

Financial Inclusion Framework and Implementation Roadmap

An Innovative Financial Inclusion Framework to Support Artisanal and Small-scale Mining Formalisation in Liberia

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Foreword

The mining sector is one of the key anchors to Liberia's economy, accounting for at least 15 percent of Gross Domestic Product (GDP) in recent years. Therefore, the Government is committed to developing the country's mineral resource wealth sustainably to contribute to socio-economic development, including job creation. The Government's strategy includes minimising revenue leakages in the mining and related sectors to ensure a contribution commensurate to the sector's weight in domestic production. The mining sector comprises large- and small-scale sub-sectors. While the large-scale sub-sector has seen progressive improvements in revenue collection as it is more institutionalised, the Artisanal and Small Scale (ASM) sub-sector remains more challenging due to a myriad of problems. Revenue collection from this sector is much more complex due to an opaque supply chain, leading to revenue leakages through smuggling, among others.

By and large, the Liberia's small scale mining experience reflects the global picture where the ASM sub-sector provides significant employment but remains largely informal. Liberia is endowed with significant mineral resources and ASM currently constitutes the largest segment of the country's mining industry. The artisanal and small-scale mining of gold and diamonds support the livelihoods of over half a million Liberians indirectly, but despite its socio-economic contributions, significant poverty alleviating benefits have yet to be realised.

Due to these range of issues, governments and development partners around the world have recognised that improved formalisation and increased financial inclusion are the

keys to unlocking the development potential of ASM. Since 2003, the government of Liberia has endeavoured to expand financial access through consecutive national financial inclusion strategies and its national development plan, the Pro Poor Agenda for Prosperity and Development (PAPD) 2018-2023, which specifically highlights small-scale mining as having the potential to contribute to the socio-economic development. Consequently, these convergent policy objectives have led to the government and its development partners working to strengthen the regulatory frameworks that govern ASM and bolster financial inclusion. However, additional work remains to be done in the ASM sub-sector to adequately integrate it into the formal economy.

We are, therefore, grateful to the African Development Bank for accompanying us on this important journey of formalising the ASM sub-sector. The outcomes of this study will dovetail into the on-going Climate Smart ASM pilot project titled "Enhancing Efficiency and Sustainability on ASM through Climate Smart Actions". This financial inclusion study has been informed by a robust review and analysis of Liberia's financial ecosystems and ASM value chain. Therefore, implementation of the Framework is expected to significantly contribute to our efforts to formalize the sector and efficiently integrate it into the economy to scale up development gains from the minerals and mining sector.

We wish to assure all stakeholders in the minerals and mining sector that we will continue to work with you to build a future of shared prosperity towards improving the quality of life of Liberians.

Hon. Samuel D. Tweah Jr.
Minister for Finance and Development Planning

Hon. Gesler Murray
Minister for Mines and Energy

Preface

Liberia's Artisanal and Small-Scale Mining (ASM) sub-sector is largely confined to mining of gold, diamonds and industrial minerals. The sub-sector directly employs over 100,000 people, but when well-managed, holds potential to contribute to addressing unemployment and reducing poverty in Liberia. In line with this potential, the Government of Liberia's 2010 Minerals Policy and the current development plan, the "Pro Poor Agenda for Prosperity and Development (PAPD)" 2018-2023, have identified mining as a sector that can create decent jobs for the citizens.

Despite its importance and potential to unlock the vicious cycle of poverty, ASM remains a sector characterized by several challenges that constrain the realization of the developmental potentials. These challenges include limited technical capacity of miners, risky working environment, inadequate explored mineral bearing areas, gender insensitivities and lack of access to finance and appropriate technologies. Moreover, most ASMs do not have security of tenure or access to good quality and mineable resources. The poor access to financing is exacerbated by, amongst others, the reluctance of Banks and other financial institutions to extend loans and other financial services to what is perceived to be an unregulated ASM sub-sector. These challenges have led to the failure to harness the potential of ASM to contribute to improving rural livelihoods, stimulate entrepreneurship in a socially responsible manner and contribute to integrated national and regional development.

Financial inclusion and its related metrics could act as a key enablers for ASM actors' fight against poverty. It would provide incentives for the formalisation of their activities within the mainstream economy as groups or individuals,

allowing them to optimally participate in the mineral value chain. It would also support sustainable practices through delivering appropriate financial services to poor, remote households that need to be engaged in striving for the goal of inclusive rural economic development, thus harnessing the potential of an ASM sub-sector that is mainstreamed into the national economy.

It is in this context that the African Development Bank, collaboration with the Government of Liberia, undertook the study on financial inclusion to improve formalisation of the ASM sub-sector in Liberia. The study also complements the on-going African Development Bank supported ASM pilot project on "Enhancing efficiency and sustainability of ASM through climate smart actions", which is aimed at contributing to formalisation of the ASM sector through improvement in the policy environment, as well as building the capacity of both regulators and ASMs.

From the analysis of the study, it has been established that the sub-sector's financial inclusion can be achieved through formalisation and subsequent de-risking. This includes an enabling regulatory and institutional framework, developing and implementing efficient extension services and providing access to finance structured around the three pillars of the Liberian non-Bank financial institutions (NBFIs). Specifically, access to financial services, promoting digital financial services and improving consumer protection and financial capabilities.

As your trusted partner in development, the African Development Bank stands ready to support Government of Liberia implement the financial inclusion framework to ensure that the mining sector optimizes its contribution to the economy.

Benedict S. Kanu
AfDB Country Manager for Liberia,

Fred Kabanda
Manager, Extractives Division of ANRC, AfDB

Abbreviations and Acronyms

ADF	Agence Française de Développement
AfDB	Development Bank
AMGC	African Minerals and Geoscience Centre
BGR	Bundesanstalt für Geowissenschaften und Rohstoffe
ASM	Artisanal and small-scale mining
CBL	Central Bank of Liberia
CDA	Cooperative development agency
CSO	Civil society organisation
CBO	Community-based organisation
DFS	Digital financial services
ECOWAS	Economic Community of West African States
EIA	Environmental impact assessment
EPA	Environment Protection Agency
ESG	Environmental and social governance
FI	Financial inclusion
FOMAL	Federation of Miners' Association of Liberia
FX Bureau	Foreign Exchange Bureau
GDO	Government Diamond Office
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoL	Government of Liberia
IPA	Innovations for Poverty Action
KPCS	Kimberley Process Certification Scheme
LEAF	Loan Extension and Availability Fund
LEDFC	Liberian Enterprise Development Finance Company
LEITI	Liberia Extractive Transparency Initiative
LRA	Liberian Revenue Authorities
MFI	Microfinance Institution
MME	Ministry of Mines and Energy
MSMEs	Micro, small, and medium-sized enterprises
NBCI	Non-bank credit only institution
NBFI	Non-bank financial institution
NFISC	National Financial Inclusion Steering Committee
NIR	National Identification Registry
NPLs	Non-performing loans
OPM	Office of Precious Minerals
OHS	Occupational health and safety
PAPD	Pro Poor Agenda for Prosperity and Development
RCFI	Rural Community Financial Institution
SIA	Social Impact Assessment
SCNL	Society for the Conservation of Nature Liberia
SME	Small and medium-sized enterprise
UNDP	United Nations Development Programme
VSLA	Village Savings and Loan Association
\$	US Dollars

Acknowledgments

This is an economic sector study provided by the African Development Bank to the Ministry of Mines and Energy of Liberia to improve the performance and contribution of the Artisanal and Small-Scale Mining (ASM) sector to Liberia's economy, especially over issues relating to financial inclusion. The study was implemented by the Bank's Liberia country office with technical support from the African Natural Resources Centre of the African Development Bank.

This report was produced under the overall guidance of Benedict Kanu, Country Manager, Liberia Country Office of the African Development Bank. The study was directly supervised by Kelvin Banda (formerly Principal Country Economist, Liberia) and Yusuf Foday (Senior Country Economist, Liberia). The technical team that worked on this study and on the resulting report was led by Jerry Ahadjie, Chief Minerals Officer, African Natural Resources Centre of the African Development Bank. The following Bank staff provided valuable contributions and support at various stages of the study: Fred Kabanda, Abdul Pawaah Aziz Bangura, Alex Yeane, Emmanuel Maniragaba, Daniel Osei-Boakye and Danlami Gomwalk.

