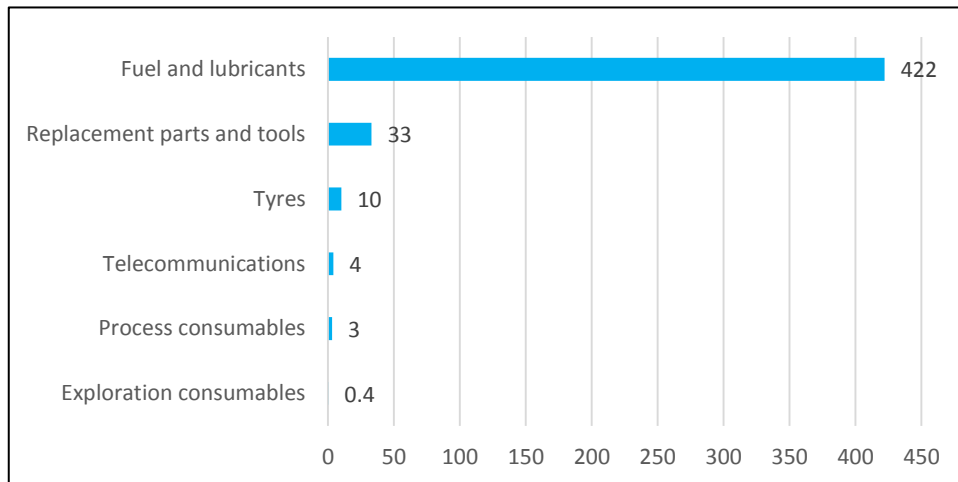
Figure 20: 2016 demand forecasts for Category 1 goods and services (in USD millions)



Demand Category 2 Forecasts

Demand for mining consumables products is projected to reach USD 473 million in 2016. Due to the use of gasoline-powered generators for electricity generation, fuel and lubricants alone will account for 90% of total category spending. Fuels and lubricants are mostly procured through local dealers and distributors. Demand in this category is expected to remain strong over the long-term as mining operations gain momentum.

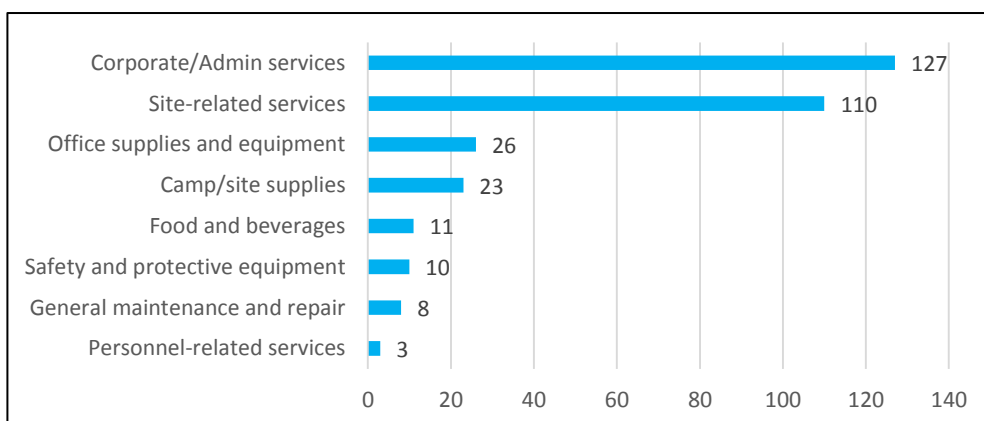
Figure 21: 2016 demand forecasts for Category 2 goods and services (in USD millions)



Demand Category 3 Forecasts

Category 3 is expected to reach USD 317 million in 2016. Seventy-five percent of expenditures is forecasted to go toward corporate support and site-related services. This category includes the supply of agricultural commodities such as rice, vegetables and fruits, which will be worth USD 11 million. Accompanying catering services, which fall under the site-related services category in the chart below, bring the value to over USD 30 million.

Figure 22: 2016 demand forecasts for Category 3 goods and services (in USD millions)



Local Procurement Opportunities

Mining companies show a willingness to increase local procurement to meet MDA commitments and contribute to socio-economic development in mining communities. Despite low levels of local procurement, mining companies indicate preference to sourcing locally to save time and contribute to the creation of economically vibrant and hospitable host communities.⁴⁶

Mining companies indicate that in the short, medium and long-term horizons, potential for local procurement exists across all three demand categories. Short-term opportunities exist for goods and services mining companies are already sourcing locally or have the potential to be sourced locally within a period of three years. Medium-term opportunities can be realized within a timeline of ten years and long-term opportunities require at least ten years for meaningful procurement to occur locally.

Table 5: Local procurement opportunities in Demand Category 1

Good/Service	Opportunity Timeline	Forecasted spending in 2016 (USD)
Construction services/ materials and steel balls	Short-term	\$530m in construction services
Stevedoring, clearing and forwarding, logistics	Short-term	\$41m for supply chain services
Lab testing, analysis	Medium-term	\$5m Analysis and testing
Drilling and mining equipment rental/ hire/ services, spares	Long-term	\$247m on Equipment rental \$536m total equipment/ services/ parts/ repair

Table 6: Local procurement opportunities in Demand Category 2

Good/Service	Opportunity Timeline	Forecasted spending in 2016 (USD)
Uniforms	Short-term	\$2.2m overalls, gloves and work wear
Internet/ communication services	Short-term	\$4m on Telecommunications
Lubricants/ petroleum	Short-term	\$422m on Fuel and lubricants
Explosives/ANFO	Medium-term	Unknown

⁴⁶ Building Markets "Buyer Survey," February - April 2014.

Table 7: Local procurement opportunities in Demand Category 3

Good/Service	Opportunity Timeline	Forecasted spending in 2016 (USD)
Camp management/catering & security/HSE	Short-term	\$110m for site related services
Food products (fish, rice, fruit, vegetables)	Short-term	\$10m on food and beverages \$30m on Catering overall
Safety/personal protective equipment	Short-term	\$10m on PPE
Carpentry/ furniture	Medium-term	\$23m on camp/ site supplies
Labor broking/ HR services	Medium-term	\$127m Corporate/ Admin services

While the demand in each opportunity area appears large, the portion captured by local suppliers will depend on their readiness to meet required performance levels. Chapter 4 will shed more light on local suppliers' supply-readiness levels.

Conclusion

Over the next ten years, the progression of mining projects to the construction and production phases will create increased opportunities for local procurement; however, whether spending is absorbed by the local economy depends on suppliers' readiness to meet buyers' needs. Currently, only a small percentage (21%) of spending from the mining sector is on locally registered businesses, the majority of which is in the services sector. To increase the percentage of spending in the local market, capacity building for local businesses and better information networks need to be developed. Additionally, support should be directed towards foreign-owned domestic businesses, which contribute significantly to the supply of local value-added goods. Any future local content policies should judiciously balance citizen empowerment and the local value addition of foreign-owned, locally situated businesses.

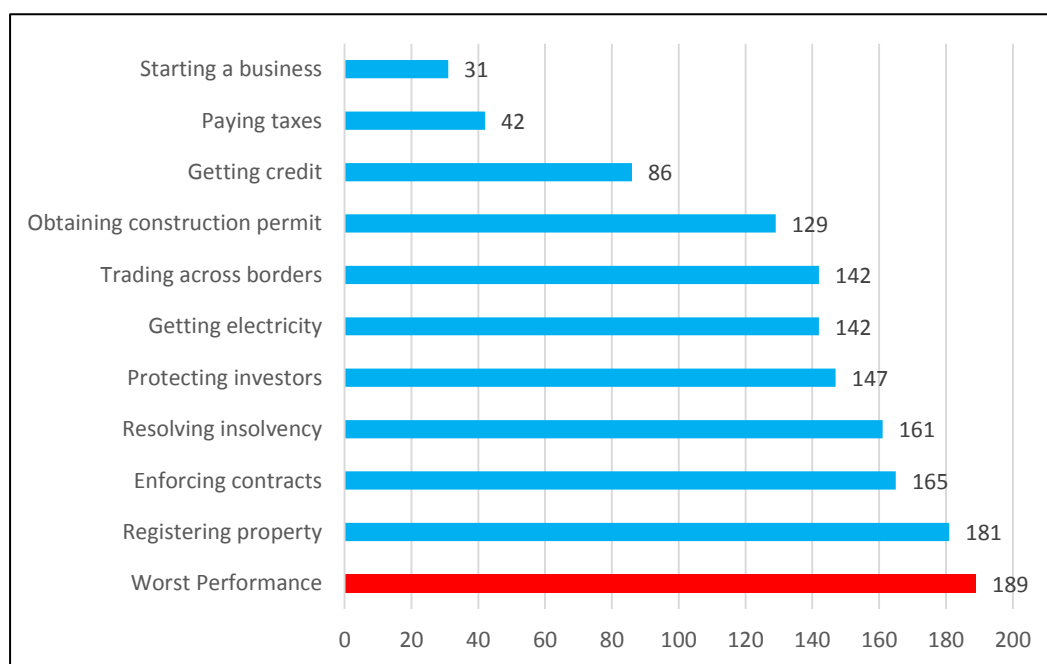
Chapter 4: Supply Chain Spill-Overs and Local Supply Capability

This chapter analyzes and discusses Liberian suppliers' capabilities and readiness to capitalize on procurement opportunities presented by the mining industry in Liberia. It provides an overview of the Liberian business landscape in terms of key firm characteristics and operating context, followed by a discussion of local suppliers' absorptive capacity for supply linkage opportunities and operating constraints. This chapter ends with an analysis of current supplier development programs and suggestions for future interventions to improve supplier capabilities to meet immediate, medium and long-term needs of mining companies.

