



DELVE COUNTRY PROFILE

Liberia

ARTISANAL AND SMALL-SCALE MINING SECTOR



A GLOBAL PLATFORM FOR ARTISANAL & SMALL-SCALE MINING DATA



Delve is an initiative to build a global platform for artisanal and small-scale mining (ASM) data. Its vision is a world in which ASM is recognized as an important contributor to global development.

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Definitions & Acronyms

ASM: Artisanal and Small-scale Mining

ASGM: Artisanal and Small-scale Gold Mining

ASM-PACE: Artisanal and Small-scale Mining in Protected Areas and Critical Ecosystems

CLB: Central Bank of Liberia

D'MER: Department of Mineral Exploration and Environmental Research

EIA: Environmental Impact Assessment

EIS: Environmental Impact Statement

EITI: Extractive Industries Transparency Initiative

EPA: Environmental Protection Agency

EVD: Ebola Virus Disease

FOMAL: Federation of Miners Association of Liberia

LEITI: Liberia Extractive Industries Transparency Initiative

GDP: Gross Domestic Product

GNI: Gross National Income

IMF: International Monetary Fund

IPIS: International Peace Information Services

KPCS: Kimberley Process Certification Scheme

LMAL: Local Miners Association of Liberia

LSM: Large Scale Mining

MME: Ministry of Mines, and Energy

MLME: Ministry of Lands, Mines, and Energy

NIOC: National Iron Ore Company

OECD: Organisation for Economic Cooperation and Development

OHS: Occupational Health and Safety

OPM: Office of Precious Minerals

SDG: Sustainable Development Goal

UNDP: United Nations Development Programme

UNECA: United Nations Economic Commission for Africa

USAID: United States Agency for International Development

USD: United States Dollar

USDOL: United States Department of Labor

USGS: United States Geological Survey

Country Profile Snapshot: Liberia

 MATERIALS MINED BY ASM (listed from largest number of miners to smallest per respective mineral)	Laws and policy 2000 Liberia Minerals and Mining Law 2003 Environmental Code 2006 Minerals and Mining Act 2006 2008 Minerals Policy 2010 Exploration Regulations 2010 Minerals Policy 2011 Revenue Code as Amended 2011 2014 Land Rights Act
Gold Diamonds	Government institutions Ministry of Mines and Energy (MME) Department of Mineral Exploration and Environmental Research (D'MER) Liberian Geological Survey Liberian Hydrological Survey Mining Cadastre Information Management Unit (MCIMU) Office of Precious Minerals (OPM) Government Diamond Office Environmental Protection Agency (EPA)
 MINERAL GOVERNANCE FRAMEWORK	 ECONOMIC AND DEVELOPMENT DATA
Government priorities Formalization of Artisanal Mining Sector is a priority of the Ministry of Mines and Energy (MME) and is an essential component of the reform of the mining legal and regulatory framework in Liberia. Governance and Transparency: the government seeks to improve the enforcement of regulation on artisanal, small scale and large-scale mining activities through robust monitoring. A major focus is being placed on strengthening of regulatory mechanisms to provide greater transparency and to cater to the welfare of small-scale miners while safeguarding the environment.	2019 Population Total: 4,937, 374 Labor force: 2,232,405 Women: 49.74% Men: 50.25%

2019 Classification (GNI per capita)	LSM: Large-scale mining in Liberia is primarily linked to the production of iron ore with ArcelorMittal (Liberia) being the largest producer with several other operators in the sector (USGS 2018). The sector's productivity is largely linked to the global iron price and historic fluctuations have resulted in scaling down of operations (LEITI 2019). Industrial operators in the gold and diamond sector have established mineral development agreements with various assets under development. The Bea Mountain Mining Corporation & MNG Gold Liberia were the only industrial gold operators to declare production in FY 2017/2018 (most recently available data, LEITI 2019)
Low income GNI per capita, atlas method (current USD): 580 GNI per capita (constant 2010 USD): 476.87	
2019 Gross Domestic Product	
USD 3.07 Billion	Gender participation in ASM The single estimate on the portion of women involved in the sector states 10-20% of the estimated 50,000-75,000 artisanal diamond miners are women (Hinton 2010 cited by Eftimie et al. 2012). Women are also noted to participate in the artisanal gold sector most commonly as panners but estimates to the proportion of the sector women makeup are not available.
2016 Poverty headcount ratio (2011 purchasing power parity)	
Population on/below poverty line: 50,9% Population living on < USD 1.90 per day: 44.4% Population living on < USD 5.50 per day: 93,2%	
 LIVELIHOODS	
Employment	
ASM: An estimated 30,000 to 100,000 are directly employed by the sector (Boakye et al. 2012; MLME 2009 and PRS, 2008 cited by Hinton, 2010, LEITI 2015). Taking into account indirect labor and dependent households, around 787,500 (and perhaps as many as 1.575 million) men, women, and children are believed to depend indirectly on artisanal mining for at least part of their cash income (LEITI 2015, 16). While the Liberian population was totaled around 5 million in 2019, it is important to note that a significant number of diggers are foreign nationals who came specifically to Liberia to work in its diamond and gold mining areas.	

MINING SECTOR SUMMARY

General Mining Context

Liberia is a nation with significant mineral reserves that the country has traditionally relied on, namely iron ore, gold and diamonds, as a major source of revenue. Artisanal and small-scale mining (ASM) activities have been taking place since the turn of the 19th century and date back to the time when former slaves were resettled in Liberia (ASM-PACE 2012, MLME 2016). The first major gold rush occurred in 1943 (Hadden 2006, 8) but many of today's artisanal mining communities trace their origins to the artisanal mining boom of the late 1950s and 1960s—which took place after the enactment of the Aborigines Law in 1956, when miners came to virgin areas in the hope of finding a profitable diamond deposit. While artisanal gold mining has grown rapidly in importance, particularly since the 2008 financial crisis, artisanal diamond mining is historically the dominant form of Liberian ASM (Verbrugge et al. 2015).

The mining industry in general has long played a crucial role in the economic development of the country. From the early 1960s until the civil crisis of the 1990s, the mineral sector's contribution to the Gross Domestic Product (GDP) averaged roughly 25%, driven mainly by the diamond and iron ore mining sector (USGS 2015). Iron ore, for example, was the mainstay of the Liberian economy between 1960 and 1980, contributing more than 60% of export earnings and about 25% of GDP (IMF 2008, 65). Diamonds and gold were exploited largely through small-scale alluvial mining and also made modest contribution to the national economy over a long period of time (Wilson et al. 2017; Gunn 2018). In the 1980s, then-President Samuel Doe nationalized alluvial diamond mines under the guise of “maximizing benefits” for the nation, but ultimately control of the mines served to personally benefit the President and his associates (Maconachie and Conteh 2020).

Nearly 14 years of war spanning from 1989 to 2003 destroyed much of the country's production infrastructure and virtually reduced mining activities. During the war it has been reported that President-elect, Charles Taylor, extorted diamonds from artisanal miners to finance war efforts offering protection in return (Maconachie and Conteh 2020). In 2000, in replacement of the old Natural Resources law of 1956, 2000, the country enacted the Liberia Minerals and Mining Act under which the government Agency became responsible for the administration of the Mineral sector, including granting mining licenses, and it has stator oversight of the energy, land, minerals and water sector. Following the cessation of civil unrest and hostilities, Liberia returned to relative peace and stability in 2003 and saw a significant resurgence of interest in exploration and mining. The revival of the mining industry became an explicit objective of the government in its efforts to rebuild the country and sustain growth by leveraging Liberia's rich natural resources (Wilson et al. 2017). Accordingly, the government enacted a legal framework, the Minerals and Mining Act of 2006, that provided for the sustainable use and conservation of natural resources. The installation of a democratically elected government in 2005, supported by the presence of a United Nations peacekeeping force, helped build investor confidence in Liberia. The ban on all diamond exports from Liberia imposed by the UN security council in 2001 was lifted in 2007, while most foreign investors who had abandoned their mining factories because of the war resumed discussions with the government around the same time ([Boakye et al. 2012](#)). The revitalization of the extractive industry was the result of two factors (UNDP 2014). First, Liberia's mineral reserves have long been

recognized but remained unexplored during its civil wars. Second, the government has actively pursued the redevelopment of its dormant mining sector through partnership with the private sector.