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Executive Summary

Background and Context

Globally, artisanal and small-scale mining (ASM) makes a significant contribution to the world's mineral supply chains, employs at least 44.75 million people and indirectly supports over 269 million people across 80 countries.¹ Despite making such a vital economic contribution, the sector's developmental and poverty reduction benefits have been hindered by its informal nature which has created a range of serious challenges and constraints. In general, the Liberian ASM experience reflects the global picture. Liberia is endowed with significant mineral resources and ASM forms the largest segment of the country's mining industry. The artisanal and small-scale mining of gold and diamonds supports the livelihoods of between half a million to 1.5 million people directly and indirectly, but despite its socio-economic contributions, significant poverty alleviating benefits have yet to be realised.² Liberia's ASM sector has been constrained by a series of factors including: poor and dangerous working conditions; inappropriate use of technology; the limited technical capacity of miners; their lack of access to finance and funding; corruption; inadequate policy frameworks; limited government support; insufficient security of tenure; and limited access to resources which could be mined which have been properly mapped or explored. These challenges have limited the potential of ASM in Liberia to a subsistence activity.

¹ <https://delvedatabase.org/uploads/resources/Delve-2020-State-of-the-Sector-Report-0504.pdf>

² https://delvedatabase.org/uploads/resources/Country-Profile_Liberia_Final.pdf

Due to this range of issues, governments and development partners around the world have recognised that the improved formalisation and increased financial inclusion provide the keys to unlocking the development potential of ASM. Since 2003, the Liberian government has endeavoured to expand financial access through consecutive national financial inclusion strategies and its national development plan, the Pro Poor Agenda for Prosperity and Development (PAPD) 2018-2023, which specifically highlights small-scale mining as having the potential to contribute to the socio-economic development of the country. As a result, these convergent policy objectives have led to the government and its development partners to strengthen the regulatory frameworks that govern ASM and to bolster financial inclusion. Supporting this impetus, this financial inclusion framework for ASM in Liberia was commissioned and developed, informed by a review and analysis of Liberia's financial ecosystems and the country's ASM value chain. It is underpinned by a theory of change which considers all facets of ASM in Liberia to advance financial inclusion through a holistic, integrated, multi-sectoral formalisation approach. The framework is also guided by six interconnected principles: access, usage, quality, social, education and infrastructure, which work in unison to achieve the goal of financial inclusion.

Findings

A review of Liberia's financial ecosystem reveals that it is

comprehensive and comprised of nine commercial banks, one development finance company, two mobile money operators, three money remitters, 19 insurance companies, 17 microfinance institutions (MFIs), one deposit-taking MFI, 12 rural community finance institutions (RCFIs), 1270 village savings and loans associations (VSLAs), 134 credit unions, foreign exchange bureaus (FX bureaus) and several fintech companies. However, Liberia is a primarily cash-based economy and formal financial services such as commercial banks, insurance companies and MFIs are undersubscribed. This is attributed to the challenges of physical access and the informal nature of the economy which has so far restricted most Liberians from being able to access more formal services. Mobile money, however, has been central to expanding financial access and with its high geographic penetration it has reached users unable to access traditional banking channels. Informal financial services, such as VSLAs, Credit Unions and RCFIs have provided an economically accessible alternative to those rural and remote populations who would be typically excluded and unable to afford traditional savings and credit options. Fintech has already disrupted financial service systems around the world by providing access at a lower cost, but in Liberia its expansion has been hindered by high data prices, limited fixed line penetration and an inhibiting regulatory environment.

An assessment of the ASM sector in Liberia indicates that it makes up the largest segment of Liberia's formally registered mining activities by number of licenses, yet approximately 95% of ASM miners in Liberia remain unregistered. This is because Liberia has yet to develop and implement an ASM enabling policy, which has resulted in a largely unregulated informal sector which remains financially underserved and largely excluded. This is due to a combination of factors driving the sector's high-risk profile: lack of documentation, mobility and seasonality; poor government oversight and enforcement; limited financial literacy and capacity; the physical remoteness of ASM operations; high interest rates and unfavourable repayment terms; illicit, illegal or criminal activities; and the miners' lack of collateral. Equally, Liberian financial institutions have also encountered several critical barriers in servicing the micro, small, and medium-sized enterprise (MSME) sector: high levels of poverty, illiquidity,

informality, a cash-based economy, external shocks, infrastructural weaknesses and limited access points, and high default rates. Due to this large gap in financing, there are many opportunities for financial institutions to engage better with ASM, and financial institutions could create innovative tailor-made and flexible solutions for the sector.

Conclusions, Recommendations and Roadmap

This financial inclusion framework is a product of the review and analysis of Liberia's financial ecosystems and the country's ASM value chain. From this analysis it was established that the sector's financial inclusion can be achieved through a process of formalisation and subsequent de-risking. The first part of the financial inclusion framework contains a blueprint for providing a 'golden triangle' of sectoral support that could prove to be the basis for sustainable livelihoods and local economic development. The golden triangle provides an integrated approach to support ASM formalisation including:

1. Enabling a regulatory and institutional framework;
2. Developing extension services;
3. Providing finance.

The blueprint is structured around the three pillars of Liberian non-Bank financial institutions (NBFIs), specifically:

- Access to financial services, incorporating the expansion and diversification of access points, professionalisation of the NBFIs sector and improved access to credit;
- Promoting digital financial services, including improving usage, the legal and regulatory framework governing it, building its institutional capacity and oversight framework, and leveraging large volume flows to increase digital payments and financial inclusion; and
- Improving consumer protection and financial capabilities.

The blueprint tackles financial inclusion through a combination of both supply-side and demand-side interventions derived from a careful analysis of the key

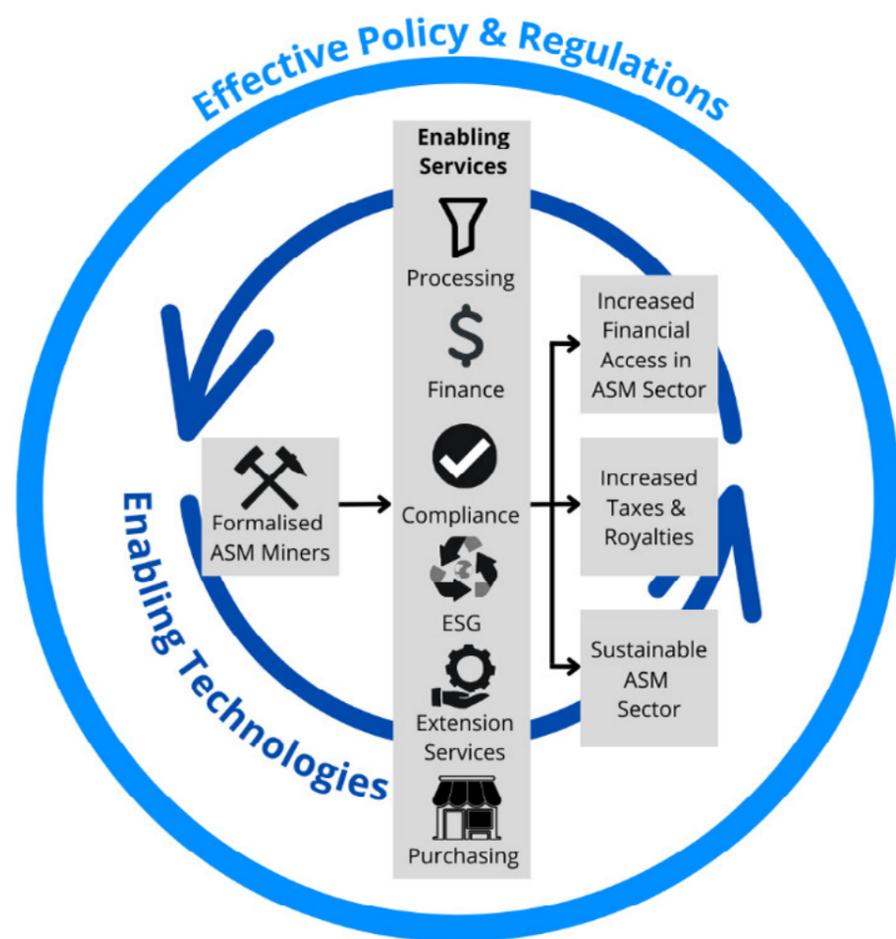
actions determined for each stage of the ASM value chain which align with the three pillars of Liberia's NFIS. Actions are informed by global practices applied elsewhere in the world in mining and other sectors which have had resulted in improvements and are also assessed from a de-risking perspective. The interventions take a holistic approach and consider the coordination and collaboration requirements necessary for implementation, such as the creation of a financial inclusion sub-committee for ASM, an implementation taskforce and an ASM working group comprised of public, private and individual stakeholders. In addition to the blueprint, the implementation roadmap provides a clear pathway to deliver the proposed interventions.

The second part of the framework details a roadmap for implementing the proposed financial inclusion

interventions which include:

- A detailed framework for each intervention, which is a timebound plan to implement prioritised interventions, with short-term, medium-term and long-term indicators and proposed primary and supporting entities for each activity;
- A coordination mechanism to guide the implementation of the framework; and
- A monitoring and evaluation framework, with a results framework based on the prevailing theory of change.