Country Business Competitiveness Context

Since the end of the civil conflict in 2003, the Liberian economy has been on a recovery path. Significant economic reforms improved the country's business environment, resulting in a surge of foreign direct investment and an increase in local economic activity. The country's position on the World Bank's *Doing Business* ranking steadily improved from 166th position in 2007 to 144th in 2014. Liberia performs well in the categories of ease of paying taxes and ease of starting a business. However, Liberia has relatively poor scores in seven of the ten *Doing Business* indicators, as shown in Figure 23. Despite significant improvements in economic performance, the country remains in the lower quartile of the country competitiveness index.

Figure 23: Liberia's ease of doing business rating out of total of 189 countries (2014)



Doing Business: Economy Profile: Liberia, The World Bank, 2013.

Liberian Business Landscape

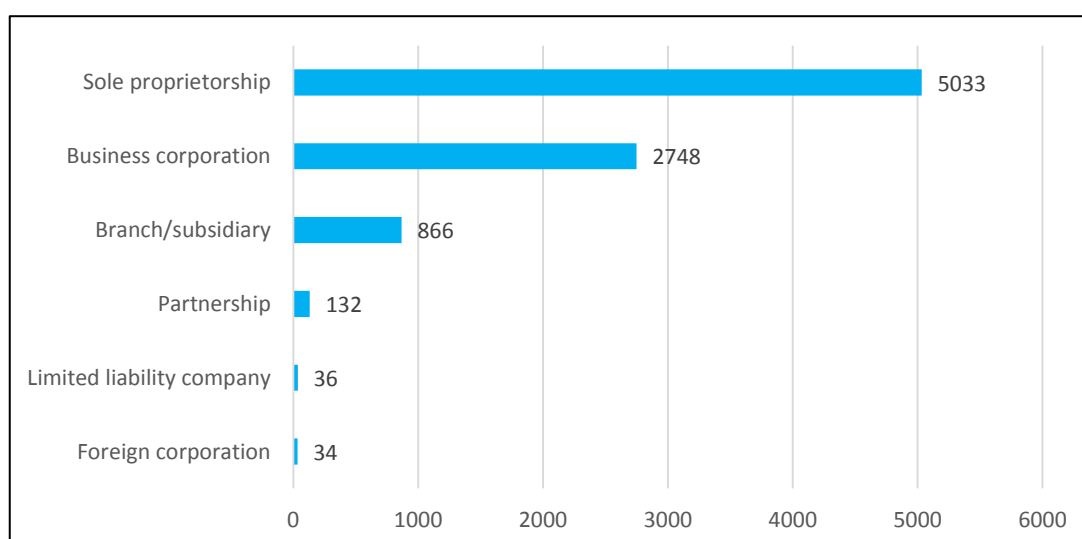
Liberian business is dominated by micro, small and medium enterprises concentrated in Montserrado County, where the capital is located. MSMEs constitute over 90% of registered businesses in the country.⁴⁷ To underscore the micro-scale of operations, sole proprietorships make up 54% of all the formally registered businesses in the country. According to the Building Markets

⁴⁷ Legally registered businesses as of May 2014, provided from the Liberian Business Registry, Monrovia, Liberia.

database,⁴⁸ 48% of businesses have been in operation for less than five years; this suggests a low level of business experience.

In terms of ownership, the majority (91%) of businesses registered on the Liberian Business Registry are Liberian-owned. There is limited specialization in terms of business activity and most businesses are active in more than two sectors of the economy. This mirrors the dominance of trading and retailing activities, which make up close to 50% of all economic activity in the country. Manufacturing activities have a low participation rate, reflected by the sector's paltry 6%⁴⁹ GDP contribution and just 2%⁵⁰ of all registered business in Liberia. As a result, Liberian businesses are largely import-based with 24% of businesses on the Building Markets database indicating that they rely on direct imports for 50% or more of their business merchandising needs. While natural resource concessions remain the core driver of growth in Liberia, they do so in the context of a local private sector where the average Liberian enterprise is small with limited capacity for skills and innovation, low productivity and very limited ability to access formal finance.

Figure 24: Distribution of registered Liberian businesses by legal structure



Mining Supplier Performance Evaluation Criteria

Mining companies use a variety of criteria in assessing and selecting local suppliers. Called pre-qualification, the process aims to identify potential suppliers in terms of the requisite technical, managerial and financial capacity to deliver the contracted works in accordance with specified requirements and standards. The main supplier pre-qualification criteria used by mining companies include the following:

Cost competitiveness: Suppliers are invited to provide pro-forma invoices and quotations, which are used to evaluate their price competitiveness at both national and international levels.

Stocking capabilities: Mining companies are concerned about delivery lead-time and suppliers' ability to supply required volumes of goods and services. Current stocking levels are, therefore, used as a proxy indicator of the supplier's ability to meet supply requirements if an order is placed.

⁴⁸ Database of over 3,000 legally registered businesses in Liberia

⁴⁹ *Central Bank of Liberia Annual Report 2013* (Monrovia, Liberia: Central Bank of Liberia, January 22, 2014).

http://www.cbl.org.lr/annual_report_detail.php?record_id=14.

⁵⁰ Building Markets calculations based on LBR data

Quality: Given the high performance risk associated with goods used in mining operations, companies require suppliers to supply goods of predictable and reputable standards. Thus, suppliers are often assessed based on their possession of specific industry certifications and ability to supply specific brands.

Financial capacity: Suppliers are required to demonstrate their financial soundness and ability to meet any pre-financing requirements. Financial records and systems are often probed to understand potential suppliers' financial positions.

Experience and track record: Past performance track record and client references are assessed to gauge supplier capabilities.

Information on the above criteria is collected through a mix of supplier interviews, data collection forms, reference checks and supplier site visits. Information on potential suppliers is mainly generated through new supplier enquiries, company-led supplier searches, referrals, supplier networking events and supplier directories. Mining companies maintain databases of local vendors who meet the basic qualification criteria.

Supplier Availability Situation by Demand Category

Chapter 3 highlighted the key mining demand categories as plant and equipment construction and core services, consumables, and non-core products and services. This section assesses the availability and readiness of local suppliers to fulfill mining procurement needs in each one of the three categories. Local supplier absorptive capacity for local procurement opportunities is a function of local firms' availability, willingness and capability to take advantage of mining companies' procurement needs. Capability is measured in terms of the performance of local supply firms on key buyer criteria of quality, price, delivery timeliness and compliance with industry standards for safety. The following sections evaluate the availability of local suppliers and give an indicative rating of their overall capability level. This evaluation is only indicative of existing potential at the time of the assessment. Availability considers the existence of formally registered businesses whose stated mission is to supply goods and services aligned to relevant demand lines. The overall capability level rating considers supplier experience, performance against international standards, financial strength and technical competency.

Demand Category 1: Plant and equipment construction and core services

An analysis of Liberia Business Registry (LBR) data shows a total of 1,098 businesses registered to provide goods and services related to this demand category. Construction services and related trades account for the highest number of businesses, 600 in total across the country. The number of local suppliers is lowest in highly technical and capital intensive areas, such as drilling and equipment rental. In several categories, no suppliers were identified, including in mining parts supplies and ground engagement tools, among others.