Since the end of Liberia's civil war, the government has made considerable efforts to strengthen its mineral and agricultural industries. Most of the growth has occurred in the iron ore sector, although there has also been considerable interest in gold and, to a lesser extent, diamonds. The growth of the mining sector has driven the overall economic growth rate, with mining being a significant contributor to GDP. From 2005 to 2012, Liberian GDP growth rate averaged 7% per year and in 2012, the mining sector's contribution to GDP was 8.3% (CBL 2013, 9). However, in 2014 the combination of falling world commodity prices and the outbreak of the Ebola Virus Disease (EVD) had a severe impact on the Liberian economy, resulting in a significant decline in foreign investment (Liberian Geological Survey, n.d.).

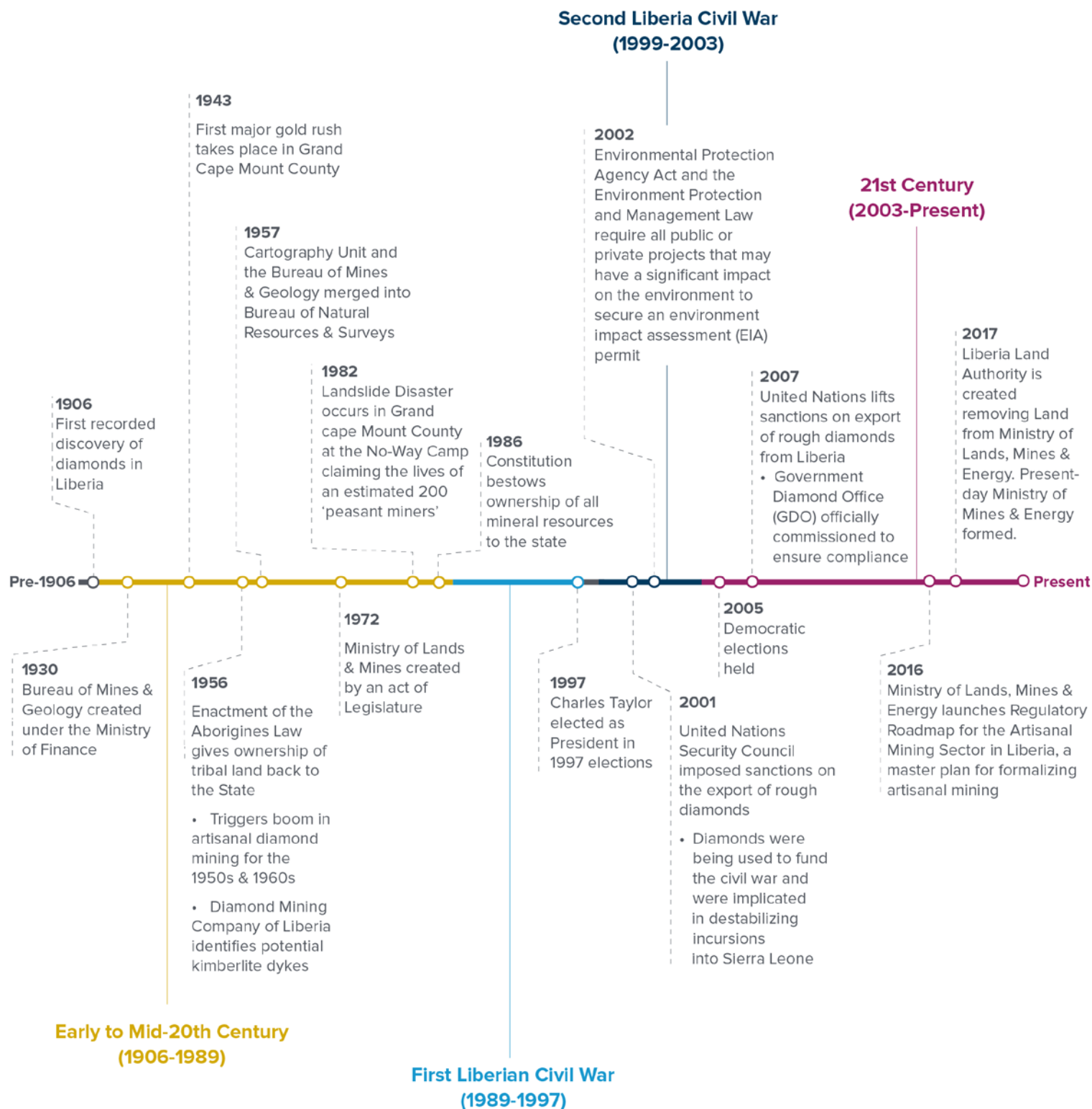
Examining the record of licensed mining activity in recent years, Class C Licenses (those applied to artisanal and small-scale operations) make up the majority of recorded licenses in the Ministry of Mines and Energy Online Repository. In 2017 of the 1,293 formally licensed mining operations, 1,142 (88.3%) were Class C Licenses for artisanal and small-scale mining (Wilson et al. 2017). While in 2021 of the 1,138 active licenses, 791 (69.5%) are Class C Licenses.ⁱⁱ Though this number does not capture mining activity occurring without a license, it indicates the majority of mining in Liberia is artisanal and small-scale. However, some commodities that were previously produced exclusively by artisanal mining are now produced by large-scale mining companies. The first industrial gold mine located in New Liberty deposit in western Liberia, for example, began operations in 2013ⁱⁱⁱ and since then, industrial mining has continued to grow with gold exports increasing from \$129m (2013) to \$359m (2018)^{iv}. Yet, in the wake of Ebola crisis (2014-2015) that paralyzed the country's economy, industrial mining remained fairly limited and, in the absence of a formalized artisanal mining sector, mining was not producing the concrete socio-economic benefits that the government and other stakeholders had envisioned (MLME 2016). With the gradual recovery in global iron ore prices, however, iron ore mining currently plays a significant role in the economy, accounting for 42 percent of total export earnings in 2019 (CBL 2019, 45).

The Pro-Poor Agenda for Prosperity and Development 2018 to 2023 (PAPD), Liberia's current National Development Plan (NDP), acknowledges the weak legal and regulatory framework that has led to revenue loss for the government and expected dividends for communities. A major focus is being placed on strengthening the regulatory mechanisms to increase transparency and cater to the welfare of small-scale miners while safeguarding the environment ([Republic of Liberia 2018, 77](#)).

Nonetheless, government has made significant strides in their efforts to formalize the artisanal mining sector. In order to curb illicit mining activities, the Ministry is striving hard to legitimize the status of the mining inspectors. A clean database of inspectors is now developed, and inspectors have been issued official ID cards and are receiving capacity building training to understand how to conduct effective inspections. In addition, adherence to the Kimberley Process, documentation of the chain of custody of minerals, implementation of the Extractive Industries Transparency Initiative (EITI) rules and regulations and the launch of the [Online Repository](#) have all led to increased transparency within the mining sector. By focusing on the decentralization of the mining licensing processes, the Ministry of Mines and Energy is also working towards streamlining the ASM mining license process, making it easier for miners to apply

for licenses regionally. Mobile money platforms are also envisaged to enable the renewal of ASM licenses by making it easier to obtain licenses, thus contributing to the formalization of the sector.^v

Timeline



ASM context and livelihoods

In Liberia, it is estimated that approximately 30,000-100,000 people are engaged in ASM activities (Boakye et al 2012; MLME 2009 and PRS 2008 cited by Hinton 2010, LEITI 2015), of which about 10-20% are women (Hinton 2010 cited by Eftimie et al. 2012). However, this figure is considered an underestimate given the informal nature of ASM. 787,500 (and perhaps as many as 1.575 million) individuals are estimated to depend in some way on the sector for at least part of their cash income (LEITI 2015, 16), a significant portion of whom are foreign nationals. Working conditions in the sector are often physically demanding and compliance with health and safety protocols is a challenge given their lack of awareness, limitations in access to equipment and funding, and enforcement by inspectors. However, although common in many parts of the world, mercury is not widely used in Liberia.