The roadmap also includes a mechanism for risk management which identifies any potential risks to the proposed financial inclusion framework and sets out possible mitigations. The figure below provides a holistic overview of the key elements of this financial inclusion framework.



CHAPTER 1

Introduction

This financial inclusion framework to support the formalisation of artisanal and small-scale mining (ASM) in Liberia is based on a contextual literature review (Annex 1), key informant interviews and information gathered from in-person consultations in Liberia. The report covers the following:

- Global and national context,
- The ASM financial inclusion landscape in Liberia,
- Vision, strategic intent and guiding principles for financial inclusion of ASM in Liberia,
- The financial inclusion framework for ASM in Liberia, and
- Its roadmap for implementation.

1.1 Global and National Context

Global Outlook

Across the world ASM is the primary source of employment for at least 44.75 million people, making its workforce the largest segment of the global mining labour force.³ ASM mineral production is critical to the world's mineral supply chain. It accounts for 25% of the global diamond production, 20% of gold production, 80% of sapphire mining and 18-30% of the world's cobalt.⁴ ASM makes a significant economic and developmental contribution to the livelihoods of people living in the 80 countries in which ASM occurs, and it is estimated that over 134

million people are employed in related industries, with as many as 269 million people indirectly supported by its activities.⁵ Although ASM is a major contributor to global mineral supply chains and the world economy, about 80-90% of ASM takes place informally. This informality has constrained and created challenges for the sector. Specifically, it has led to poor and dangerous working conditions, marginalisation, limited physical infrastructure and service delivery, limited financial access and a lack of government support.⁶ This situation is further exacerbated by a lack of clear and concerted global commitment towards the formalisation of ASM which has resulted in the creation of inadequate (or in some instances non-existent) legal frameworks, standards and regulatory mechanisms at a global, regional and domestic level. ASM could act as an important developmental catalyst by creating vital income-generating opportunities for rural and unskilled people, contributing to the mineral trade and national domestic resource mobilisation but its positive impacts have yet to be realised.

Liberian Context

Liberia is endowed with significant mineral resources, and for the last century ASM has been a prominent feature of the country's mining industry. Artisanal gold and diamond mining directly employs an estimated 100,000 miners and approximately 500,000 diggers, and it has been calculated that ASM indirectly contributes to the livelihoods of as

many as 1.5 million people.⁷ Despite contributing to the lives of so many Liberians, small-scale mining has not yet resulted in poverty reduction, due to the many challenges that currently constrain the sector from fully realising its transformative development potential. These challenges include poor working conditions, inappropriate technology use, the limited technical capacity of miners, limited access to finance and funding, corruption, gender inequality, inappropriate policy frameworks and limited government support which fails to provide security of tenure or access to mineable resources which have been properly mapped or explored. These challenges have largely rendered ASM in Liberia a secondary subsistence activity, with mine workers caught in the poverty trap of boom and bust and unable to unlock its developmental potential.

1.2 Rationale for the Financial Inclusion Framework

Definition of Financial Inclusion

Financial inclusion is defined as having access to useful, sustainable and affordable financial services (such as transactions, payments, savings, credit and insurance) to meet the needs of individuals and businesses.⁸ Financial inclusion goes beyond improved access to credit. It includes increased access to savings and risk mitigation products, and an overarching well-functioning financial system that allows people to engage more actively in the economy, while ensuring that users rights are protected. The G20's Global Partnership for Financial Inclusion created a "basic set" of financial inclusion indicators that are used to measure and define financial inclusion. The

key dimensions by which the level of financial inclusion is measured in a country are:

- Access: the ability to use formal financial services,
- Usage: the actual usage of financial services,
- Quality: a dimension which measures whether the products available meet customer needs.

Rationale for Financial Inclusion

Globally, a growing body of evidence is accumulating to indicate that greater financial inclusion positively impacts economic growth, financial stability, social cohesion and presents increased opportunities for everyone. Therefore governments, policy-makers and development organisations around the world have recognised that financial inclusion is a key enabling element in the fight against poverty and the pursuit of inclusive development. Since 2003, the Government of Liberia (GoL) has undertaken developmental policy initiatives including strategic efforts to increase financial access such as three consecutive National Financial Inclusion Strategies, each focusing on strengthening different areas of the country's financial ecosystem. Moreover, Liberia's National Development Plan, the Pro Poor Agenda for Prosperity and Development (PAPD) 2018-2023, highlighted small-scale mining as a sector capable of creating decent jobs and contributing to the socio-economic development of the country.⁹ These convergent policy efforts have meant that the GoL has placed a major focus on strengthening regulatory mechanisms and bolstering financial inclusion for ASM in Liberia, so that the sector can go transform from being a subsistence activity and unlock a wide range of potential anti-poverty opportunities.

³ <https://delvedatabase.org/uploads/resources/Delve-2020-State-of-the-Sector-Report-0504.pdf>

⁴ *Ibid*

⁵ *Ibid*

⁶ *Ibid*

⁷ https://delvedatabase.org/uploads/resources/Country-Profile_Liberia_Final.pdf

⁸ <https://www.worldbank.org/en/topic/financialinclusion/overview#1>

⁹ [https://www.emansion.gov.lr/doc/Pro-Poor%20Agenda%20For%20Prosperity%20And%20Development%20book%20for%20Email%20sending%20\(1\).pdf%20-%20Compressed.pdf](https://www.emansion.gov.lr/doc/Pro-Poor%20Agenda%20For%20Prosperity%20And%20Development%20book%20for%20Email%20sending%20(1).pdf%20-%20Compressed.pdf)

CHAPTER 2

ASM and the Financial Inclusion Landscape in Liberia

2.1 Liberia's Finance Ecosystem

Liberia has a comprehensive financial ecosystem comprised of nine commercial banks, one development finance company, two mobile money operators, three money remitters, 19 insurance companies, 17 microfinance institutions (MFIs), one deposit taking microfinance institution, 12 rural community finance institutions (RCFIs), 1270 village savings and loans associations (VSLAs), 134 credit unions, foreign exchange bureaus (FX bureaus) and several fintech companies.

- **Commercial Banks:** Liberia's banking system is small and mostly stable (aside from ongoing liquidity issues); however, the banks have an extremely limited customer base and the vast majority¹⁰ of Liberians do not have a commercial bank account. This is for two reasons:
 - i. commercial banks have limited physical access points, such as automated teller machines (ATMs) and branches, which restricts their ability to serve to only the urban population;
 - ii. Liberia's economy is primarily cash-based because most of the population works in the informal economy.

For this reason, Liberians often chose to borrow from non-bank credit only Institutions (NBCI) such as MFIs

and credit unions, even though they are subject to higher interest rates. Although Liberia's commercial banks have sometimes lent to micro, small, and medium-sized enterprises (MSMEs) through managed lines of credit, they have relatively limited experience with lending to these small business owners who have struggled to shore up sufficient collateral and be able to stick to rigid repayment terms. There is an opportunity for commercial banks to partner with NBFIs to extend their services to the wider population and improve financial access.

- **Mobile Money:** Since its launch in 2011, mobile money has been pivotal to the Central Bank of Liberia's (CBL) financial inclusion agenda. Due to its broad geographic penetration, mobile money has reached those users who lack access to traditional banking channels. It is available in all 15 counties, through a large network of agents (almost 45,000), with over 5.6 million mobile money accounts opened in Liberia and approximately 20% of Liberians now having active mobile money accounts.^{11,12} Mobile money has the greatest reach of all the financial service providers in the country and provides an alternate way of banking for MSMEs operating informally. Although mobile money currently only operates on a cash in/cash out basis, there is a clear opportunity for mobile money operators to extend their services to provide loans and

meet the needs of the financially underserved MSME sector.

- **Microfinance Institutions:** Microfinance was the central tenet of the GoL's 2009-2013 financial inclusion strategy, as MFIs target both urban and rural populations in need of financing, and specifically those informal sectors lacking investment from traditional financial institutions. Although Liberia's microfinance sector is well established and has actively provided MSMEs with access to finance, microfinance loans are subject to high interest rates (many of which are front-loaded to hedge against the risks of non-payment), short repayment periods, high transaction costs and require prequalification documentation which acts as a barrier to many prospective underserved borrowers. Additionally, MFIs have struggled to expand their geographic reach beyond Monrovia as many MFIs operate at a loss and lack sufficient capital.
- **Development Finance:** The Liberian Enterprise Development Finance Company (LEDFC) is the country's only development finance institution. Since it was founded, LEDFC has reportedly invested more than \$28 million in over 500 SMEs. LEDFC was established to enhance financial inclusion by providing Liberian SMEs with both technical assistance and business capital. However, the LEDFC has been constrained by non-performing loans (NPLs) and the number of defaulting customers which has impacted its liquidity and impeded the organisation's ability to disburse loans to new applicants. Additionally, in an effort to limit non-repayment the LEDFC has enforced a stringent set of prequalification criteria which includes the need for a business plan, financial statement, cash flow projects, credit references, a copy of business registration documents, bank statements, a credit history, and collateral valued at 1.4 times the loan amount, thereby restricting the type of SME that can access this finance.
- **Rural Community Finance Institutions:** In 2013, the CBL launched the Rural Community Finance Institution Project to extend financial services to the unserved rural population. Currently, there are 12 RCFIs operating in 8 of the 15 counties with approximately 5,000 shareholders. The majority of Liberians save money outside formal institutions

and RCFIs can contribute to financial inclusion by increasing accessibility through ownership.