Table 8: Availability of suppliers of goods and services in Demand Category 1

Goods/Service Description	Number of Registered Businesses
Construction and allied	614
Building and hardware supplies	217
Metalwork and welding	37
Quarrying	27
Mining and exploration services	23
Carpentry and joinery products	19
Scientific services (including sampling, lab testing and analysis)	19
Machinery and equipment repairs	18
Engineering and architectural design	17
Power generation and supply	17
Hazardous waste management	15
Machinery and equipment sales	15
Clay bricks and blocks	14
Electronics supplies and repairs	14
Concrete and cement products	9
Electrical Installation	5
Equipment rental	4
Road construction	4
Environmental consultancy	3
Site preparation	3
Drilling services	2
Electrical manufacturing	2

Liberian Business Registry, 2013

Information from interviews with local suppliers and mining companies indicate local suppliers are severely constrained in their financial and technical capacities to meet the procurement needs in Demand Category 1. Mining companies consistently rate the quality of local goods and services low, due to a combination of unskilled manpower, outdated equipment, inexperience and reliance on substandard upstream suppliers for business merchandise. Local suppliers generally lack the capacity to provide back-up support for the goods they supply.

Demand Category 2: Mining consumables

Category 2 has the least overall availability of potential local suppliers. While the number of potential suppliers is high for petroleum products and auto supplies, no experienced suppliers could be identified for mining explosives, ground and wear engagement tools, exploration consumables and process consumables. In response to growing mining sector activity, the number of local companies that stock and distribute products such as mining gases⁵¹ and machine tools is growing.

⁵¹ One local company stocks and distributes argon gas

Table 9: Availability of suppliers of goods and services in Demand Category 2

Goods/Service Description	Number of Registered Businesses
Auto supplies and repairs	383
Petroleum products retail	173
Power generation and supply	17

Liberian Business Registry, 2013

Demand Category 3: Non-core products and services

The highest concentration of local suppliers is in this category with 1,693 formally-registered businesses. Up to 80% of these businesses are located in Montserrado County with the remainder thinly scattered throughout the other 14 counties. In line with national statistics, the majority of suppliers provide retail services of construction materials, hardware items, home appliances and furniture. Private security services also possess a significant concentration of suppliers with 130 registered enterprises.

Table 10: Availability of suppliers of goods and services in Demand Category 3

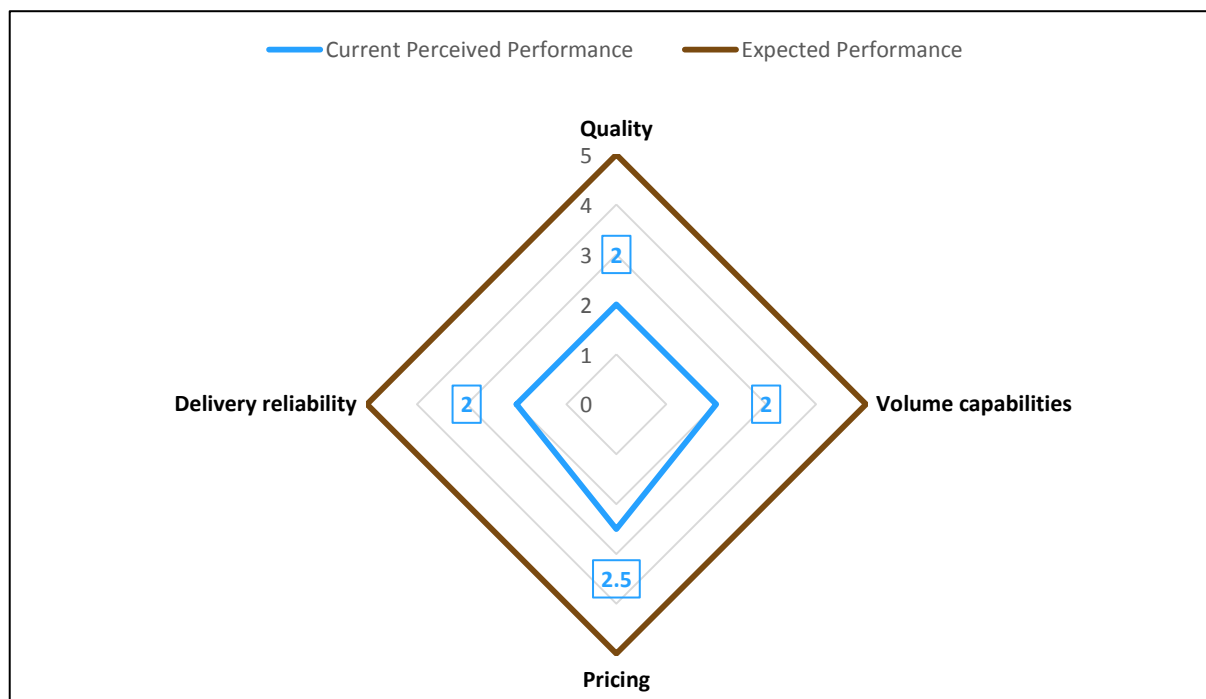
Goods/Service Description	Number of Registered Businesses
ICT equipment and services	223
Construction and hardware supplies	217
Household appliances and furnishings	199
Security services	130
Business support services (including communications)	104
Catering	99
Vehicle rental services	88
Cargo handling (Forwarding, clearing and stevedoring)	77
Printing and photocopying	70
Motor vehicle sales	54
Furniture manufacturers	53
Publishing	41
Cleaning, laundry and landscaping services	37
Office supplies and stationery	36
Medical facilities and services	33
Motor vehicle repairs and maintenance	26
Accounting services	20
Shipping logistics and transportation	18
Aviation	15
Insurance services	15
Employment service agencies	12
Travel agency services	10

Liberian Business Registry, 2013

Overall Evaluation of Local Supplier Performance and Capabilities

Although local businesses are formally registered in almost all mining demand categories, most businesses lack the capability to respond to the supply needs of mining operations in the short-term. The majority of suppliers identified in this assessment are traders and dealers with no capacity to provide technical support services. Virtually no original equipment manufacturers are available, and local dealers have weak links to the global supply chain for technical mining supplies. The performance of local suppliers in the key supplier rating criteria of quality, price, volume, lead time and customer care and support is extremely low due to severe constraints in financial and technical capacity to meet procurement needs. The quality of local goods and services is consistently rated low by mining companies due to a combination of unskilled manpower, outdated equipment, inexperience and reliance on substandard upstream suppliers for business merchandise. In addition, local suppliers generally lack the capacity to provide back services for the goods they supply. Despite reports of inflated prices, local suppliers perform better in pricing competitiveness relative to other performance measures.

Figure 25: Perceived performance of local suppliers against key supplier evaluation criteria



The perceived current supplier performance gap is due to a number of factors explained below.

Quality: Mining companies report that local suppliers stock low quality products, which are often over-priced. This perception is mostly due to the fact that some products mining companies purchase are stocks held for the local market, which tends to prioritize price over quality. Thus, the stocks do not factor in the needs of the mining companies. Additionally, some suppliers deliver products off specification without consulting buyers.

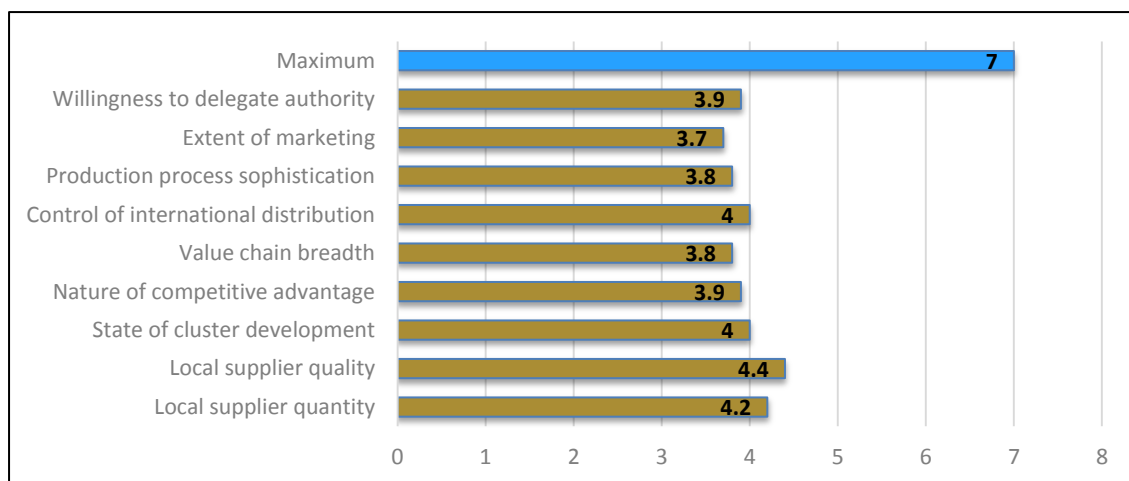
Price: Local suppliers are generally perceived to quote higher prices than their international counterparts. Local suppliers' pricing freedom is limited due to the reliance on imported merchandise while, as highlighted earlier, high operating costs in Liberia push overhead costs up.