EMPLOYMENT

In Liberia, many miners operate in the grey zone between legal and illegal status, a space where miners, customary authorities, and government officials are engaged in constant negotiation over the governance of artisanal mining activities. Given the high degree of informality and because the Liberian legal framework does not require the registration of individual workers, but only that of the “miner” equivalent to the mine owner, it is difficult to obtain reliable estimates of artisanal miners. A study conducted in 2010 revealed that ASM operations are a major employer in Liberia although official data indicates that mining employs 1.6% of the population (LISGIS 2011, 34). In 2012, Boakye et al. (2012) suggested that between 30,000 and 45,000 people were engaged in ASM in Liberia. A decade ago, other calculations indicated that estimated 50,000 to 100,000 men and women are directly involved in mining activities (MLME 2009 and PRS 2008 cited by Hinton 2010, 1). According to a report by the UN Economic Commission for Africa (UNECA) citing estimates from the Communities and Small-Scale Mining (CASM), there are 100,000 ASM operators who have near 600,000 dependents (UNECA 2011, 69). Liberia Extractive Industries Transparency Initiatives’ (LEITI) 2015 scoping study of the mining sector estimates “approximately 100,000 artisanal and small-scale miners and up to 500,000 diggers in Liberia” citing USAID’s Governance Economic and Management Assistance Program as the source (LEITI 2015, 16). High mobility rates in ASM along with participation by foreign nationals makes data collection difficult. As a result, individuals working in the ASM sector are unlikely to be captured in the national censuses.

Official labor data may underestimate the number of people working in this sector and thus its importance as a livelihood (Hunter 2019). The artisanal gold mining sector, for example, provides essential support to the livelihoods of hundreds of thousands of poor people, providing valuable seed capital for other economic activities. Taking into account indirect labor and dependent households, LEITI suggests that around 787,500 (and perhaps as many as 1.575 million) men, women, and children depend indirectly on the artisanal mining (LEITI 2015, 16). While the Liberian population was totaled around 4 million in 2010, it is important to note that a significant number of diggers were foreign nationals who came specifically to Liberia to work in its diamond and gold mining areas. The sector attracts both local and foreign miners due to its low barrier to entry in the form of the basic technical equipment required for mining. In addition

to Liberian miners, diggers and miners from other West African countries have also been reported, most notably from Sierra Leone, Guinea and Mali (Hunter 2019). In some mining camps, only Liberians work as miners, while in others there are more foreigners. In a few mining camps, as many as 75% of the diggers were reported to be foreign nationals (Van Bockstael 2014). The UN panel of experts in Liberia suggested that Sierra Leonean miners working in Liberia “exceeded 10,000” in 2011 (UNSC 2012, 30).

The highest revenues from gold miners are usually generated during the dry season (November through May), while revenues decline during the rainy season (June through September) when most miners return to their farms to plant crops (Maconachie and Hilson 2020). Miners typically manage “portfolios” of diversified livelihoods, engaging in a variety of economic activities throughout the year. In particular, the linkages between mining and agriculture are strong, with revenues generated by the mining sector contributing significantly to the agricultural economy. Actually, the farming and gold mining economies complement each other, with miners engaged in farming activities throughout the year and investing a considerable portion of gold mining revenues in labor and agricultural inputs (Maconachie and Hilson 2020).

Financing and lending systems are informal and unregulated, leaving the poor vulnerable to exploitation. Market mechanisms for buying gold, for example, are dominated by informal buyers operating outside the legal realm and remain poorly developed. Pre-financing arrangements can be extremely variable, and it is therefore difficult to make a general statement on how pre-financing works. From the available data, it appears that a wide variety of actors prefinance mining operations, ranging from local managers to foreign businessmen. In some cases, pre-financiers pretend to be only buyers or brokers, but are actually pre-financing mining operations in return for guarantees of right of first refusal once gold is found (Hunter 2019; Vlassenroot and Van Bockstael 2008). In such cases, miners receive loans from buyers, which they repay over time in gold. The terms of the loans vary, but buyers pay below market rates for the gold in exchange for their loan services (Maconachie and Hilson 2020). The geographical remoteness from urban centers – particularly Monrovia –, poor road access to gold buying centers, and high transportation costs create dependencies with informal buyers, who buy gold from miners at the extraction site.

In the diamond sector, work arrangements have been forged between landowners or those with local land use permits and groups of mostly itinerant workers who are hired to mine for diamonds in exchange for commodities such as rice (Hilson and Van Bockstael 2012). Once the miner has sold the diamond(s), typically 50 percent of the revenue is divided among the diggers or “diamond boys. Although significant diamond discoveries, especially of gemstones, are sometimes rare, these people are, at least, assured of being fed (or receiving a small amount of money) every day (Van Bockstael 2014). While Liberian diamond miners can be differentiated to some extent based on their ability to raise capital, bear the initial cost of formalization, and the degree of mechanization of their operations, most miners can be considered subsistence workers. Rather, they are people who have access to a parcel of diamond or gold land, but who lack most of the capital needed to finance the initial earthmoving operations, which can take several weeks. Except for a subset of professional miners who have developed impressive networks and are able to raise capital independently, the mining operations they commission are generally conducted on behalf of Monrovia-based traders through licensed diamond brokers. Although some licensed brokers readily admit to financing unlicensed or licensed miners, many miners are forced to seek financing from informal intermediaries known as “supporters” (Van Bockstael 2014). Through these arrangements miners are

provided regular food (e.g. locally grown rice and Maggi (soup) cube) that helps to mitigate against poverty, but as analysis by Hilson and Van Bockstael (2011) suggest barrier from the policy framework and under-resourced institutions make it difficult for households to progress beyond subsistence.

In most cases, miners earn only a few dollars a day, but this income is often higher than what they can earn from other activities as few livelihood opportunities exist (Hilson and Van Bockstael 2011). The World Bank's most recent data from 2016 reports that 44.4% of Liberians are living on less than \$1.90 a day.^{vi} Research from other African contexts has demonstrated the comparative earning potential mining offers as a basis for livelihood diversification in rural communities (Barrett et al. 2001; [de Brier et al. 2020](#); Hilson and Garforth 2012; [Yeboah 2014](#)). Reports suggest that mining also attracts retired civil servants and government officials who seek to earn more money. In fact, the police are even reported to have closed down mining sites in Liberia and then resigned from their duties and returned to the mine site to work (Hunter 2019).

GENDER PARTICIPATION

The scholarship and published research on women's participation in Liberia's artisanal mining sector is very limited. There does not exist a specific estimate to the total number of women working in the artisanal mining sector in Liberia. The single estimate on the portion of women involved in the sector comes from a 2012 study that states 10-20% of the estimated 50,000-75,000 artisanal diamond miners are women ([Hinton 2010 cited by Eftimie et al. 2012](#), 4). Women are also noted to participate in the artisanal gold sector most commonly as panners but estimates to the proportion of the sector women makeup are not available.

The 2010 Mining Policy of Liberia outlines a vision for a sustainable and well-governed mining sector defined in part as being gender inclusive and facilitating "equitable access to the sector by all qualified Liberians, irrespective of gender or ethnicity" (Mining Policy of Liberia 2010). However, the Mining Code provides no provisions or mentions of women. A 2016 Regulatory Roadmap published by the Ministry of Mines to formalize the artisanal sector outlined the pilot creation of ASM umbrella organizations (e.g. cooperatives) with training on gender mainstreaming. The organizations are encouraged to design quotas for inclusion of female members, include women on the Board of Directors and through other means ensure that female miners are not marginalized from decision making.

Albeit to a lesser extent than men, there are women who hold mining licenses in the artisanal mining sector. Research by Diamonds for Peace in 2017 identified some cases where foreign men have come to Liberia to marry local Liberian women in order to obtain mining licenses, as mining license holders must be Liberian citizens. It was noted that in these cases the husbands manage the mining activities and the female license holders play a limited role in the claim's activities. Illiteracy among all of the women surveyed was indicated to be a contributing factor as to why husbands managed the mining operations. The survey (n=70) also found that in terms of making household budget allocations, 43% of respondents indicated men were decision makers, 31% of respondents responded that men and women were equal decision makers, and 25% of respondents stated women were primary decision makers (Diamonds for Peace 2017).

Women's access to mines sites is limited in some areas based on locally held cultural beliefs. Some miners in Islamic regions hold the belief that a women's presence on a mine site will result in lower mining yield. This is based on a belief that women's presence on a mine site is equivalent to 'Zina', an Islamic legal term referring to illicit sexual relations and would anger God resulting in a lower mining yield (Diamonds for Peace 2017). Overall further research is needed to understand the dynamics that affect women's participation in the ASM sector and women's land rights in Liberia. Research to date has begun to explore the gender and land-related activities in Liberia (Weah 2012; USAID 2018) and West Africa (Akinola 2018; [Brottem and Ba 2019](#); [Odeny 2013](#)), but focused research on the mining context in Liberia is needed.