- **Village Savings and Loans Associations:** VSLAs have a wide geographic reach and operate in all counties, boasting a membership of approximately 21,000 people. Unlike traditional financial services, women make up 90% of VSLA membership, which is an indication of its strong inclusive potential. Due to the nature of VSLAs, they are vulnerable to external shocks, but their geographical reach, informality, accessibility and low-cost nature makes them an important provider of financial services to MSMEs and unbanked Liberians.
- **Credit Unions:** Credit Unions offer the same suite of products as commercial banks without their high interest rates and banking fees. MSME operators can benefit from the banking services offered through the credit union without having to bear the cost burden and requirements of high levels of collateral to fulfil prequalification criteria. Credit unions can enhance financial inclusion and expand financial services to the unbanked.
- **Fintech:** Presently there is limited appetite for complex fintech offerings in Liberia, as most Liberians lack internet access due to high data prices and low levels of fixed line penetration. Moreover, the government has not created an enabling regulatory environment for the development of a fintech sector. Fintech can potentially bolster financial inclusion by disrupting traditional systems, lowering costs and improving accessibility. Fintech offers many MSMEs access to financial services that are generally too expensive or unavailable as their innovations and solutions can be more agile. In addition, they can be tailored for specific contexts because they do not have to bear the same infrastructural and regulatory costs as traditional financial institutions, which allows them to experiment and upscale. However, accessibility issues have so far hindered the application of such fintech solutions.
- **Money Remitters:** Remittances account for approximately 10.4% of Liberia's Gross Domestic Product (GDP), and inflows are a major source of foreign exchange and household income but in its current form it does not contribute to financial inclusion for MSMEs. Most remittances are sent to individuals in

¹⁰ The World Bank estimates that only 3% of Liberians have a debit card. <https://documents1.worldbank.org/curated/en/405051583394983755/pdf/National-Financial-Inclusion-Strategy-2020-2024.pdf>

¹¹ Interview Communication with CBL.

¹² <https://documents1.worldbank.org/curated/en/405051583394983755/pdf/National-Financial-Inclusion-Strategy-2020-2024.pdf>

Liberia for the purposes of contributing to household expenses, such as school fees, healthcare and food and are generally not used as a source of investment for local MSMEs. There have, however, been instances when remittances have been pooled together in larger funds and channelled to support specific outcomes, such as post-war and post-Ebola reconstruction. The Liberian Diaspora Social Investment Fund for example, has reportedly directly invested in MSMEs and other initiatives.

- **Insurance Companies:** At present, the insurance sector in Liberia only services a very small segment of the population (large businesses, government ministries and expatriates living in Monrovia) due to its limited range of services and geographical reach. The high levels of informality and poverty mean that most people, whether urban or rural, are unable to afford the added expense of insurance. There are opportunities for the insurance sector to work with MFIs to provide micro-insurance products, where MSMEs could be provided insurance up to a specified amount as part of their MFI loan. Insurance companies can also work with RCFIs to provide insurance to the group for a fee, so in instances where the funds are threatened by external shocks the insurance can help recover pooled savings.
- **Foreign Exchange Bureaus:** Liberia operates a dual currency system and its numerous FX bureaus are integral to this system, but due to the nature of forex, they have no real role in financial inclusion or servicing the MSME sector.

2.2 The ASM sector in Liberia

Liberia has significant mineral reserves and is heavily reliant on its iron ore, gold and diamond deposits as major sources of revenue. Gold and diamonds have been the primary minerals exploited by ASM over the last century, and at present the sector is estimated to involve as many as 100,000 artisanal miners and approximately 500,000 diggers.¹³ Due to the sector's informal nature making

¹³ https://delvedatabase.org/uploads/resources/Country-Profile_Liberia_Final.pdf

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ Reportedly, a draft amendment bill was nearing completion at the time of this study, but it was not possible to establish its contents and assess how it would support the development of the sector.

it difficult to collect reliable data, it is possible that this figure could be much higher as some of the stakeholders consulted believe. The majority of ASM miners in Liberia are men, with women only accounting for 10-20% of the mining workforce due to social stigmas around female participation in mining, and although Liberia's laws specifically allow only its citizens to participate in ASM activities, Sierra Leoneans, Malians, and Guineans also make up a significant proportion of miners in Liberia. Small-scale mining activities are largely unregulated and the working conditions in the sector are poor and lack appropriate health and safety protocols. The situation is further hindered by limited access to financing, rudimentary application of technology and little governmental oversight and enforcement.

ASM is regulated by the Minerals and Mining Act (2000) which provides for ASM through its Class B and C licenses. Ministry of Mines and Energy (MME) records indicate that most of Liberia's formally registered mining activities are artisanal and small-scale, and in 2021, 69.5% of the country's active mining licenses were issued in Class C.¹⁴ This is only a small part of the picture however, as approximately 95% of ASM miners in Liberia are unregistered.¹⁵ This is because even though the Mining Act was enacted two decades ago, accompanying regulations¹⁶ have not been developed, and beyond the aspirational "Regulatory Roadmap for the Artisanal Mining Sector in Liberia", an ASM-specific regulatory framework and implementation plan does not exist. ASM stakeholders feel that the regulatory environment and its implementation fails to account for the realities of the sector, such as the high costs associated with obtaining a mining license. These costs include a \$100 survey fee, \$150 license fee, travel expenses to Monrovia, and the unofficial clearance fee which is paid to the mining agent in addition to a negotiated processing fee which is paid to the MME office. These costs are unaffordable for ASM miners who are already economically burdened with only a subsistence-level income. Additionally, license applications reportedly take more than three months to be processed and are

only valid for the period of one year. This short period of time inhibits miners from building up a commercially viable business and therefore excludes them from being able to access financial services. As a result, most ASM miners in Liberia operate outside legal bounds and prefer to seek informal agreements with local government officials who provide inferred and informal permission to mine.

Mining is a capital-intensive industry and even in the ASM sector, capital requirements can be relatively high. ASM is generally considered to be unattractive to financial institutions due to its informality, poor liquidity, and significant problems with conducting due diligence and risk assessments. In Liberia, this has resulted in the creation of informal and unregulated lending structures which can leave ASM miners vulnerable to exploitation. For example, the ASM gold commodity chain in Liberia has a hierarchical chain of command. At the very bottom of the chain is the digger or the 'gold boy', the unlicensed miner who physically mines the gold. Requiring initial investment costs for food, supplies and equipment, the diggers (usually organised in groups of four to six people) often seek out sponsors who are typically license-holding businesspeople, gold brokers or larger mining firms with whom to enter into a forward purchase agreement. The diggers are then obliged to sell the gold to their sponsors at a low price which may not reflect its true value. By entering these often exploitative arrangements, the miners struggle to move beyond subsistence mining. Their earnings are often insufficient to save or reinvest into their businesses and they remain stuck at the bottom of the commodity



¹⁷ The "Regulatory Roadmap for the Artisanal Mining Sector in Liberia" (2016), was prepared by Amy Sandhu in close consultation and cooperation with the Ministry of Lands, Mines and Energy and GIZ Regional Resource Governance Project.

supply chain with limited opportunities for growth. They are unable to unlock the poverty reducing benefits of mining.

2.3 Comparative Analysis of Global Financial Inclusion Initiatives

Over time, ASM has gained recognition for its potential to contribute to the socio-economic development of host countries where it occurs. As a result, many governments and development partners have spearheaded formalisation reforms. In Liberia this effort has been reflected in the development of the Regulatory Roadmap for the Artisanal Mining Sector in Liberia¹⁷. Some interventions have undertaken financial inclusion initiatives as a corollary to truly harness the economic potential of ASM. Financial inclusion initiatives that have been implemented in ASM around the world can be characterised into eight types:

- Government backed schemes;
- Development finance backed projects;
- Private equity financing;
- Local and regional credit schemes;
- Downstream buyer projects;
- Microfinance;
- Mobile money;
- Blockchain applications.