Volume Capabilities: Due to low stockholding levels and limited pre-financing capacity, some local suppliers fail to fulfill orders or rely on piecemeal deliveries. Most local suppliers struggle to meet pre-financing requirements for large projects, especially in the construction sector.

Delivery Timelines: Local suppliers often fail to comply with tight delivery schedules due to low stockholding capacity and time lag involved in sourcing stocks to fulfill orders. Often, local suppliers overstate their delivery capabilities but underperform on the actual execution, resulting in cancelled orders and failed business relationships.

This evaluation of local mining suppliers corroborates the findings of the Global Competitiveness Report⁵² for 2013. This report singled out local supplier quantity (availability), local supplier quality and extent of marketing as the lowest performing areas relative to the other 143 economies included in the index survey. With an overall country competitiveness rating of 111 out of 144, Liberian businesses are generally perceived as lacking in sophistication. As shown in Figure 26, Liberia’s performance is concentrated in the bottom quintile.

Figure 26: Perception of Liberian businesses on business sophistication indicators



Supply-side Constraints to Local Procurement

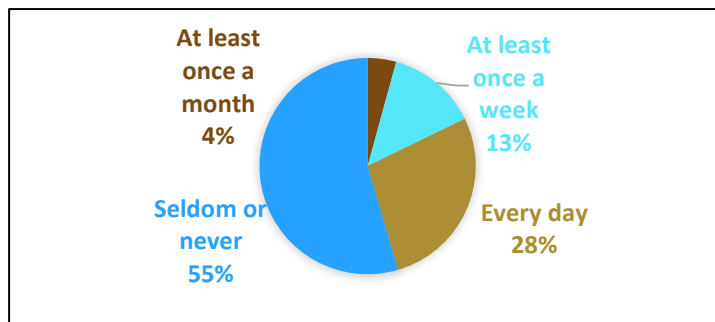
Despite the modest progress made in enabling and executing local procurement by mining companies, significant challenges remain. The section below discusses constraints potentially undermining supply linkages between local suppliers and the mining industry.

Lack of Access to Market Information

Lack of information about mining companies’ procurement needs and practices is cited as a major barrier to local suppliers who want to do business with such companies. This challenge is exacerbated by mining companies’ preference of relying on closed vendor lists, instead of open tenders, for procurement. With no knowledge of the needs and expectations of mining clients, local suppliers are often left out of mining supply chains with no opportunity to develop expertise to serve this market segment. Low Internet penetration and usage also makes it difficult for local firms to access information on mining companies operating in the county. Figure 27 shows that only 28% of Liberian businesses regularly access email.

⁵² Klaus Schwab, *The Global Competitiveness Report 2013-2014* (Geneva: World Economic Forum, 2013), <http://www.weforum.org/issues/global-competitiveness>.

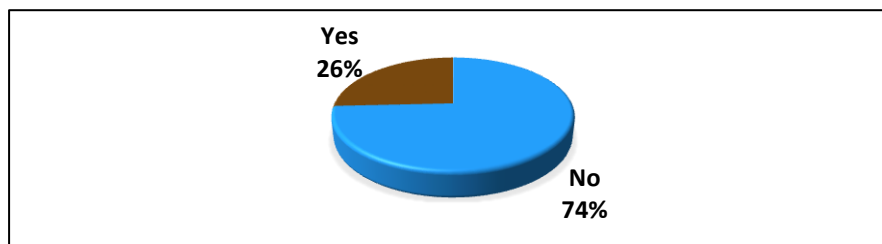
Figure 27: Internet access of Liberian businesses



Limited Operation Scale and Financial Capacity

Service contracts with mining companies often come with pre-financing requirements beyond the financial means of most local suppliers. Failure to meet pre-financing requirements places local companies at a competitive disadvantage when competing against regional and global counterparts. The limited scale of operations for the majority of local businesses tends to inhibit their visibility and prevent significant marketing investment, reducing their chances of lending opportunities with large mining operators. Only 26%⁵³ of Liberian businesses have successfully accessed a formal loan, underlining the challenge of limited access to finance, which, in turn, reduces local firms' absorptive capacity.

Figure 28: Distribution of Liberian businesses by possession of formal loan history



Technical and Skills Deficiencies

Both local businesses and mining operators concur that the existing technical capacity of local suppliers is weak and falls short of international standards. This low capacity draws from a combination of limited experience, lack of appropriate equipment and a shortage of sufficiently qualified and experienced staff. The Global Competitiveness Report identifies an inadequately educated workforce as one of the top challenges for conducting business in Liberia. Businesses on the Building Markets database cite lack of skills as the second most pressing challenge after lack of finance.

Quality Deficiencies

Local businesses suffer from a lack of strong quality management systems at enterprise and national levels. As a result, Liberian businesses are perceived as high cost and low quality suppliers with limited capacity to satisfy the needs of large mining operations. Currently the National Standards Lab is not internationally accredited and local products do not carry internationally recognized certification, such as the ISO series.

⁵³ Building Markets Database

Firm Experience and Track Record

Due to the enclave nature of mining in Liberia and the disruption wrought by the war, most local businesses are nascent and lack the requisite experience mining companies require in their contractors. Without opportunities to partner with international service providers, local businesses risk perpetual marginalization from mining sector opportunities.

Location of Firms

Local suppliers are mainly concentrated in Montserrado County, which is considerably far from most mining sites located in rural areas. For some mines the distance between the mine site and quality suppliers in Monrovia is a huge challenge. For example, Hummingbird Resources, located in Sinoe County is a six to seven hour drive on poor roads, which are sometimes impassible during rainy season. As a result, sourcing goods from the capital Monrovia can be both costly and time consuming.

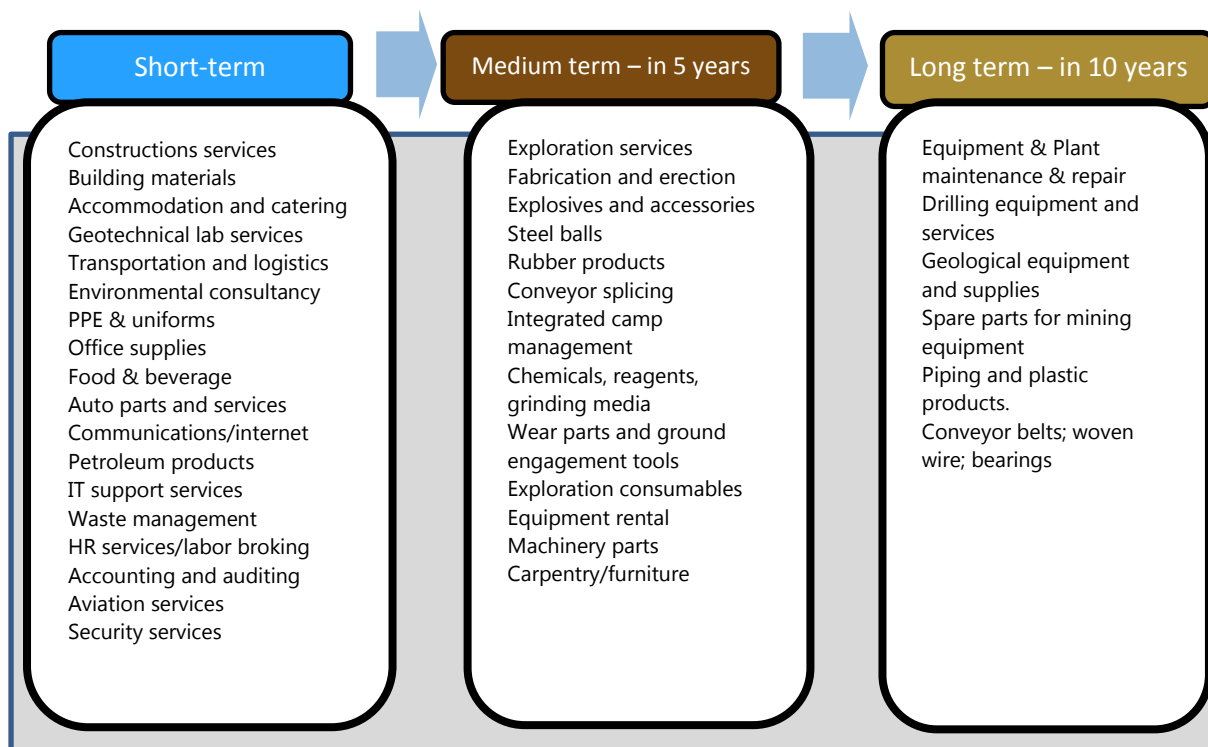
High Cost of Doing Business

Though most mining development agreements encourage a preference for local suppliers, they still require local suppliers to meet international standards of price, quality, safety standards, service, quantity, delivery schedules, availability and other terms. The competitiveness of local businesses' pricing is compromised by high energy costs and poor infrastructure. Additionally, the import tax regime makes it more cost-effective for companies to import heavy machinery and other items than to source from local equipment and machinery dealers.