LABOR, SAFETY AND WORKING CONDITIONS

Artisanal and small-scale mining is a labor-intensive activity requiring manual and semi-mechanized efforts to excavate orebodies and extract metals and minerals from the earth. The working conditions are often very physically demanding and adherence to health and safety protocols is a challenge with limitations on access to equipment, awareness of appropriate measures to improve Occupational Health and Safety (OHS), access to financing to implement measures to improve working conditions, and regulatory oversight and enforcement from inspectors.

Liberia's mining sector's history is marked by several prominent mine site incidents. The 1982 Landslide Disaster that occurred in Grand Cape Mount County at the No-Way Camp is remembered as a national tragedy. A devastating landslide on an iron mining site managed by the National Iron Ore Company (NIOC) in the western province claimed the lives of an estimated 200 'peasant miners' ([Gbessagee 2002](#)). Tragically a 2014 pit wall collapse at a gold mining site also called No-Way Camp in Grand Bassa County claimed the lives of over 20 miners ([Daily Observer 2015](#)). Available statistics on mine casualties and injuries from 2013-2016 indicated a significant decline in the recorded number of casualties in this 4-year period from 38 casualties (2013) to one casualty (2016). However, the nature of reporting and management of data on mine site accidents and fatalities is not clearly defined (Sabondo 2017). More reports of fatal mining accidents have made national news outlet including a February 13, 2019 incident that trapped and killed over forty miners underground after an underground shaft collapsed ([Wreh and Sayon 2019](#)) and a May 4, 2020 mudslide in a mining site that estimated to kill over 60 miners ([Daygbor and Browne 2020](#)). Consultation in 2016 identified the prevalence of accidents and injuries were common at mine sites, attributed to pit collapses, unsafe equipment use and pit collapse. Additionally, the lack of access to medical clinics or personnel trained in first-aid compounded the health and safety risks for artisanal miners (MLME 2016).

Numerous security issues also impact mine sites and contribute to occupational risks. Theft of diamonds is prevalent concern among operators due to the relative size, value and variable dispersion. Even among operators with long associations vigilance against theft is ever present ([Hoffman 2019](#)). Additionally, the nature of rushes which drawn a sudden large migratory labor force made up of diggers (referred to as 'shovel boys' or 'gold boys') has been shown to lead to disputes and conflict with local communities and among laborers (Verbrugge, Cuvelier, and Van Bockstael 2014).

The Government of Liberia has developed a legal framework requiring the conservation and sustainable use of natural resources. Requirements for the use of Environmental Impact Assessment (EIA),

Environmental Impact Statement (EIS) have been established but uptake and compliance among miners is very limited. For example, In the northern part of Sapo National Park, siltation due potentially to ASM activity is a major problem affecting drinking water. Researchers in 2012 noticed only one small stream with clear water, with all others heavily disturbed. Other major environmental problems were observed, such as deforestation for mining and lack of backfilling or reclamation of abandoned sites (ASM-PACE 2012).

Liberia is a signatory to the Minamata Convention on Mercury, signing on September 24, 2019.^{vii} The Minamata Convention aims “to protect human health and the environment from the adverse effects of mercury”. It compounds through a number of actions, including a ban on new mercury mines, control measures on emissions to air and on releases to land and water, and the regulation of the informal sector of artisanal and small-scale gold mining.^{viii} However, while common in many regions in the world, mercury is not widely used in Liberia. This is due to the locally held belief that mercury reduces the quality and value of gold, but also because the chemical is expensive to purchase (Brownell 2009).

However, children have been reported to be working in diamond and gold ASM, including washing gravel and using mercury and cyanide (USDOL 2019), but there is limited research available on this issue.

Key Minerals

Liberia is endowed with an impressive stock of mineral reserves and has traditionally relied on mining, namely iron ore, gold, and diamonds, as a major source of income. Iron ore is namely mined by large scale operators while artisanal and small-scale operators focus on gold and diamonds. The mining industry suffered significantly from the long civil war (1989 – 2003). Although diamonds did play a secondary role in financing non-state armed actors in the Liberian civil war (Hazen 2013, 194 cited by Van Bockstael 2014), Liberian diamonds have become known mainly by the proverbial name of ‘conflict’ or ‘blood’ diamonds because of their association with the war in neighboring Sierra Leone, a conflict that was closely intertwined with Liberia’s own (Van Bockstael 2014). UN sanction banning diamond exports from Liberia and the cancellation of licenses by the government have left the sector largely unexplored leading to a depressed production.

GOLD

In Liberia, most artisanal and small-scale gold mining (ASGM) activities take place in the southeast of the country, particularly in Grand Gedeh, River Gee, and Sinoe counties. Other sites include the Gola Forest region in Grand Cape Mount County, adjacent to the Sierra Leonean border, Grand Bassa County and Grand Cape Mount County (UNSC 2013, Hunter 2019). Conservation areas such as Sapo National Park in Sinoe County and the Liberian Forestry Development Authority (FDA) are also prime locations for ASM, with about 6,000 artisanal gold miners operating in Sapo National Park alone (EPA 2013, 28).

ASGM in Liberia dates back to the 19th century when it was practiced by former slaves, but the first major rush took place in 1943 in Grand Cape Mount County. It generally takes the form of alluvial mining. Alluvial gold is extracted from sand and gravel deposits, most often in or near streams, usually in the form of small visible gold coins (EPA 2013). Liberia's total gold reserves are estimated at 3 million ounces ([Boakye et al. 2012, 17](#)).

Liberian gold is reported to be extremely pure, with a negligible loss of mass of only 3 percent during the smelting process (UNSC 2013). In fact, in Liberia, unlike other countries, the use of chemicals in the processing of ASGM is limited. According to the Environmental Protection Agency (EPA), mercury has been widely used in the past for gold mining in Liberia. However, in recent years the use of mercury has decreased significantly, in part due to the rising price of the chemical and the unavailability of mercury on the local market (EPA 2013). Research by Green Advocates (2009) reveals that miners, despite their knowledge of mercury, do not use chemicals in their communities to extract gold because it is too expensive and also because it reduces the weight of the gold after it is burned (Brownell 2009). However, in some ASGM communities, such as Weaju in Grand Cape Mount County, mercury is still used to recover gold (EPA 2013). The availability of less expensive technologies – carpet laying, pile driving and jigging, respectively – has also contributed to the reduction in mercury use (EPA 2013).

No official estimate for gold miners exists within the literature, but ASGM is understood to be a major employer in Liberia with its importance increasing following the Ebola crisis of 2014-15 (Hunter 2019). An OECD (Hunter 2019) report posited the Liberian ASGM gold sector could produce up to 10 tons of gold annually. This estimate based on each gold miner needing to sell around 2 grams of gold per week to survive and 100,000 ASGM operators in the sector is likely on the higher side as it uses an employment estimate for the entire ASM sector from UNECA (2011) and assumes all are gold operators which ignores the significant portion of diamond miners in the sector. Noting the limitations of this estimate, at the average annual gold price for 2011, this represents between \$447 million and \$613 million of gold produced by the Liberian ASGM sector.^{ix}

The value of this estimate come when comparing to officially reported export. Prior to the expansion of industrial gold production in 2016, Liberia officially exported an average of 20,942 ounces of gold (0.59 tons) per year over the last decade—not including the low production registered in 2015 due to the decline in international gold prices (CLB 2010 – 2019). This would represent only 5.9% of the 10 tons of gold that the ASGM sector could be producing. Ultimately what can be gained from these figures is the further recognition that the sector's informal nature is contributing to a significant amount of formal export value being lost due to smuggling or informal flows of gold out of Liberia. Smuggled gold is exported to neighboring countries, but it has also been reported to be smuggled to the United Arab Emirates (UAE) (UNSC 2013).

DIAMOND

In Liberia, diamonds are produced mainly by artisanal miners from alluvial placers located in the western and central parts of the country. Three distinct groups of diamondiferous kimberlites have been recognized in western Liberia at Kumgbor, Mano Godua and Weasua. Other kimberlite occurrences are

found in Nimba County in central Liberia, and more recently, another area in southeastern Liberia has been identified as an artisanal diamond mining area (Gunn et al. 2018).