Context Review (found in Annex 1) provides a detailed analysis of each type of financial inclusion initiative and the table below presents a brief synopsis of the key points.

TABLE 1:

Types of ASM Financial Inclusion Initiatives

Type of Initiative	Key Points and Lessons Learnt
Governmentbacked schemes	<ul style="list-style-type: none"> The government must provide the political will and institutional capacity to invest in and support the sustainable development of the mining sector and must be able to designate resources to support financial access, technical assistance and access to market options for miners. The scheme works best when it embraces the realities of mining in the country's context. Institutional support for the formalisation of ASM can enhance the sector's productivity. Government-backed schemes should take a holistic approach and should provide extension services such as: i) advice on the preparation and evaluation of projects; ii) geological data to identify potential ASM sites and mineral reserve appraisals that can be used to obtain financing; iii) training in occupational health and safety (OHS), environmental, social and governance (ESG), financial literacy and technical aspects of mining. Government schemes are susceptible to poor governance and limited capacity and inappropriate selection criteria can result in high levels of non-repayment.
Development Finance backed projects	<ul style="list-style-type: none"> There is a willingness from development finance institutions to fund financial inclusion initiatives and they are well-resourced and well-funded. Development finance backed projects partner with domestic implementers which in turn builds the capacity of local organisations. Development finance institutions have a history of working with MSMEs and are often successful at tailoring financial offerings to the sector. Development organisations provide funding on a project basis, which means that the funding can end, and the MSMEs may not be able to sustain themselves longer-term.
Private Equity Financing	<ul style="list-style-type: none"> Private equity projects are well-financed and well-resourced, which allows them the flexibility to experiment with projects and design. Large-scale mining (LSM) operators typically finance this kind of project in their host community, meaning they have a good understanding of the area and context and can become the end user or buyer of the minerals. There is a risk of creating co-dependencies or expectations that cannot be met.
Local and Regional credit schemes	<ul style="list-style-type: none"> Local and regional credit schemes are built on pre-existing community bonds and enhance social cohesion, are geographically accessible to rural mining communities and are owned by the community members. These schemes have a high level of female participation, which supports a segment of the population that are typically excluded from financial services. These schemes have a high repayment rate, and the loans are generally used to invest in new or existing businesses. External shocks and non-repayment can impact the sustainability of the scheme and cause conflict among its members.
Downstream buyer projects	<ul style="list-style-type: none"> Downstream buyers must show a willingness to pay above market price, provide upfront capital investment and enter into a buy back agreement which most buyers are not willing to do. Capacity building is a key element of these types of projects, which can enhance the project's sustainability and longevity. This kind of scheme requires a level of trust between all the stakeholders in the project which may be hard to build.

TABLE 1(CONTINUED):

Types of ASM Financial Inclusion Initiatives

Type of Initiative	Key Points and Lessons Learnt
Microfinance	<ul style="list-style-type: none"> Microfinance has not been deployed in the ASM sector because of the sector's: a) migratory patterns, b) lack of land ownership, c) complex legal status of access to minerals, d) poor financial literacy, e) remote geographies, and f) unacceptable collateral. As a result of these issues MFIs find it difficult to service the ASM sector. The development organisation Bangladesh Rural Advancement Committee (BRAC) working in Liberia, for example, does not conduct business with informal businesses and specifically exclude ASM as a target market¹⁸.
Mobile Money	<ul style="list-style-type: none"> There is currently one financial inclusion initiative in ASM being piloted in Tanzania which uses mobile money and the results are as yet unknown. Mobile money has commonly been deployed in parallel economic segments such as agriculture and livelihood development. Mobile money has a large geographical reach and can respond flexibly to rural populations and mining communities. Mobile money already has a broad customer base which reduces the degree of hesitancy about adopting new technologies.
Blockchain	<ul style="list-style-type: none"> Blockchain is a relatively new technology but has been recently and successfully deployed in financial inclusion strategies. Blockchain offers innovative, problem-solving solutions, enhances transparency and has a broad geographic reach. This type of technology can incur high initial infrastructural costs and typically requires a mobile phone and internet service which can limit its reach. There has been a low uptake of blockchain technology in ASM to date because of technology hesitancy and a lack of infrastructure.

¹⁸Sourced from interview.



2.4 Opportunities and Constraints for Financial Inclusion for ASM in Liberia

In general, the ASM sector in Liberia is financially underserved and largely excluded from financial support. The Context Review and interviews conducted for this study with key informants indicate that financial inclusion is constrained by the following factors:

- The low levels of formalisation of ASM in Liberia;
- The sector's high-risk profile;
- Lack of documentation;
- Mobility and seasonality;
- Poor government oversight and enforcement;
- Limited political will;
- Limited financial literacy and capacity;
- Remoteness of ASM operations;
- High interest rates and unfavourable repayment terms;
- Illicit, illegal or criminal activities; and
- Lack of collateral.

Equally, Liberian financial institutions have also encountered several critical barriers in servicing the MSME sector, namely:

- High levels of poverty;
- Illiquidity;
- An informal, cash-based economy;
- Exposure to external shocks;
- Infrastructural weaknesses and limited access points; and,
- High default rates.

In a similar way as in other MSME sectors, the informal characteristics of ASM act as a critical barrier to financial inclusion and formal financial institutions have a generally

negative view of the sector which has prevented them from servicing small-scale mining.

In Liberia, due to the large gap in financing for ASM, many opportunities are available for financial institutions to engage with the sector.

Tailor-made and more flexible solutions could be designed for ASM, such as an alternative set of qualification criteria which could include accepting mobile money transaction statements in the form of a bank statement. Banks and MFIs could reach ASM operators through a

model where a group of miners borrow money to buy equipment together and the risk of repayment would be shared among group members. The group lending scheme would act as a risk aggregator making lending to riskier people more attractive to financial institutions. The government could extend tailored financing, technical support and extension services with the aim of formalising the sector. The state or development agencies could extend a line of credit through partner lending institutions that specifically target ASM operators. Informal financial institutions such as VSLAs, RCFIs and credit unions can also create relevant savings and credit facilities for ASM operators. Through innovative, context-specific solutions, financial institutions in Liberia can improve financial inclusion in the ASM sector and in turn lead to poverty reduction and development.

Through innovative, context-specific solutions, financial institutions in Liberia can improve financial inclusion in the ASM sector and in turn lead to poverty reduction and development.



CHAPTER 3

Strategic Intent and Guiding Principles for Financial Inclusion in ASM in Liberia

3.1 Strategic Intent

The strategic intention of this framework is aligned to Liberia’s National Financial Inclusion Strategy (2020 –2024) and the PAPD (2018-2023), which recognises that financial inclusion is a critical lever to promote economic growth and reduce poverty. Financial services provide the tools to invest in income-generating activities such as decent jobs and allow Liberians to save for the future and to build resilience against shocks. The creation of a viable mining sector that creates quality jobs, builds the capacity of poor and unskilled people, and enables them to harness the opportunities created by their country’s natural resources, as described in the PAPD, can be achieved by bolstering financial inclusion.

3.2 Theory of Change

The framework outlined below aims to advance the financial inclusion of Liberia’s ASM sector through a holistic, integrated, multi-sectoral formalisation approach. The framework considers all facets of ASM in Liberia, enabling an optimally functioning sector by responding appropriately to its challenges. The blueprint and framework reflect the theory of change through designing proposed demand-side and supply-side interventions focusing on the barriers that have so far prevented financial inclusion in the sector. The development of a robust ASM framework and implementation plan, institutional support, technical and financial extension services, ASM-specific financing, innovative and appropriate digital financial services and

multi-stakeholder partnerships are embedded in the theory of change to drive formalisation. The increased access to finance will transform outcomes for ASM value chain actors in Liberia.

3.3 Guiding Principles

This ASM-specific framework is guided by six interconnected principles (illustrated in Figure 2 below) which work together to achieve the goal of financial inclusion:

1. Access: The accessibility of financial services (whether physical or digital) is a key consideration for ASM, as mining tends to occur in remote areas which lack financial infrastructure and services.
2. Usage: ASM operators, workers and suppliers can be empowered to use financial services to enhance their business and personal livelihoods.
3. Quality: Financial services must be appropriate, sustainable, context-specific and meet the needs of mining workers in Liberia (e.g. understanding the challenges of their location, production cycles, financial literacy and technological levels).
4. Social: Access to finance should enhance the livelihoods of direct ASM value chain actors and host communities where ASM occurs to create greater opportunities for integrated socio-economic development and sustainable income-generating options.
5. Education: Financial literacy and capacity building

are integral to the sustainability of financial inclusion initiatives. To maximise the benefits and minimise the inherent risks of financial services, ASM actors must be provided with the knowledge and skills to use the most appropriate financial services.