Local Procurement Opportunities

Despite the constraints highlighted above, local sourcing opportunities exist in the short, medium and long-term. While expected to remain low in the short-term, the level of local sourcing is expected to increase in the medium and long-term as suppliers gain more experience and develop stronger delivery capabilities.

Figure 29: Local procurement opportunities in the short, medium and long-term horizon



As illustrated in Figure 29, the bulk of opportunities available in the short term consist of non-essential support-type goods and services. Since these goods and services are not specialized, businesses can easily capitalize on these opportunities. However, despite the current availability of goods and services, local sourcing may still remain low due to shortcomings in quality, price competitiveness and other performance criteria. The medium-term opportunities consist of goods and services for which there is already supply potential but would require significant capacity development to improve performance criteria. Long-term opportunities will require significant investments and collaboration that transcends Liberia to incorporate regional and sub-regional groups such as ECOWAS and the Mano River Union.

Building a Competitive Local Supplier Base for the Mining Industry

A number of organizations implement a variety of interventions to build the capacity and competitiveness of local businesses across different sectors of the economy. Programs typically focus on promoting business start-up and formalization, increasing access to finance and fostering linkages between local suppliers and large buyer organizations. Specific programs include Business Start-up Centre (BSC) Monrovia's incubation program, Building Markets' USAID Sustainable Marketplace Initiative Liberia (SMI-L), and USAID IBEX (Investing in Business Expansion).

Building Markets' USAID SMI-L, which is also supported by the Australian Government and Humanity United, provides a suite of services aimed at creating lasting business relationships between local suppliers and international buyers in the corporate and other sectors. Having started with the goal of addressing market information and marketing-related challenges, this program is now transitioning into a full-scale supplier development program that comprehensively develops the capacity of local suppliers. USAID also funds the IBEX program that assists local businesses to access finance through traditional banking channels. BSC's program provides resources to support young entrepreneurs to grow their business. These programs also provide training in such areas as financial management and developing business plans.

On the whole, efforts to build the capacity of local suppliers have tended to take a piecemeal approach without sufficiently harnessing the participation of private sector companies. Given that the weak supply capabilities of local businesses are intricately linked to poor national competitiveness, a mix of system and firm-level interventions should be considered. Collaboration across private, public and development sectors is essential to bridge the capability gaps identified above. Consideration should be given to the following:

Support a targeted supplier development program: A comprehensive supplier program should be considered to address both organizational and technical limitations affecting the performance of local suppliers. A mining sector-wide program will ensure the development of a sufficient pool of reliable suppliers who can deliver to the needs of mining operators in both the short and long-term.

Promote distributorships with international suppliers: Encouraging distributorship arrangements between local and international suppliers will address performance issues regarding the quality of products, order size and delivery timeliness.

Increase financial options linked to contract delivery: The government, mining sector and financial institutions can work together to introduce financial arrangements such as leasing and equipment hires to enable local suppliers to access up-to-date equipment and technology without investing in the full cost.

Coordinate platforms for mining companies and suppliers: To overcome the challenge of limited communication, coordination and collaboration, the planned Chamber of Mines should create an arm responsible for supplier relations and development. This arm can be used to engage local suppliers in joint planning and information sharing with the goal of increasing local sourcing.

Conclusion

Local businesses have a presence in all the demand categories of the mining sector but lack capacity required to perform at internationally competitive levels. Most local businesses rate low on key buyer criteria, such as quality, price, delivery timeliness and compliance with industry standards, due to severe constraints in financial and technical capacity. While a number of organizations implement interventions to build the competitiveness of local firms, these efforts tend to take a piecemeal approach without the participation of private sector companies. Therefore, a range of coordinated, capacity-building interventions is essential to enable suppliers to develop the necessary capabilities for the medium and long-term horizons.

Chapter 5: Employment Creation and the Mining Sector

In a country where 80% (850,000 people) of the labor force (age 15+) is unemployed or in vulnerable employment,⁵⁴ job creation ranks high on GOL's priorities. Despite skills deficiencies in the national labor force, the general expectation is that the mining sector will make a significant contribution to employment creation. Meanwhile, gold mines are estimated to employ between 200-600 persons each, while iron ore mines are estimated to employ between 2,000 and 3,000.⁵⁵ Considering mines currently in operation and those in the process of obtaining their mining licenses, an estimated 13,000 to 14,000 direct mining jobs will be created in Liberia over the next 50 to 80 years. This estimate includes direct employment; employees of mining companies or of companies contracted by mines to provide goods and services at the mine site. Mining is capital intensive and requires high technology operated and maintained by trained professionals; therefore, low human capacity and lack of mining work experience limits the number of Liberians employable directly through the mines.

The larger impact on employment will be through indirect employment, jobs created by firms providing goods or services to the mining sector, and through induced effects from mine employees spending their earnings in the local economy. This chapter discusses direct and indirect employment opportunities supported by the mining sector within the context of Liberia's human capacity.

Direct Employment Opportunities in the Mining Life-cycle

A detailed understanding of the mining sector's future labor needs is essential to increasing opportunities for Liberian employment. Employment can be categorized into three groups: unskilled, semi-skilled and skilled. Table 11 defines these categories.

Table 11: Categories of labor in the mining sector

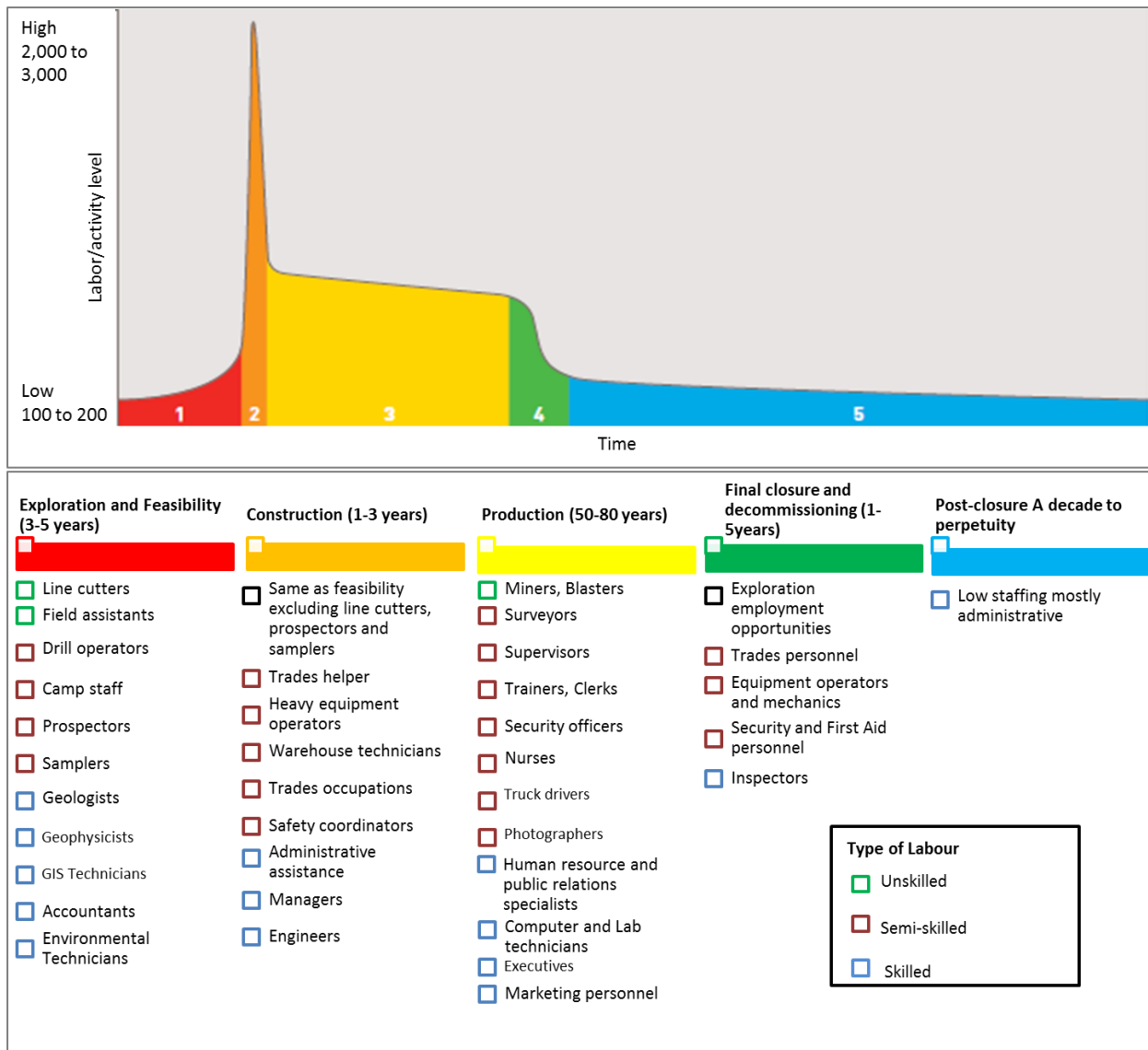
Category of Labor	Level of Education/ Experience	Examples of employment
Unskilled	Some schooling is preferred, but a diploma is not required. Skills needed to perform tasks are developed through on-site training.	- Line cutters - Miners
Semi-skilled	Diploma or certification for relevant skill. Experience with mining may be required. Additional on-site training is usually required.	- Truck drivers - Heavy machinery operators - Drillers
Skilled	Bachelor or masters degree in a relevant field. Experience with mining is preferred or on-site training may be required.	- Geologists - Administrative staff - IT technicians