Most artisanal diamond production remains largely informal and unregulated (Maconachie and Conteh 2020). Despite discoveries reported as early as 1906, interest in diamond mining in Liberia only began to take off after the discovery of the Lofa River deposits in 1957, which triggered the country's first diamond rush. Although its own estimated geological diamond deposits were relatively modest, Liberia was already a major exporter at that time, with an estimated more than one million carats exported in 1956 (Van Bockstael 2014, 3). Smallholder production peaked at about 600,000 carats per year in the early 1970s and total production has been about 14 million carats over the past 50 years (Gunn et al. 2018). However, only a small fraction of these diamonds is actually estimated to be Liberian diamonds (Van Bockstael 2014). The country has actually attracted smuggled stones from neighboring countries because of its use of the US dollar as the national currency and negligible restrictions and tariffs on imports and exports (Greenhalgh 1983, 306; cited by Van Bockstael 2014). In 1950, for example, only one-tenth of the diamond exported from Liberia originated in the country. Most of the exports consisted mainly of diamonds from Sierra Leone, which was seen as evidence of Liberia's favorable business climate at the time. As a result, it is difficult to obtain reliable estimates of Liberia's diamond production. For 2018 and 2019, the country officially exported 75,554 and 55,936 carats (CBL 2020, 33).

Although the current situation cannot be compared to the spectacular "production" of the decades before the civil war, diamond smuggling continues to be widespread in Liberia and neighboring countries. By 2014, the Liberian government has estimated that up to 30 percent of rough diamonds leave the country in this manner. A 2012 paper estimated as much as 70% of Liberia's diamonds are smuggled to neighboring countries (Hilson and Van Bockstael 2012, 425). However, the United Nations Panel of Experts on Liberia estimated that similar quantities also entered the country near the northeastern border with Côte d'Ivoire (UNSC 2014).

The Liberian mining industry suffered significantly from the civil war in Liberia. Although diamonds did play a secondary role in financing non-state armed actors in the Liberian civil war (Hazen 2013, 194 cited by Van Bockstael 2014), Liberian diamonds have become known mainly by the proverbial name of 'conflict' or 'blood' diamonds because of their association with the war in neighboring Sierra Leone, a conflict that was closely intertwined with Liberia's own (Van Bockstael 2014). Historic Liberian diamond production was tarnished by its association with conflict in the region and issues around conflict minerals led the implementation of diamond sanction in 2001. UN sanction banning diamond exports from Liberia and the cancellation of licenses by the government have left the sector largely unexplored leading to a depressed production.

The sanction was lifted in 2007, which generated significant interest from major diamond exploration companies such as a joint venture between Trans Hex Group Ltd of South Africa and Stellar Diamonds (USGS 2011), Fundy Minerals Ltd. of Canada (USGS 2012), and Sable Mining (USGS 2012) and reinforced by the recent discovery of diamondiferous kimberlite (UNDP 2014). In the same year Liberia became a participant in the Kimberley Process Certification Scheme (KPSC) and since then diamond production has increased to a peak of 75,554 carats in 2018 according to the Central Bank of Liberia; in the same year 78,690 carats were exported generating USD31.78 million (CLB 2019, 29, 45). However, although

reporting of diamond production is mandatory under the Kimberley Process, production figures are not guaranteed to represent all diamond production in the country due to the number of unlicensed artisanal mining producers (Gunn 2018). According to some estimates, Liberia produces approximately 150,000 carats per year, which are concentrated in Grand Cape Mount County (UNDP, 2014). Previous studies commissioned by USAID have estimated that 60-80% of diamond mining concessions are unlicensed (Siegel 2014 cited by MLME 2016, 9). Others estimate that informal diamonds account for about 90% of the diamonds produced in Liberia (Boakye et al. 2012, 16).

It is estimated that there are between 50,000 and 75,000 artisanal diamond miners in Liberia, about 10 to 20 percent of whom are women, and most of whom also go to collect gold from diamond sites ([Hinton 2010 cited by Eftimie et al. 2012, 4](#)). Monrovia-based diamond traders are the only actors legally authorized to export diamonds, only Liberian citizens are allowed to work as brokers, and they channel diamonds from miner to trader, either as independently funded operators or directly funded by a trader.^x

Despite potential future geological discoveries, it is estimated that diamond mining activities in Liberia will most likely remain predominantly artisanal in nature for the next decade.

Development & Economic Indicators

Liberia is well endowed with natural resources, including water, mineral resources, forests and a climate conducive to agriculture. After a long civil war (1989-2003) that shocked the country and the Ebola crisis (2004-2005) that plunged its economy into recession, Liberia's economy is rebounding largely through mining, forestry, and agriculture. The ASM sector has the potential to generate more income and contribute to poverty reduction in rural areas. However, if appropriate measures are not taken, it can also continue to exacerbate environmental degradation, social and health hazards, and pollution. Data and information exist to demonstrate the contribution of ASM to the achievement of SDGs 1, 2, 5, 8, 17 in Liberia, including poverty reduction, gender equality, and revitalized partnerships. Ongoing formalization efforts can help reduce the challenges the sector still faces and enhance its contribution to local and national socio-economic development.

GENERAL DEVELOPMENT & ECONOMIC CONTEXT

Liberia is rich in natural resources including with water, mineral resources, forests, and a climate favorable to agriculture. The country development and current state is inextricably linked to the violent 14-year civil war that began in 1989 and led to the death of a quarter million people and one of the largest economic collapses in the world since World War II with GDP falling by of over 90 percent in less than two decades, (Radelet 2007). The country has been at peace since 2003, and a new democratically elected government, headed by Africa's first female president-elect, took the reins in January 2006. The new government in 2007 introduced a broad set of policies to foster peace, launch reconstruction and development, and build strong systems for governance.

Liberia is ranked 176th out of 189 countries in the Human Development Index for 2018 (UNDP 2019) and about 44.4% of its population was poor in 2016, living below the US\$1.90 poverty line.^{xi} Liberia's population is estimated at 4.9 million in 2019.^{xii} 71% of the population is under 35 years of age and nearly half is under 15 years of age (AFDB 2020). Life expectancy is 63 years,^{xiii} and low levels of education and technical skills prevent the country from realizing a demographic dividend and increasing savings. In 2007, the total adult literacy rate was about 43 percent, while the youth literacy rate was 49 percent. The unemployment rate has averaged 2-3 percent over the last decade, with more than 90 percent of the labor force in the informal sector and three-fourths of workers in vulnerable employment.^{xiv} Transportation and energy deficits undermine private investment in the mining, manufacturing, services, and agribusiness sectors (AFDB 2020).

Liberia is a low-income country with annual economic growth that fluctuated between 5.3 and 9.5 percent from 2007 to 2013.^{xv} From 2014 to 2016, the country was affected by the Ebola crisis, which plunged the economy into recession, with real GDP contracting by 1.6 percent in 2016 due to capital flight and falling private investment. Real GDP growth rebounded to 2.5 percent in 2017, largely driven by mining (gold and iron ore), forestry, and agriculture as economic activity picked up (AFDB 2020, 62), before falling back to 2.2 percent in 2019.^{xvi}

According to the Liberia Extractive Industries Transparency Initiative (LEITI) report (2019, 13), the total contribution of the mining sector to government revenues for fiscal year 2017-2018 was 41 percent, a figure much higher than that of agriculture (23%), Forestry (12%) and oil and gas (1%). Approximately 90 percent of mining sector payments were up-front payments made by the major iron ore companies. Liberia was the largest iron ore exporter in Africa and the third largest in the world (Wilson 2017) between 1960 and 1980. Iron ore was the mainstay of the economy, contributing more than 60 percent of export earnings and about 25 percent of GDP (IMF 2008, 65). It is estimated that it has reserves of between 2 and 5 billion tons of iron ore ([Boakye et al. 2012, 17](#)). In 2021, the Ministry of Mines and Energy Online Repository records 1,138 active licenses with 210 industrial scale (18.4%) and 791 (69.5%) are Class C Licenses.^{xvii} This number cannot be considered representative of all mining activity in Liberia and a large number of operations occur without a license.

ASM LINKAGES TO DEVELOPMENT INDICATORS

The ASM sector has the potential to create jobs, generate income, and contribute to poverty reduction in rural areas. However, it can also lead to significant environmental degradation, negative social and health pollution, and life-threatening bio-systems pollution ([Boakye et al. 2012](#)). The lack of strong implementation of legal and regulatory frameworks, combined with limited institutional oversight, contributes to a significant loss of income and revenue for both the Government of Liberia and artisanal miners.^{xviii} Additionally there is a perception among local communities that royalties and economic growth generated by the sector is not being shared at the county level. The lack of basic public infrastructure and services in many rural ASM communities exacerbates this perception (MLME 2016). Formalization efforts can strengthen the sector's contribution to local and national socio-economic development and help overcome the challenges still facing the sector.