6. Infrastructure: Barriers that impede accessibility and usage should be removed by improving infrastructure (increasing fixed line penetration, mobile connectivity,

road networks and electricity) and a regulatory framework underpinned by a clear business case. Liberia’s diamond and gold resources are primarily produced by the ASM sector and are an indication of the sector’s potential to contribute to the national revenue streams, if appropriately supported by infrastructure that enhances financial inclusion.

FIGURE 1:

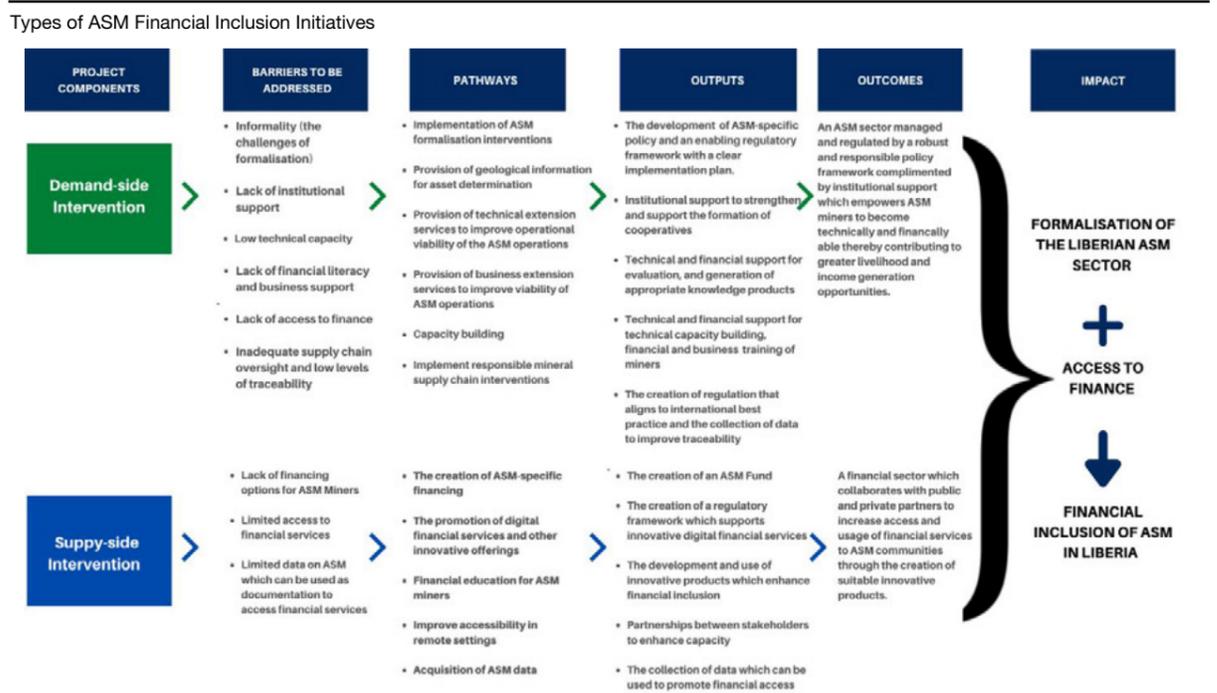


FIGURE 2:



CHAPTER 4

Financial Inclusion Blueprint for ASM in Liberia

The proposed blueprint depends on a golden triangle of support for the development of ASM sector that can form the foundation for sustainable livelihoods and local economic development.¹⁹ The golden triangle provides an integrated approach supporting ASM formalisation by providing:

1. An enabling regulatory and institutional framework
2. Extension services
3. Provision of finance.

4.1 Analytical Framework

The analysis was scoped on the following basis:

- The financial inclusion framework is biased towards supporting the most excluded, the 'bottom-of-the-pyramid' artisanal mining sub-sector (i.e. the Class C category of mining license). However, it does not preclude benefits to the small-scale mining sub-sector categorised by the Class B license. This provides a growth path for successful entrepreneurs entering the ASM sector through the Class C category, enabling

them to transition to Class B.

- The benefits will accrue to both Class C and B license holders as well as their mine workers, suppliers and host communities.

The analysis is aligned with the three pillars of the Liberia NFIS. These are:

1. Access to financial services, incorporating the expansion and diversification of access points, professionalisation of the NBFIS sector and access to credit;
2. Digital financial services (DFS), including the legal/regulatory framework and institutional capacity, oversight framework, usage of DFS, and leveraging large volume flows to increase digital payments and financial inclusion;
3. Consumer protection and financial capabilities.

Table 2 provides the details of the outcomes, key issues and key actions at each step of the ASM value chain from the perspective of the three pillars of the Liberia NFIS.

TABLE 2:

Analysis of key issues, desired outcomes and recommended actions for financial inclusion in ASM based on the ASM value chain perspective and aligned to the Liberia NFIS.

ASM Value chain step	Financial Inclusion Pillars		
	Access to financial services:	Digital financial services:	Consumer protection and financial capabilities:
Exploration			
Key issues	i. Inadequate funds for mineral deposit evaluation; ii. Limited access to financial services for exploration.	i. Lack of suitable financial products to finance exploration for artisanal miners.	i. Lack of knowledge and skills of artisanal miners to be able to use modern exploration methods to generate geological data and mineral deposit information.
Key Actions	i. Develop an efficient and equitable framework for financial service providers to access artisanal miner information from MME.	i. Develop innovative digital products enabling the collection of production data which can be used to build mineral asset information; ii. de-risking through credit guarantee schemes.	i. Implement de-risking through provision of technical support to artisanal miners; ii. set up an institutional framework for MME to provide geological data and mineral deposit information to artisanal miners.
Desired Outcomes	i. Artisanal miners can access credit to generate geological and mineral deposit information; ii) the government has adequate financial resources to create geological information management systems to facilitate access to geological and mineral data for artisanal miners and the demarcation of special artisanal mining areas.	i. The DFS regulations and institutional capacity facilitate access to mineral deposit information by DFS providers to allow them to provide credit to artisanal miners for the evaluation of mineral deposits; ii. there are digital products that allow the collection of data to support the evaluation of mineral deposits; iii. artisanal miners use digital products to generate information that supports evaluation of mineral deposits; iv. artisanal miners are organised to generate large volume flows for an increase in digital payments, complementing the evaluation of large mineral regions which are set aside for exploitation by artisanal miners.	i. Artisanal miners have the capacity to use financial products to generate geological and mineral deposit information; ii. the technical capacity of artisanal miners is enhanced to understand geological and mineral deposit information to improve their capacity to access to finance; iii. there is protection of the confidentiality of geological and mineral deposit information shared with providers of financial credit; iv. artisanal miners can afford the services of geologists.
Mining			
Key Issues	i. Inadequate funds for mine development, capitalisation and running costs; ii. perception of the high risk of repayment defaults and reputational risk in the sector.	i. Lack of suitable financial products for mine development and purchase of equipment and other inputs; ii. low throughput and productivity of mining operations to afford the costs of servicing by mainstream financial institutions	i. Limited awareness by miners of the benefits of using formal financial services; ii. lack of knowledge and skills of artisanal miners to use financial services to access funds to finance mine development and capitalisation; iii. limited knowledge of how to use insurance products for protection against breakdowns and external shocks.

¹⁹ Towards a developmental Zimbabwean minerals policy. 2012. Paul Jourdan, Gibson Chigumira and Erinah Chipumho, and Mr Isaac Kwesu. Zimbabwe Economic Policy Analysis and Research Unit (ZEPARU). 2012.