Figure 30, on the following page, illustrates how the labor needs of a typical mine operation evolve from exploration to post-closure phases and lists unskilled, semi-skilled and skilled job opportunities corresponding with each phase. Average employment numbers and percentages are estimated based on information provided by six mining companies interviewed, as well as available public reports.

⁵⁴ Portion of the labor force that is working for themselves or unpaid for their own household. *Report on the Liberia Labour Force Survey 2010*. Monrovia, Liberia: Liberia Institute of Statistics and Geo-Information Services (LISGIS), 2011.

⁵⁵ Concessions of Liberia, 2014

Figure 30: Direct employment trends in the mining sector



ICMM, 2012; MIHR Council, 2013

The first phase, exploration and feasibility, creates low employment, most of which is skilled geoscientists and a small team of administrative staff. At this stage, a strong team of geologists is crucial to accurately assess the land and estimate quality and abundance of minerals. Opportunities for unskilled labor include laborers used to maintain work sites, handle materials and assist in setting up, taking down and transporting equipment; and line cutters to clear lines through brush in a grid pattern, which is used as sightings for geological surveys. Drilling, the main activity during exploration, requires some skill in operating drills and experience with working with mines. Frequently, drilling is contracted to a drilling company that trains local staff to operate machinery. Truck drivers are also sourced locally but provided with on-site training to meet the needs of the mine. Once drilling and surveying end and feasibility begins, staff numbers drop with the activity break that precedes the award of the mining license.

Employment increases sharply once mining licenses are obtained and construction begins. This phase usually lasts 18 months to three years, depending on the size and number of mining sites or construction projects. Even though it is the shortest phase of the mine life cycle, it creates the

highest demand for employment. Much of the construction work will be contracted through specialized construction companies with experience in mine design and construction. There is high demand for unskilled labor, heavy machinery operators and truck drivers. Administrative staff and management will also increase, as more supervision is needed at each of the mining sites.

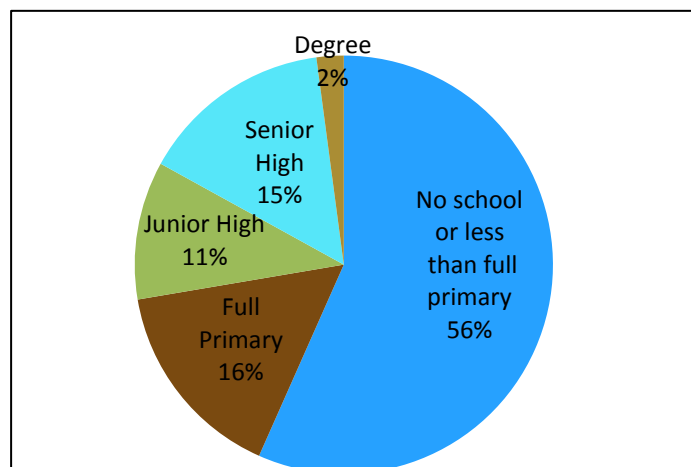
Entering the production phase, employment levels drop off and unskilled workers are trained to work in the production plant as miners or blasters. Operations managers with extensive knowledge and experience with mines are employed to supervise operations and train semi-skilled or unskilled workers. Drivers and heavy machinery operators also increase during this phase to keep the mine running 24-hours a day.

Skilled and semi-skilled employees account for the majority of employment during all phases. The total number of employees for gold mines is lower, but the percentage of unskilled, semi-skilled and skilled employment remains the same. By interacting with the mining sector, Liberians can gain valuable knowledge about the industry, leading to the overall development of local capabilities in Liberia.⁵⁶ Building the capacity of Liberians to fill positions in these three categories will reduce unemployment rates in the short term, and greatly impact the development of Liberia’s labor market over the long term.

Liberian Labor Force

The extent of Liberian labor force participation in the mining sector is constrained by the level of education. The war disrupted education for young Liberians creating a knowledge gap, which the country is working to address. The 2010 Labor Force Survey revealed 56% of the labor force aged 15 and above never attended school or didn’t finish primary school. Furthermore, 15% graduated from high school and just 2% have a university education. Although opportunities do exist for unskilled workers, the employment profile of the mining sector is generally geared toward highly skilled and specialized workers.⁵⁷ Mines reported line cutters need to be literate with the ability to perform basic math, which is still impossible for almost 50% of the rural population aged 15 and older.⁵⁸

Figure 31: Education of labor force (age 15+) in 2010



Liberia Labour Force Survey 2010, p. 20

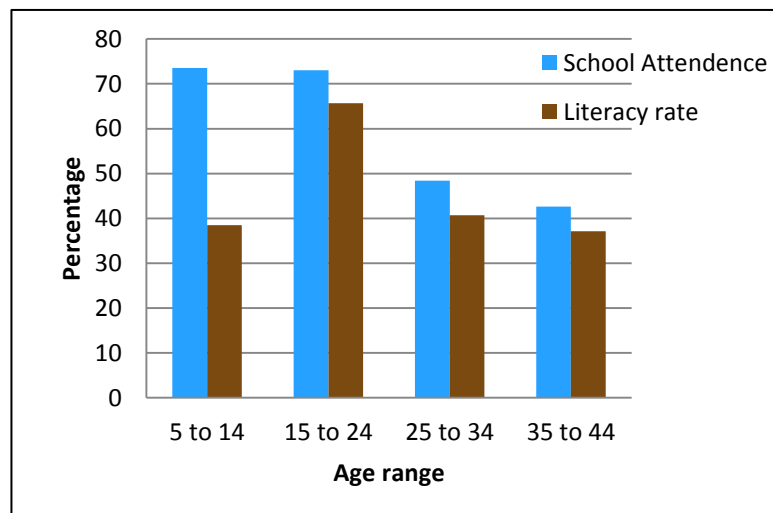
⁵⁶ *Structural Transformation*, May 19, 2014

⁵⁷ *Promoting Job Creation*, p. 24

⁵⁸ *Liberia Labour Force Survey 2010*, p. 20

Figure 32 demonstrates a positive trend in education and literacy rates, where only 40% of those aged 25 to 34 were literate in 2010. By the year 2020 the literacy of this age group (25 to 34) is expected to increase to 70%. This trend suggests that eligibility of the Liberian labor force for unskilled labor in the mining sector is increasing.