The table below shows examples of linkages between ASM and SDGs in Liberia.

Table 2: ASM linkages to Development Indicators

Social Development Goal	Evidence of ASM linkage to development
 1 NO POVERTY <i>End poverty in all its forms everywhere</i>	o Inclusion of indirect labor and dependent households suggests that approximately 787,500 and possibly up to a maximum of 1.575 million men, women, and children were indirectly dependent on artisanal mining for at least some of their cash income in 2015 (LEITI 2015, 16). This figure represents approximately 17 to 34 percent of the total population.
 2 ZERO HUNGER <i>End hunger, achieve food security and improved nutrition and promote sustainable agriculture</i>	- o Miners, who are primarily Liberian nationals, are attracted to ASM as a primary source of income, as agricultural production is often not a viable income-generating activity for many Liberians. Agriculture declined sharply during the civil war due to a lack of inputs, capacity, and technical know-how in the sector (ASM-PACE 2012). - o With the added challenge of seasonality, the ability of smallholders to compete and generate adequate income in a liberalized agricultural market is severely limited. As a result, many smallholders have begun to engage in other non-farm rural income-generating activities to supplement their meager incomes. In areas where mineral deposits are known, ASM has rapidly become the most important of these, often leading to the disaggregation and development of separate mining quarries (Hilson and Van Bockstael 2012). Meanwhile, miners typically manage diversified livelihood "portfolios", engaging in a variety of economic activities throughout the year. The linkages between mining and agriculture are strong, with revenues generated by the gold mining sector contributing significantly to the agricultural economy. The financial journal exercise revealed that the agricultural and mining economies complement each other, with miners engaged in year-round agricultural activities and investing a considerable portion of gold mining revenues in labor and agricultural inputs (Maconachie and Hilson 2020). - o As Liberia had become a landscape of degraded farmland and markets flooded by imported food produced in the United States, especially rice, and with insufficient agricultural subsidies, many rural families had intensified their efforts to produce their own rice, not only for personal consumption, but also to "pay" diamond mine workers. Specifically, semi-subsistence farming had enabled farming families to attract bands of workers hired specifically to mine diamonds from the plots, as illustrated by the results of pilot research in the villages of Bonga and Sackie Town in Bomi Country. They had been "fed" and the stones found had been distributed equitably between the workers and the head of the family (Hilson and Van Bockstael 2012).
 3 GOOD HEALTH AND WELL-BEING <i>Ensure healthy lives and promote well-being for all at all ages</i>	- o In Liberia, the adoption of environmental management tools such as Environmental Impact Assessment (EIA), Environmental Impact Statement (EIS) and the use of best practices that value local knowledge is still lacking (Wilson et al. 2017). - o Other major environmental problems are observed, such as deforestation for mining and lack of backfilling or reclamation of abandoned sites (ASM-PACE 2012).
 6 CLEAN WATER AND SANITATION <i>Ensure availability and sustainable management of water and sanitation for all</i>	- o In the northern part of Sapo National Park, for example, siltation due potentially to ASM activity is a major problem affecting drinking water. Researchers noticed only one small stream with clear water, with all others heavily disturbed. - o Consultation in 2016 identified the prevalence of accidents and injuries were common at mine sites, attributed to pit collapses, unsafe equipment use and pit collapse.
 15 LIFE ON LAND <i>Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage</i>	o Additionally, the lack of access to medical clinics or personnel trained in first-aid compounded the health and safety risks for artisanal miners (MLME 2016).

	<i>forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</i>	
 4 QUALITY EDUCATION	<i>Ensure inclusive and equitable quality education and promote lifelong learning opportunity for all</i>	- o Some “gold Boys” have been reported to invest their income by digging to pay their children's school fees or by financing small business ventures. (ASM-PACE 2012). - o ASM can also cause children to drop out of school in search of money in the mining sites.
 5 GENDER EQUALITY	<i>Achieve gender equality and empower all women and girls</i>	- o Women are known to participate in both the gold and diamond artisanal and small-scale mining sectors. Limited research exists on female participation in the sector overall. The single estimate on the portion of women involved in the sector comes from a 2012 study that states 10-20% of the estimated 50,000-75,000 artisanal diamond miners are women sites (Hinton 2010 cited by Eftimie et al. 2012) - o Women's participation in the sector is limited in part due to customary beliefs that limit female access to mine sites and low literacy rates (Diamonds for Peace 2017)
 8 DECENT WORK AND ECONOMIC GROWTH	<i>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</i>	- o Artisanal gold and diamond mining, in particular, contributes to Liberia's national economy through royalties and taxes paid by licensed dealers and income generated by those working in the sector, most of whom are rural dwellers (MLME 2016). - o If half of diamond miners' combined income is spent on local goods and services, it is estimated more than \$13.5 million may be injected into local economies, creating markets for locally grown or supplied goods and increasing the cash component of household incomes. This capital injected into ASM may have further stimulated local formal and informal businesses to contribute an additional \$33.75 million to local economies (ASM-PACE 2012). - o However, the sector's potential to generate significant national mining revenues and to contribute to the development of local communities and economic growth is not yet realized (MLME 2016). Because artisanal gold mining is largely informal and unregulated, a significant portion of revenues disappears into informal channels. As a result, governments are deprived of substantial revenues, which could be captured if effective tax regimes were put in place as part of a formalized system (Maconachie and Hilson 2020). - o Limited knowledge and implementation of occupational health and safety practices presents a risk to miners as accidents including landslides, tunnel collapses, falling trees and improper use of equipment are common.
 17 PARTNERSHIPS FOR THE GOALS	<i>Revitalize the global partnership for sustainable development.</i>	- o International programs have supported governance and natural resource management in Liberia. Below are some examples : - o GIZ : Regional Resource Governance in West Africa (2019-2022) - o USAID : Property Rights and Artisanal Diamond Development I (2010-2013) - o Sida : Environmental Governance Programme (2020) - o World Bank : Artisanal and Small-Scale Mining in Protected Areas and Critical Ecosystems (2010-2015)

Sources: Multiple sources, referenced in line.

Mineral Governance Framework and ASM Formalization

The minerals and mining sector in Liberia is regulated by the Mining and Minerals Act of 2000 and the Exploration Regulations. Legally, the ASM sector is limited to Liberians, although foreigners, primarily from West African countries, are also involved (Flahwor 2016). The provisions for ASM in the mining code do not reflect the realities of the sector, making legality extremely difficult and unaffordable for miners. The high cost of mining licenses places an economic burden on miners in households with already subsistence incomes (MLME 2016). The MLME has taken a bottom-up approach to formalizing the ASM sector and expects this to improve sustainable local development for Liberian miners and their communities (MLME 2016). Formalizing the sector and building an inclusive and accountable public sector that improves enforcement of regulations on ASM activities are its current priorities.

MINING STRATIFICATION

There is not yet a clear and unanimously accepted definition of artisanal mining. This is partly due to the fact that countries tend to define the term differently. In Liberia, the Mineral and Mining Act 2000 does not provide a clear definition of ASM, let alone a detailed legal framework for holding artisanal miners accountable (Van Bockstael 2014). Indeed, Liberia's 2000 mining code makes no explicit reference to "artisanal mining" but uses the term "small-scale mining". It is in the 2004 addition of a 40th chapter to the law, providing for controls on the export and import of rough diamonds in accordance with the minimum requirements of the KPCS, that "artisanal" mining is mentioned.

The minerals and mining sector in Liberia is regulated by the Mining and Minerals Act of 2000 and the Exploration Regulations. Legally, the small-scale mining sector is restricted to Liberians. Section 4.2(h) of the Minerals and Mining Law of Liberia (2000) restricts small-scale mining rights (Class C licenses) to Liberian citizens only. However, foreigners, mainly from West African countries, also participate in artisanal mining activities—as manual workers, known as shovel boys,—working on behalf of licensees, as well as in other roles - or illegally, without a license (Flahwor 2016). Liberian nationals may apply for a "Class C license", valid for one year (with the possibility of renewal annually thereafter). It permits "predominantly small-scale mining" that does not use heavy equipment or large-scale earthmoving and is limited to secondary deposits. Each "Class C" miner may apply for up to four permits covering a total area of 100 acres (one Class C permit covers up to 25 acres) (Small and Villegas 2012; Ministry of Foreign Affairs 2000). In 2012, the license could be obtained for an initial fee of US\$300 (including a US\$150 demarcation or "survey" fee and a US\$150 actual license fee) from the MLME offices in Monrovia. In addition, mining agents levy a \$50 clearance fee, although this fee is unofficial and can often be changed at the discretion of the mining agent (Small and Villegas 2012).