TABLE 2:

Types of ASM Financial Inclusion Initiatives

ASM Value chain step	Financial Inclusion Pillars		
Key Actions	<ul style="list-style-type: none"> i. Carry out research to understand the barriers to access financial services and design solutions; ii. engage service providers to innovate their product offering so they can address “last mile” access challenges. 	<ul style="list-style-type: none"> i. Establish a stakeholder coordination forum (under the leadership of MME, including miners’ associations, government entities including EPA, Development Credit Authority, CBL and LRA, financial services providers, development partners such as UNDP, SCNL, IPA, World Bank, to coordinate the design and implementation of solutions to overcome barriers to accessing financial services; ii. encourage financial service providers to develop innovative products suitable for ASM businesses. 	<ul style="list-style-type: none"> i. Provide financial education to artisanal miners to improve their financial literacy; ii) promote the use of insurance products by artisanal miners to safeguard against breakdowns and external shocks.
Desired Outcomes	<ul style="list-style-type: none"> i. Artisanal miners can access funds to develop their operations, acquiring equipment and other inputs; ii. financial services channels can be accessed close to mining operations to encourage usage. 	<ul style="list-style-type: none"> i. The DFS regulations enable access to innovative digital financial services for equipment acquisition, and payment of services, workers and other inputs; ii. financial service providers offer products acceptable to equipment suppliers and other service providers of artisanal miners. 	<ul style="list-style-type: none"> i. i) Artisanal miners have the knowledge and skills to pay for surveys, mine planning and other services and inputs; ii. ii) artisanal miners pay their workers through formal channels; iii. iii) miners benefit from data generated from using formal channels to generate financial records which allow them to access other financial services like credit and insurance.
Mineral Processing			
Key Issues	<ul style="list-style-type: none"> i. i) Access to finance is limited by financial institutions’ knowledge of the ASM sector; ii) lack of resources for GoL to upscale the sector. 	<ul style="list-style-type: none"> i. Lack of suitable financial products for mineral processing plant development and acquisition of equipment and other inputs; ii. low throughput and productivity of artisanal mineral processing operations to cover the costs of servicing by mainstream financial institutions. 	<ul style="list-style-type: none"> i. Remoteness of ASM operations and inadequate linkages between mining stakeholders limiting support to miners; ii. lack of knowledge and skills of artisanal miners to use financial services to access funds to finance mineral processing plant development and capitalisation; iii. artisanal miners have limited knowledge of use of insurance products for protection against breakdowns and external shocks.
Key Actions	<ul style="list-style-type: none"> i. The creation of linkages between experts on ASM and the financial sector to better understand and service the sector; ii. the establishment of relationships between the GoL and development 	<ul style="list-style-type: none"> i. The development of DFS to enable financing of mineral processing equipment; ii) development of digital products that enable artisanal miners to track their production and inputs; iii) the creation of digital platforms which enable artisanal 	<ul style="list-style-type: none"> i. The creation of partnerships between the various mining stakeholders (such as ASM miners, MME, NGOs, development organisations and financiers) to facilitate the development of responsible supply chains; ii. implement training programmes for

TABLE 2:

Types of ASM Financial Inclusion Initiatives

ASM Value chain step	Financial Inclusion Pillars		
	<ul style="list-style-type: none"> organisations to find avenues for financing; iii. the creation of regulation which encourages formalised relationships between ASM and value chain actors, such as tributer agreements, tailing use agreements and equipment leasing. 	<ul style="list-style-type: none"> miners to access financing and equipment. 	<ul style="list-style-type: none"> artisanal miners with input or financing from development partners on environmental, social and governance issues; iii. encourage insurance companies to develop appropriate asset insurance products for the ASM sector.
Desired Outcomes	<ul style="list-style-type: none"> i. The creation of partnerships between the various mining stakeholders (ASM miners, MME, NGOs, development organisations and financiers) to facilitate the development of responsible supply chains; ii. implement training programmes for small-scale miners with input or financing from development partners on environmental, social and governance issues; iii. encourage insurance companies to develop appropriate asset insurance products. 	<ul style="list-style-type: none"> i. Artisanal miners can access digital platforms which enable them to access financing and equipment; ii. the operational data of artisanal miners is captured to enable improved digital financial products appropriate to the sector. 	<ul style="list-style-type: none"> i. Artisanal miners have the capacity to access financial products that enable them to acquire equipment for efficient mineral processing and safeguard these operations through appropriate insurance products; ii. miners have the capacity to manage their operations to generate production data that enables them to access finance and obtain premium prices for their products.
Marketing			
Key Issues	<ul style="list-style-type: none"> i. Limited knowledge and capacity for valuation of minerals; ii. limited access to formal financial services; iii. remoteness and poor access to verified and regulated buyers. 	<ul style="list-style-type: none"> i. Lack of suitable regulation and institutional arrangements to create an enabling environment for DFS to improve marketing and payments for small-scale miners. 	<ul style="list-style-type: none"> i) Financial illiteracy, lack of extension services and regulation to improve the minerals market; ii) lack of products to safeguard mineral transactions; iii) limited subscription to responsible mineral supply chain initiatives to promote ethical behaviour.
Key Actions	<ul style="list-style-type: none"> i. The creation of capacity building training in mineral evaluation; ii. develop a list of certified/regulated mineral buyers; iii. the creation of linkages between financial services providers and ASM. 	<ul style="list-style-type: none"> i. The creation of DFS regulation which promotes and enables a mineral marketplace; ii. the creation of an online application or mobile USSD application which allows for marketing and selling of minerals providing MME with greater oversight 	<ul style="list-style-type: none"> i. The creation of linkages between the MME and development organisations to provide financial literacy training and basic business training to ASM miners; ii. insurance companies develop appropriate products for artisanal mining marketing transactions.
Desired Outcomes	<ul style="list-style-type: none"> i. Small-scale miners sell their minerals for optimal and fair market related prices and use regulated and formal channels that allow them access to more formal financial services. 	<ul style="list-style-type: none"> i. There is an appropriate regulation and institutional framework facilitating the marketing and sale of minerals produced by artisanal miners; ii. ASM miners can use DFS such as marketplace applications to sell their products to verified buyers; iii. miners can use online or mobile money payment platforms to ensure transparency and to act as a balance sheet or transaction account. 	<ul style="list-style-type: none"> i. Artisanal miners have the financial capabilities to market and manage their income to grow and sustain their businesses, and alternative livelihoods; ii. there are appropriate insurance products that artisanal miners can use to safeguard their products during transactions.

4.2 Proposed Interventions

The proposed interventions are derived from an analysis of the key actions determined for each stage of the ASM value chain aligned with the three pillars of the Liberian NFIS. They are informed by global practices which have shown results (summarised in Section 2.3). The proposals include de-risking and considering the coordination and collaboration that will be required for implementation with optimal impact.

4.2.1 De-risking

The main objective of managing risks is to overcome the barriers to accessing formal financial services by artisanal miners in Liberia, which limits their capacity to run viable operations and hinders their growth as well as that of the local host economies. The risk management interventions proposed respond to both supply-side and demand-side barriers.

TABLE 3:

Demand-side interventions

Intervention	Key considerations	Key stakeholder/actor	Roles and responsibilities
A1. Implementation of ASM formalisation interventions.			
A1.1 Development of an ASM policy with a clear implementation plan.	Build on the Regulatory Roadmap for the Artisanal Mining Sector in Liberia; Align with African Mining Vision (ASM Policy template).	MME and other government entities (EPA, LRA). ASM value chain actors (miners, mineral traders, suppliers of inputs).	Drivers of policy development and implementation. Key stakeholders to be consulted.
A1.2 Development of ASM regulations, (including designated ASM areas).	Finalise amendments to the Mining Law.	MME and other government entities (EPA, LRA). ASM value chain actors (miners, mineral traders, suppliers of inputs).	Drivers of regulation development and implementation. Key stakeholders to be consulted.
A.1.2 Streamlining license application and processing, enhanced by digital technology.	Finalise the LRA-driven mobile application (one-stop approach); consider provision of electronic identification to artisanal miners (build on National ID System); consider geographic information systems for ASM license areas.	MME and other government entities, e.g. EPA, LRA, the National Identification Registry (NIR). ASM value chain actors (miners, mineral traders, suppliers of inputs).	Drivers of regulation development and implementation. Key stakeholders to be consulted.
A1.4 Institutional support.			
A.1.4.1 Formation or strengthening of ASM cooperatives.	Build-on existing World Bank, SCNL and Cooperative Development Agency (CDA) initiatives.	MME, CDA, SCNL.	Organising and capacity building of cooperatives.

TABLE 3:

Demand-side interventions

Intervention	Key considerations	Key stakeholder/actor	Roles and responsibilities
A1.4.2 Strengthening of MME's regulatory capacity to capture ASM production data that can be used by third parties.	Build-on GIZ regional initiative, particularly the reporting component of the Mining Cadastre. Consider use of LRA-driven app to aid mine inspection. Build on SCNL license tracking App.	MME, LRA. Development partners (e.g. GIZ, UNDP, SCNL).	Drivers of the data capturing process. Technical and financial support to MME and LRA to adapt the cadastre system and provide devices for data capture by MME officials.
A2. Provision of geological information for asset determination.			
A.2.1 Geological extension services by MME.	Evaluate existing geological data for immediate direct use by the ASM sector.	Liberian Geological Survey. Development partners (e.g. GIZ/BGR, AMGC).	Management of the geological data, i.e. retrieval and archiving, disseminating to relevant users, and other authorised third-party users. Technical and financial support for evaluation, and generation of appropriate knowledge products.
A.2.2 Promote development of alternative geological services by development partners, private professionals or the universities.	Consider partnering with university research programmes. Consider partnering with AU (AMGC) and ECOWAS initiatives to develop local capacity.	Liberian Geological Survey. University of Liberia (Faculty of Geology). Regional bodies (e.g., ECOWAS, AMGC).	Provide geological data and archive new geodata. Provision of exploration services. Support capacity building of local technical professionals.
A3. Provision of technical extension services to improve the operational viability of ASM operations.	Partner with private sector and development partners (e.g. World Bank, UNDP, EU geological surveys, and mineral technology entities like AMGC) to build the capacity of MME technical staff.	Industrial mining companies. AMGC. Development partners (e.g. World Bank, UNDP, EU geological surveys).	Permit access to their operation for practical training. Practical training of MME technical staff to enhance their capacity to provide extension services. Support in setting up laboratory facilities and capacity building of MME staff to offer extension services.
A3.1 Develop technology-driven solutions to support artisanal miners.	i. Consider geographic information systems mapping (GIS)-enabled applications and the use of drones and smart devices to capture data for tracking support.	Technology providers. Development partners.	Develop and apply appropriate technologies. Provide funding and technical support for miners.