Figure 32: School attendance and literacy in rural Liberia in 2010



Liberia Labour Force Survey 2010, p. 20

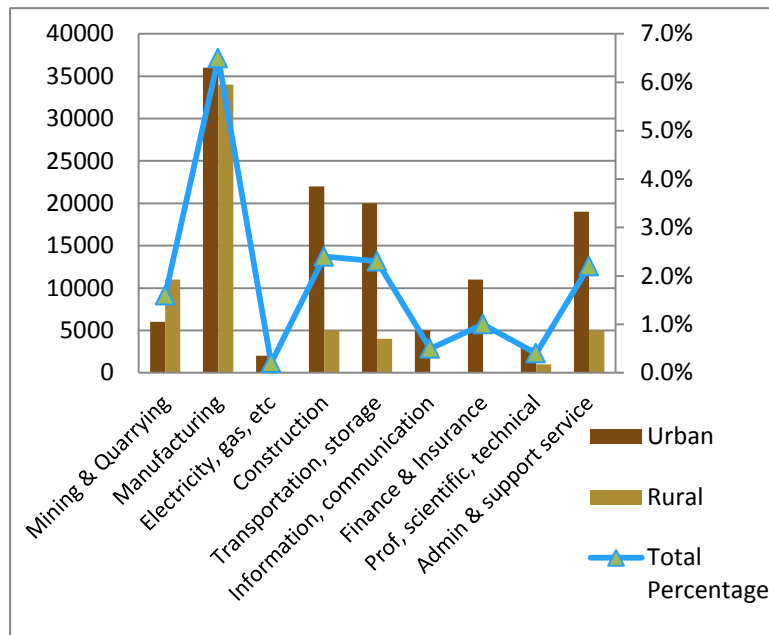
Capacity to fill semi-skilled and skilled positions

As illustrated above, only 20% of the labor force completed high school or a university program, severely limiting Liberians' ability to qualify for the majority of employment opportunities with mining concessions. However, mining companies surveyed indicate it is now easier to find the needed skills in the Liberian labor force than five years ago. One human resources manager stated despite unsuccessful previous attempts to hire qualified Liberian geologists, today they are able to find competitive candidates as needed. Truck drivers and heavy machinery operator positions are filled by Liberians, as are administrative roles. However, the presence of Liberians at management or supervisory levels is still uncommon. When surveyed, most mines plan to train Liberians to eventually graduate into management positions once they have acquired the needed experience. Still, challenges remain in identifying Liberians with the experience necessary to be hired initially as a supervisor or manager.

In general, availability of skilled job opportunities is higher in urban areas with the exception of mining, quarrying and manufacturing. The existence of professional, scientific and technical jobs is low, representing less than 1% of the total labor force. Though there is a shortage of skilled professionals in Liberia, the Liberian diaspora, specifically in the US, possess a range of professions valuable to the mining sector. A new initiative by the Ministry of State to develop a communications network to reconnect and inform the Liberian diaspora of opportunities for employment in Liberia may fill the gap in human capital while Liberia works to improve its educational system.

Semi-skilled job opportunities including mining and quarrying, manufacturing, electricity, construction and transportation, represent a total of 13% (140,000) of the Liberian labor force; however, mining companies cite local sourcing of skilled electricians, plumbers, masons and information/communication technicians as an ongoing challenge. Additional skills training for semi-skilled positions are needed to prepare the local labor force to meet the expectations of mines. Figure 33 illustrates the distribution of occupations relevant to the mining sector within the Liberian labor force.

Figure 33: Number and percent of the labor force by occupation



Liberian Labor Force Survey, LISGIS, 2011

Mining demand for locally manufactured goods can lead to significant, indirect employment. Manufacturing has the potential to “generate millions of jobs for unskilled workers, often women, who previously were employed in traditional agriculture or petty services.”⁵⁹ Manufacturing, including small scale carpentry and welding, is an area with high opportunity area for rural employment, however, does require additional skills training. The percentage of the labor force currently employed in manufacturing is deceptively high, reflecting the low efficiency of the sector, which requires a number of workers to produce a small amount relative to more industrialized economies.⁶⁰

Specialized Training and Education

Efforts from GOL to increase the number of trained geologists and mining engineers entering mining projects led to an increase in student enrollment in the University of Liberia’s (UL) Geology and Mining program. However graduation from these programs has not increased. UL enrolls approximately 2,000 students annually in the sciences department; however, due to poor development of math and science skills in secondary schools, students often drop out and graduation from the geology program never exceeds ten.

In addition, MDAs obligate mining companies to provide student scholarships every year; however, there is no required follow-through or conditions on student performance to encourage completion.

⁵⁹ Dani Rodrik, Unconditional Convergence. *NBER Working Papers, National Bureau of Economic Research, Inc.* 2011: Issue 17546.

⁶⁰ *Structural Transformation*, section “The primary sector in Africa past and present.”

Students are discouraged by the rigors of the program, drop out and switch to other, less demanding departments such as business. Another issue identified by one of UL’s geology professors is that students often do not have the requisite math and science skills to complete the curriculum, sometimes retaking classes three or four times before they are able to pass.

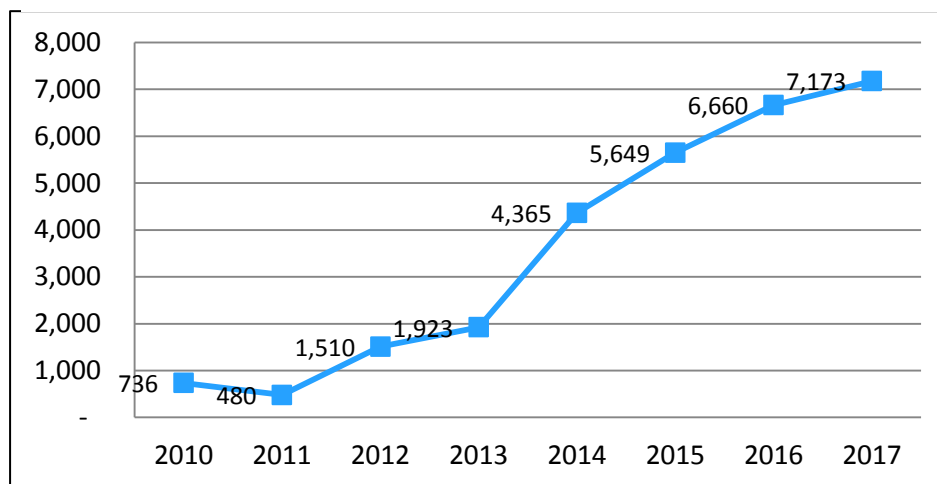
The current UL curriculum does not include field studies, resulting in graduates without the necessary experience for a job with a mining company. The continued activity in mineral exploration suggests a demand for geologists over the next 10 to 20 years. Investing in the geology program, modernizing labs and providing opportunities for field experience will prepare new geologists for careers in the mining sector.

Current and Future Direct Employment in the Mining Sector

The six mining concessions interviewed in 2014 employ 1,500 Liberians.⁶¹ This number increased from 641 employees in 2010⁶² and is expected to continue increasing in the next couple of years as several mines enter the construction and production phases.

Employment trends throughout Africa suggest that three jobs are created for every USD 1 million of investment in the mining sector, which is ten times higher than the oil and gas sector.⁶³ Using this multiplier, and information on aggregate spending in the mining sector presented in Chapter 3, Figure 34 provides an illustration of the direct job growth expected over the next few years.⁶⁴ In years 2010 and 2013, estimated jobs are close to the reported number of jobs collected through surveys. Slightly lower employment reported in surveys can be attributed to the fact that only a fraction of the mines provided information on employment details in 2010 and 2013. The rapid increase in spending estimated over the next four years contributes to significant growth in employment, from 1,923 jobs in 2013 to 7,173 in 2017.

Figure 34: Direct employment estimates for mining



FDI commitments from signed MDAs totaling USD 10.6 billion will be disbursed over the mine-cycle and create 31,800 jobs. Based on this calculation, direct employment from the mining sector may be largely underestimated by GOL’s original estimations of 13,000 to 14,000.⁶⁵ While increasing job

⁶¹ Employment survey for six mines, conducted by Building Markets.

⁶² *Promoting Job Creation*, p. 24

⁶³ *Structural Transformation*, section “The primary sector in Africa past and present”.

⁶⁴ Annual aggregated spending in Millions *3 (multiplier)

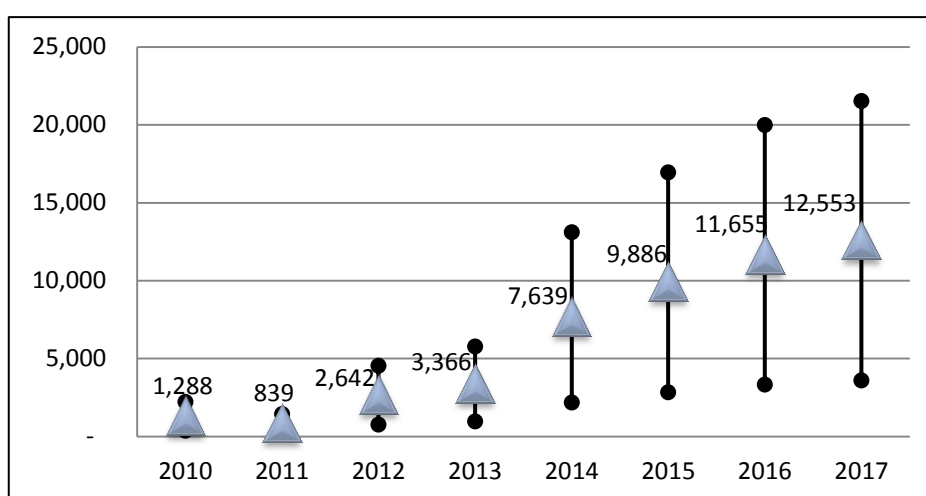
⁶⁵ *Concession of Liberia, NIC, 2014*

creation will have a positive impact on Liberia’s high unemployment rate, the benefit to Liberians from these opportunities depends on their ability to qualify for technical and professional positions.