Class "B" licenses are authorized to conduct semi-mechanized mining activities and to sell their production indoors and outdoors. This license can be held by both Liberians and foreigners. Many advanced artisanal miners who wish to use earthmoving equipment for a limited period of time

complained that they have to apply for the much more expensive Class "B" industrial licenses. In an attempt to address this complaint, the Liberian MLME paved the way for cooperatives to use limited earthmoving equipment on Class C mining licenses (Van Bockstael 2014).

However, the ASM provisions in the mining code do not reflect its realities, making legality extremely difficult and unaffordable for an artisanal miner. The high cost of mining licenses places an economic burden on miners in households with an existing subsistence income (MLME 2016). Not only is this one-time fee prohibitive for most miners,^{xix} but the fact that Liberian citizens are allowed to obtain up to four Class C licenses further underscores the political disconnect with the realities of artisanal mining operations in the country. The cost of the mining license and other expenses, including demarcation fees, travel to Monrovia to process the license at the MLME, and the numerous bribes that must be paid to various government officials along the way, have proven to be exorbitant and the entire process lengthy (Van Bockstael 2014). In addition, the mining code neglects the dispersed, alluvial, and easily accessible nature of most artisanally mined diamond and gold deposits (ASM-PACE 2012). Other available mining licenses are Prospecting license, exploration license and Class A Mining license.

Table 3. Mining License stratification

Mining License	Description	Initial Capital Investment	Period	Geographic Coverage
Reconnaissance License	For exploration purposes.	15,000 USD-license fees+ miscellaneous cost Often companies conduct airborne surveys which tend to be very expensive	6 months maximum, renewable once.	2000 km ²
Prospecting License	For exploration purposes. Especially for Class C and B applicants.	125 USD- License Fee 30,000- USD Environmental Protection Agency (EPA) Permit + miscellaneous	6 months, renewable once.	100 acres maximum
Exploration license	For exploration purposes. Especially for class A applicants.	5000 USD – License Fee+ miscellaneous 50 cents/ hectare for area covered under the license as Surface Rent is payable annually A minimum of 3.75cents/ hectare is spent by companies as adjusted per hectare expenditure This increases every year with the minimum for second year being 7.50 cents/hectare	3 years maximum, renewable for 2 years	1000 km ²
Class C Mining license	For small-scale operations. May be individual or cooperatives.	150 USD-License Fee 150 USD-Survey Fee + Miscellaneous	1 year, renewable several times	25 acres maximum. With possibility to hold up to 4 class C mining licenses
Class B Mining license	For industrial operations. May be individual or cooperatives.	10,000/annum License Fees 30,000 EPA permit + miscellaneous	5 years, multiple renewables available	100 acres

	One person can hold up to four Class B licenses at one time			
Class A Mining license	For large-scale mining operations granted during or at the end of the exploration period.	Iron Ore- 50,000 USD License Fee Gold and Diamond: 35,000 USD License Fee + miscellaneous	25 years maximum, renewable once	Depends on the metes and bounds, and boundaries and size of the deposits. Based on exploration data

Sources: 2000 Liberia Minerals and Mining Law and data collected by authors.

In 2010, Liberia's Mineral Policy was created to complement the Mining and Minerals Law of 2000 and in an effort to revive the mineral sector, which had been largely undermined in previous years of civil unrest. The stated objectives of the policy are to enhance the mining sector's contribution to government revenues, foreign exchange earnings, employment creation, ancillary economic activities, human resource and technology development, and improvement of social and physical infrastructure (Van Bockstael 2014).

Given the many challenges they face, Van Bockstael (2014) argues that many artisanal miners are in fact operating at different stages of legality, through the payment of informal taxes, and on the basis of informal agreements with local government officials. In fact, a significant proportion of unlicensed artisanal miners have, at some point in time, entered into such informal agreements with local mining officials, giving them at least tacit permission to start or continue mining. Such practices offer an alternative to the upfront payment of a license and avoid significant losses to the miners if an application proves unprofitable.

5.2. MINING FORMALIZATION REGULATIONS (ASM FOCUS)

The MLME has adopted a bottom-up approach to formalize the artisanal and small-scale mining sector and to design the interventions of the Artisanal Mining Formalization Program. It expects that formalizing the sector will reduce rural poverty, build rural capital for investment in small microenterprises, generate income to build rural community infrastructure such as schools, clinics, and roads, and most importantly, create sustainable livelihoods for Liberian miners (MLME 2016). The MLME has based this strategic vision on extensive background work in the form of county-level fact-finding missions, analysis, and policy design sessions.

Liberia's 2008 Mineral Policy supported ASM activities, stating that the Ministry should facilitate training of ASM miners in business and technical skills and mercury-free gold processing and should provide a microcredit loan program.^{xx} The National Mineral Policy, introduced in 2010, aims to use an integrated approach to address ASM issues, making ASM an integral part of rural development plans and promoting a healthy relationship between large mining companies and the ASM sector. Small-scale miners can benefit from technical inputs and advice from large-scale operators, as well as providing markets for further processing in large-scale facilities (the out-grower concept) (Boakye et al. 2012). To date, this

approach has proven illusory with limited examples from other context such as the [Mutoshi pilot project](#) between Trafigura Group, Chemaf, COMIAKOL, Pact and DRC government ([de Silva, Strauss and Morisho 2019](#)).

Nevertheless, in a 2013 report, the UN Panel of Experts on Liberia found that government control over the ASGM sector was weak, and studies commissioned by USAID estimated that about 95 percent of miners were unlicensed. This is mainly due to a lack of regulation, poor infrastructure, the remoteness of many mines from the border, and underfunding of MLME staff (UNSC 2013). A detailed analysis by Maconachie and Conteh (2020) explores the varying incentives for MLME staff, institutional bureaucratic structures, pervasiveness of illegal fees, and influence of international donors and the Kimberly Process which all contribute to the sector's persistent informality.

In 2016, the MLEM launched the *Regulatory Roadmap for the Artisanal Mining Sector* in Liberia, a master plan for formalizing artisanal mining. The document provides a clear definition of formalization in the Liberian context, as follows:

“The process of implementing reforms and regulations that strengthen the MME’s institutional and financial capacity to govern the artisanal mining sector; that enhances tracing of minerals and monitoring of the sector; that enhances the environmental and social performance of the sector; and – most crucially – that provides positive incentives and benefits to miners, host communities and the government, in the form of livelihoods development and increased revenue generation from the sector.” (MLME 2016, 28)

The roadmap identifies eight key policy themes: Decentralization of MLME Governance Structures; Improvement of Accessibility to AM Licenses; Tracing and Reporting of Mineral Production and Sale; Piloting of Umbrella Organizations/ “Cooperatives”; Spatial mapping of artisanal mines in Liberia; Improvement of AM Environment Management Practices; Enhancement of AM Health, Safety and Security Practices; Demonstration of Social Responsibility (MLME 2016, 16).

The MLME duly notes that in order for formalization to be effective and inclusive, the process requires buy-in, active participation, inclusion and commitment from a range of stakeholders from the government, civil society and traditional community leaders as well as those engage in the formalization process. Analysis of the implementation of the *Roadmap* by Maconachie and Conteh (2020) provides evidence of the challenge faced by the MLME. With increased formal taxation, the government needs to demonstrate reinvestment and support for miners who formalize their operations (e.g. technical assistance, access to credit or equipment). Additionally, evidence was found that cooperative structures were being captured by dealers and Monrovia-based businessmen “to perpetuate existing forms of resource capture and revenue sharing arrangements” (Maconachie and Conteh 2020). This has also been identified in other studies of ASM cooperatives in contexts such as in Eastern Democratic Republic of Congo (De Haan and Geenen 2016), Tanzania (Fisher 2007), Ethiopia (Bernard and Spielman 2008) and Africa more broadly (Wanyama, Develtere and Pollet 2009).