Indirect Employment

Direct employment is not the only opportunity that exists for employment in the mining sector. The mining sector creates jobs through supply chain spending in the mining sector (indirect employment) and economy-wide spending for firms that provide goods and services to mine employees. The average size of job multipliers in Africa is between 0.5 to three additional jobs in supply firms for every job created in mining.⁶⁶ Based on the above estimation of 31,800 jobs in mining over a mine’s life, the sector is expected to create an additional 15,900 to 95,400 indirect and induced jobs.

Figure 35: Estimated indirect and induced employment from mines



The magnitude of multipliers depends on varied political, economic and behavioral factors. For example, in Ghana, for every direct job created, the Newmont Gold Mine (NGGL) supported an additional estimated 28 jobs in the economy. The extent of this multiplier is largely due to support provided by IFC to increase supply-chain linkages and community development around the mine.⁶⁷

High multipliers don’t always give the full picture of socio-economic development in the economy. Firms’ management styles can account for differences based on their use of outsourcing, changing the number of indirect employment but not the overall employment created.

Multipliers also vary by sector and relative productivity and efficiency. Inefficient sectors will create more employment because the value added per employee is small. Analysis of indirect employment from NGGL found agriculture, manufacturing and trade comprise the highest percentages of indirect employment, largely due to these sectors’ low productivity and informality.⁶⁸ More detailed analysis of multiplier effects in Liberia are needed to better understand the impact of mines on indirect employment in the economy.

Indirect employment is tied to the local procurement findings in Chapter 4. Since indirect employment can only come from spending that is done in Liberia, efforts to develop supply chain linkages will increase the number of jobs created in the economy.

⁶⁶ *Structural Transformation*, section “The primary sector in Africa past and present”.

⁶⁷ Kapstein and Kim, *Newmont Ghana Gold*, p. 30-36

⁶⁸ *Ibid.*

Manpower and Skills Development Programs

There are currently several projects offering skills training in Liberia. The draft National Technical and Vocational Education Training (TVET) Policy of 2011 defines a strategy for providing decentralized post-basic education and development skills needed for youth to enter the work force. While stakeholders are still discussing these plans, they have the potential to increase employment of youth in mines' semi-skilled positions.

The MSME Division in the Ministry of Commerce and Industry provides multiple technical and vocational training opportunities to Liberian-owned businesses. One such training is the UNIDO/WELD Liberia project, which is a peace-building multi-skills training program geared toward developing marketable skills for unemployed youth, ex-combatants, and other beneficiaries through certified industrial training in the field of welding, heavy equipment mechanics and maintenance operations. The project also focuses on strengthening institutional capacity building and developing complementary entrepreneurial skills to assist beneficiaries to find jobs and start micro-enterprises. In July 2013 WELD Liberia graduated its first class of 166 students.⁶⁹

International development organizations implement targeted training programs to prepare Liberians for job opportunities identified in the local market. The International Rescue Committee (IRC) and Mercy Corps' Advancing Youth Project support youth through skills training and mentorship. In connecting youth with employment opportunities in the local market, these programs support SMEs who benefit from an improved work force. Access to labor is one element that will fuel expansion of SMEs and increase their ability to absorb growing demand from the mining sector.

Research Triangle Institute (RTI) implements the five-year USAID Excellence in Higher Education for Liberian Development (EHELD) project, which focuses on raising awareness and recruiting students to be trained in engineering at the University of Liberia with a particular focus on qualified, female students. EHELD also provides capacity training to the university faculty in areas such as curriculum development and pedagogical techniques.

Conclusion

With 850,000 Liberians unemployed or in vulnerable employment, mines present a valuable opportunity. In 2017, mines will create an estimated 7,173 direct jobs and support the development of 12,552 indirect and induced jobs, which will represent 1.8% of the labor force.⁷⁰ The local absorption potential for these employment opportunities is dependent on the capacity of Liberians to fill positions in the semi-skilled and skilled categories. Given the existing capacity levels and vocational training, semi-skilled occupations present the greatest opportunity for Liberia in the short and medium-term. As currently demonstrated, GOL does not have the resources nor capacity to provide qualified students for management positions in the mining sector. Therefore, to ensure that in 10 to 20 years Liberians are qualified for such positions, mining companies must provide opportunities for Liberians to gain hands-on experience in mines, including through updating and supporting the curriculum of the UL's Geology and Mining Institute. Other entities, such as development organizations operating vocational or technical training programs for youth, should coordinate their activities with mining companies, and businesses supporting mines, to ensure graduates receive skills required by the sector.

⁶⁹ "WELD Liberia," Ministry of Commerce and Industry, <http://www.moci.gov.lr/2content.php?sub=141&related=15&third=141&pg=sp>.

⁷⁰ Calculation based on active labor force in 2010 (1.1 million)

Chapter 6: Conclusions and Recommendations

This report assessed the Liberian mining sector's potential to generate socio-economic benefits through employment and supply chain linkages. From a historical perspective, mining played a central role in Liberia's pre-war economy but its isolation from the rest of the economy contributed to uneven development and limited potential for the development of local supplier capabilities. Low industrial capabilities and a weak local private sector limit supply chain linkages between the mining sector and local businesses. Similarly, low availability of appropriately trained and experienced personnel curtails Liberia's capacity to localize direct employment opportunities within the mining sector. Lack of policy clarity and weak sector oversight tend to perpetuate the divide between the mining sector and the rest of the economy. This report identified a wide range of opportunities for increasing the level of local business and workforce participation within the country's resurgent mining sector. In sum, this report points to the following conclusions:

- The regulatory framework recently underwent changes aimed at improving governance and investment climate. Policy gaps still remain in the area of local content promotion and economic linkages. Mining sector monitoring roles currently overlap between government ministry and key regulatory agencies. These policy gaps and inconsistencies limit the mining sector's potential to operate effectively and to optimally contribute to socio-economic development.
- The capability of local businesses to meet the needs of mining sector firms is weak but developing fast. Capability levels vary widely amongst local businesses and some local businesses have emerged as front-runners in meeting the exacting needs of international mining firms. This trend is helped by the emergence of new local firms and the entry of firms from the West African region. The greatest opportunity for local supply linkage is in the provision of non-technical goods and services such as general construction, logistics and courier services, foods supplies, catering and business support services.
- The mining sector's capacity for direct job creation is limited and real potential lies in indirect job creation which results from strong local supply chain linkages. Meanwhile, Liberia's ability to localize employment opportunities is undermined by training and educational inadequacies in the Liberian workforce. Coupled with weak local supplier capacity, limited employment absorption capacity by Liberia poses a threat to the full realization of socio-economic gains from the mining sector.
- Capacity development interventions targeted at local suppliers and workforce development have largely been championed by civil society but the private sector is increasingly assuming a more active role. Both supplier and labor force development interventions have tended to be fragmented and loosely coordinated; this weakens the effectiveness and sustainability of these initiatives.

In light of the above findings and conclusions, the following recommendations should be considered to improve the mining sector's potential for local supply linkages and job creation.

- Streamline and synchronize mining sector regulations to create a balance between the goals of investment attraction and local content enhancement. Local content requirements need to be clearly and consistently defined across legislation and policies. Monitoring roles and responsibilities relating to mining concessions also need to be streamlined to eliminate cumbersome overlaps.

- Targeted supplier and labor force development initiatives should be implemented to meet the unique needs of the mining sector. To fast-track the development of a local supplier base, it is necessary to encourage and incentivize partnerships between international suppliers and local businesses. In the form of joint ventures, franchises and distributorships, local and international supplier partnerships have the potential to expedite capability development for local businesses.
- Training institutions and mining firms need to collaborate to ensure training curricula matches industry needs. There is need to consider the formation of a mining sector education and training body to lead manpower training planning and standards enforcement. Such a body will help to improve the quality of training and assist firms to meet their local employment needs.

Expectations for the Liberian mining sector are huge and so is its potential or socio-economic development. Translation of the sector's activities into tangible socio-economic benefits is largely dependent on the extent to which the sector will integrate with the rest of the economy. Appropriate and consistent policies are necessary to guide and enable sector players to foster this integration. In the end, optimization of the mining sector's socio-economic potential does not lie in one prescriptive solution but in a mix of judicious policies, public-private dialogue and joint action aimed at upgrading businesses and work force capabilities to satisfy service and labor needs of the mining sector.

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