Liberia's New Pro-Poor Agenda for Prosperity and Development (2019-2023) sets out a bold vision for improving mining governance and enforcement of regulations on artisanal and small-scale mining operations throughout the country.^{xxi}

GOVERNMENT PRIORITIES & KEY TOPIC AREAS

Formalization of Artisanal Mining Sector: The Ministry of Lands, Mines and Energy recognizes that formalization of the artisanal mining sector is an essential component of the reform of the mining legal and regulatory framework in Liberia. It is a priority on the MLME's policy agenda to formalize the sector, although formalization of artisanal mining is integrated into a more comprehensive mining sector reform.

Governance and Transparency: An inclusive and accountable public sector for shared prosperity and sustainable development, government seeks to improve the enforcement of regulation on artisanal, small scale and large-scale mining activities through robust monitoring; and review concessional agreements for compliance with laws and regulations especially those that benefit the local communities. The Liberian government will encourage Corporate Social Investment with strong local content development framework and strategy for local benefits. A major focus is being placed on strengthening of regulatory mechanisms to provide greater transparency and to cater to the welfare of small-scale miners while safeguarding the environment.

GOVERNMENT INSTITUTIONS (NON-EXHAUSTIVE)

Ministry of Lands, Mines and Energy: is the primary governmental body responsible for the administration of the mineral sector in Liberia. It grants mining licenses; has statutory oversight of the energy, land, minerals, and water sectors; and regulates the oil and gas industry. Its strategic vision spans beyond the economics of mineral revenues generation and contributions of the artisanal mining sector to the national budget.

Department of Mineral Exploration and Environmental Research (D'MER): provides guidance for geotechnical investigations of engineered landfill sites, oversees the development and management of natural resources and sanitation sector, conducts scientific and technical investigations required for environmental assessments, collects and distributes information about mineral and water resources of Liberia. The D'MER is also responsible for granting research licenses. It implements its responsibilities through two bureaus:

- **The Liberian Geological Survey:** responsible for conducting geological mapping and mineral exploration, undertaking compliance monitoring of companies conducting exploration for minerals in Liberia, promoting the exploration and development of the mineral resources and being the principal curator of national geoscientific data.
- **The Hydrological Survey:** mandated to assess, evaluate, monitor and protect Liberia's water resources.

Mining Cadastre Information Management Unit (MCIMU): is responsible for the processing of license applicants in accordance with law and regulations, monitors the operations of license holders and compliance with law and regulations, facilitates access to information for investors, Ministry via the [Mineral Cadastre Unit](#).

Office of Precious Minerals (OPM): regulates the marketing of precious minerals (diamonds, gold) within Liberia. OPM is the official conduit for all precious mineral exports out of Liberia and conducts valuation

on precious minerals to determine export values and associated royalties payable to government revenue.

Government Diamond Office: Manages the movement and certification of diamonds through the Kimberly Process Certification Scheme

Environmental Protection Agency (EPA): is the principal agency for the management of the environment in Liberia is the). The Environmental Protection Agency Act of Liberia (EPA 2003) mandates the EPA to coordinate, monitor, and supervise all activities in the field of the environment. The EPA makes mandatory to file an Environmental Impacts Assessment (EIA) and Environmental Impacts Statement (EIS) to obtain government approval prior to initiating activities. In the case of the mining sector, an EIA declaration format has been specifically designed for mining activities. The EIA has five component phases: namely, project screening; scoping; description of the project/action, alternatives, and environmental baseline; identification of environmental impacts; environmental management plan/design of corrective measures; and monitoring and control. This EIA process is similar to other EIA processes worldwide in that the EIA is a process that analyzes and evaluates the impacts that human activities can have on the environment (Wilson et. al 2017)

ASM ASSOCIATIONS AND ALLIANCES

Natural Resources Women Platform (NRWP) is a platform of rural women organized to increase the visibility of natural resource-dependent women in Liberia as a way of understanding their needs, problems and motivations as well as to enable them to express their own ideas and concerns about challenges impeding progress and empowerment. NRWP has been involved in knowledge exchanges, facilitating trainings and workshops.

Federation of Miners Association of Liberia (FOMAL) and Local Miners Association of Liberia (LMAL) are two national ASM Associations in Liberia. The associations have served as implementing partners with various international partners to provide training and equipment to Liberian miners.

Key Data Needs & Calls to Action

There is limited up-to-date data and information on ASM in Liberia. Available employment data is long dated and official data is believed to underestimate the number of people working in the sector. Published research on women's participation in Liberia's artisanal mining sector is also very limited, as is assessment of the presence of children on mine sites. Available information on employment and production figures is generally aggregated and does not provide much insight into variables such as formality (including legal, unlicensed, criminal, etc.), nationality (Liberian and foreign), age, gender, education, ethnicity, migration status, and type of employment (seasonal, casual, full-time, etc.), and the role of players in the mining industry. There is also insufficient information available on ASM and medium-sized enterprises to detail their economic processes and activities. Production figures are also aggregated, and updated information is needed on the working conditions of miners at the sites as well as the equipment used, their incomes, their access to finance, prices of raw materials on the ground, and trading hubs. This data could further help to better understand the scope and concerns of the ASM sector and inform any formalization efforts, including the implementation of appropriate measures to improve the sector.

A general mapping exercise can help assess ASM activities in Liberia.

There is also limited available data on the environmental impact of ASM in Liberia. Such data should allow the government to take appropriate measures in improving health conditions in mining sites, reducing the effect of ASM on the environment and enforce land restoration as required by the mining code.

Finally, smuggling and illegal taxation is one of the main problems facing the ASM sector in Liberia. An overview of local versus foreign production and legal (and illegal) taxation along the supply chain can highlight opportunities to improve the fiscal framework and combat smuggling.

Compiling and researching key data and information gaps in Liberian ASM is a necessary activity. This information can be updated in a single platform database that can potentially avoid any duplication of the data update process and improve user experience and data access. Such a platform can become a powerful knowledge hub for all stakeholders involved in the sector.

Endnotes

ⁱ World Bank and OECD National Accounts data files.

ⁱⁱ Data from the Ministry of Mines and Energy, Liberia - Online Repository [<https://liberia.revenuedev.org/license>] on May 20, 2021

ⁱⁱⁱ Through its subsidiary Bear Mountain Mining Corporation, Aureus Mining operates Liberia's first commercial gold mine, the New Liberty Mine. See details at <https://www.mining-technology.com/projects/new-liberty-gold-mine/>

^{iv} Export data from BACI: International Trade Database at the Product Level as visualized by the Observatory of Economic Complexity (OEC) at <https://oec.world/en/profile/country/lbr> . Export data is not disaggregated by source, and is likely a mix of both ASM and LSM producers.

^v Information sourced from interviews with Ministry of Mines and Energy, 2021

^{vi} World Bank, Development Research Group. Databank: <https://data.worldbank.org/indicator/SI.POV.DDAY?locations=LR>

^{vii} According to the UN treaties collection website, Liberia signed the convention on September 24, 2014. However, the country has not been ratified as of May 2021. More information is available at https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-17&chapter=27&clang=_en

^{viii} See Minamata Convention on Mercury text at <http://www.mercuryconvention.org/Convention/Text/tabid/3426/language/en-US/Default.aspx>

^{ix} According to the Central Bank of Liberia, the price of gold posted an impressive performance during the second half of 2011 during which it stood above USD 1,900.00 from USD 1,350 registered in November 2010.

^x See a UNECA ASM Knowledge Hub at <https://knowledge.uneca.org/ASM/Liberia>

^{xi} World Bank national accounts data. Accessed November 2, 2020.

^{xii} World Bank national accounts data. Accessed November 2, 2020.

^{xiii} World Bank national accounts data. Accessed November 2, 2020.

^{xiv} Vulnerable Employment Rate is defined as the proportion of self-employed without employees and unpaid family workers in total employment by The International Labor Organization (ILO).

^{xv} World Bank national accounts data. Accessed November 2, 2020.

^{xvi} World Bank national accounts data. Accessed November 2, 2020.

^{xvii} Data from the Ministry of Mines and Energy, Liberia - Online Repository [<https://liberia.revenuedev.org/license>] on May 20, 2021

^{xviii} See Environmental Governance Programme at <https://www.environmentalgovernanceprogramme.org/liberia>

^{xix} GDP per capita in Liberia has fluctuated between \$US 283 and 329 during the last decade. Data available on the world Bank national accounts data. Accessed on October 28, 2020.

^{xx} See UNECA ASM Knowledge Hub at <https://knowledge.uneca.org/ASM/Liberia>

^{xxi} See Environmental Governance Programme at <https://www.environmentalgovernanceprogramme.org/liberia>

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