TABLE 3:

Demand-side interventions

Intervention	Key considerations	Key stakeholder/actor	Roles and responsibilities
	<p>ii. introduce secure infrastructure for storage of gold. Consider a partnership with companies that offer hi-tech, secure, accredited warehousing and logistics solution (similar to the provision for agri-commodities by the National Bulk Handling Corporation from India);</p> <p>iii. build a credit provision facility (similar to what is provided by the Credit Ease Financial), for payment of warehoused gold, lending and insurance.</p>	Artisanal miners.	Stakeholders to be consulted on the appropriateness of the technology.
A4. Provision of business extension services to improve viability of ASM operations.	Development partners such as the International Growth Centre (IGC) to build the capacity of ASM associations like FOMAL to provide extension services with NGOs such as Innovation for Poverty Action (IPA).	<p>Development partners (e.g. IGC).</p> <p>NGOS (e.g. IPA).</p> <p>Artisanal miners and their associations.</p>	<p>Provide training for ASM associations and other local NGOs.</p> <p>Provide training to artisanal miners.</p> <p>Stakeholders to be consulted on the suitability and recipients of training.</p>
A5. Capacity building.			
A5.1 Training in technical skills.	Development partners, universities and regional entities like AMGC to train artisanal miners.	<p>Development partners (e.g. UNDP, GIZ).</p> <p>Regional entities (e.g. AMGC) and universities.</p> <p>Artisanal miners and their associations.</p>	<p>Provide funds and technical support for the provision training in technical skills.</p> <p>Provide training to artisanal miners and their associations.</p> <p>Stakeholders to be consulted on the suitability and recipients of training.</p>
A5.2 Training in business skills.	Development partners and universities to train artisanal miners.	<p>Development partners.</p> <p>Universities.</p>	<p>Provide funding for development of special training programmes.</p> <p>Train artisanal miners in business skills to capture data required to improve access to credit and drive viability.</p>
A5.3 Financial education.	Build on the financial education plans of the CBL to partner with financial institutions to run awareness raising campaigns and educate artisanal miners and	CBL.	Include the training of miners in its financial education programmes.

TABLE 3:

Demand-side interventions

Intervention	Key considerations	Key stakeholder/actor	Roles and responsibilities
	their potential suppliers on the importance and benefits of the use of formal financial services.	Commercial banks, mobile money operators, fintech, MFI.	Use their platforms for awareness raising and improving the user experience of their customers.
A6. Implement responsible mineral supply chain interventions.			
A6.1 Improve alignment of chain of custody interventions with regulatory provisions.	Build on existing Kimberley Process Certification Scheme. Partnering with development entities implementing chain of custody and mineral supply due diligence schemes.	<p>Providers of chain of custody and due diligence schemes.</p> <p>Development partners.</p> <p>MME, CBL.</p>	<p>Implement schemes and ensure digital data collection is aligned to compliance requirements of the schemes and standards and aligned as much as possible to regulatory provisions.</p> <p>Provide funding and technical support.</p> <p>Ensure alignment with regulatory provisions.</p>
A6.2 Implement digital solutions to track mineral production (e.g. blockchain).	Partner with suppliers of digital technology.	<p>FinTech.</p> <p>Ethical buyers.</p>	<p>Provide the financial products that permit data capture. Provide blockchain platform including coordination and supporting adoption.</p> <p>Technical support on the design of solutions to ensure the correct type of data is captured.</p>

TABLE 4:

Supply-side interventions

Intervention	Key considerations	Key stakeholder/actor	Roles and responsibilities
B1. Establish specialist ASM funds to improve availability of credit.	Consider building on the Loan Extension and Availability Fund (LEAF) for credit guarantee schemes.	CBL.	Provide the framework for management of the credit guarantee scheme.
	Development partners to provide funds for scheme design.	Development partners (e.g. AFDB, ADF, African Export-Import Bank).	Source the funds and technical support for the setup of the credit guarantee scheme.
	Financial service providers to provide input on design of schemes appropriate for the ASM sector.	Commercial banks, MFIs, fintech, mobile money operators.	Provide disbursement channels and become stakeholders to be consulted in the design of the credit guarantee scheme.
	MME to use access to finance as an incentive for artisanal miners to increasingly formalise.	MME.	Supporting role in improving uptake by artisanal miners.
B2. Improve accessibility of financial services.			
B2.1 Promote use of suitable digital financial products.	Mobile money operators and fintech to lead development of innovative appropriate products for financial transactions, savings, credit (hiring and purchasing equipment).	Mobile money operators, fintech.	Develop innovative products.
	Consider blockchain technology, fractional ownership etc.	CBL.	Ensure that the regulatory framework permits the innovative products proposed.
B2.2 Educate artisanal miners on use of digital financial products.	Partner with mobile money operators and fintech.	Mobile money operators, fintech.	Use stakeholder platforms to provide means to educate miners on digital financial products and improve user experience.
	Consider building on CBL-driven financial education initiatives. Consider building in capabilities that permit transparency and traceability.	CBL	Ensure that artisanal miners are included in financial education initiatives.
B2.3 Improve “last mile” access for most disadvantaged miners.	MFIs like BRAC have the presence in remote rural areas.	Mobile money operators, fintech, MFI.	They will provide innovative solutions.
		CBL.	They will ensure that there is an enabling environment for the application of the innovative solutions.
B2.4 Promote innovative credit scoring.	Consider partnering with mobile money operators and fintech.	Mobile money operators, fintech.	They will use transaction data to determine credit worthiness.

TABLE 4:

Supply-side interventions

Intervention	Key considerations	Key stakeholder/actor	Roles and responsibilities
		CBL.	They will ensure that the legal framework allows for innovative approaches.
B2.5 Promote appropriate micro-insurance.	Insurance companies may be interested in expanding their customer base.	Insurance companies.	They will develop innovative products and educate potential customers.
	Insurance companies should become educated about the needs of artisanal miners and consider partnering with providers of credit and equipment.	CBL.	They will ensure that the legal framework allows for innovative approaches.
B2.6 Incorporate suppliers of inputs to the ASM sector into credit provision schemes.	Encourage suppliers of goods and services to collaborate with financial institutions.	CBL.	They will ensure that the legal framework allows for innovative approaches.
		Credit providers.	They will partner with equipment suppliers to provide special schemes like hire-purchase and leasing.
		Equipment suppliers.	They will partner with credit providers to provide equipment schemes like hire-purchase and leasing.
B2.7. Promote acceptance of digital payments by local vendors.	Educate and engage local vendors to accept digital payments. Develop solutions for cash-in/cash-out liquidity issues.	CBL.	They will promote acceptance of digital payments through their financial education programs and support the availability of cash in remote areas.
		Civil Society Organisations (CSOs) and Community based organisations (CBOs).	They will promote awareness of the benefits of digital payments.
		Commercial banks.	Support provision of cash in remote areas through agent networks.
		MFIs.	Can promote digital financial payments to their customers.
B3. Acquisition of data on geographic location of ASM license areas (using GIS applications) and identification of potential borrowers.	MME's Mining Cadastre Unit to obtain information required on potential ASM borrowers. Potential lenders to be allowed third-party access on prescribed conditions.	MME.	Lead data acquisition.
		Artisanal miners.	Stakeholder to be consulted on the procedures for data sharing.
		Potential providers of financial services.	Stakeholder to be consulted on the procedures for data sharing and demonstrate the value-add to the ASM sector.
		CBL.	Ensure appropriate oversight for consumer protection with regards, to third-party to sharing

4.2.2 Coordination/Collaboration

These proposed interventions point to the need for a holistic and coordinated approach, encouraging the collaboration of many stakeholders across the ASM sector in Liberia (refer to Figures 3 and 4 below).

The establishment of a coordination framework is critical to the successful implementation of the proposed financial inclusion framework. The section below maps the required roles and potential responsibilities of the different actors and stakeholders.

FIGURE 3:

Demand-side coordinated collaborative approach for financial inclusion in ASM

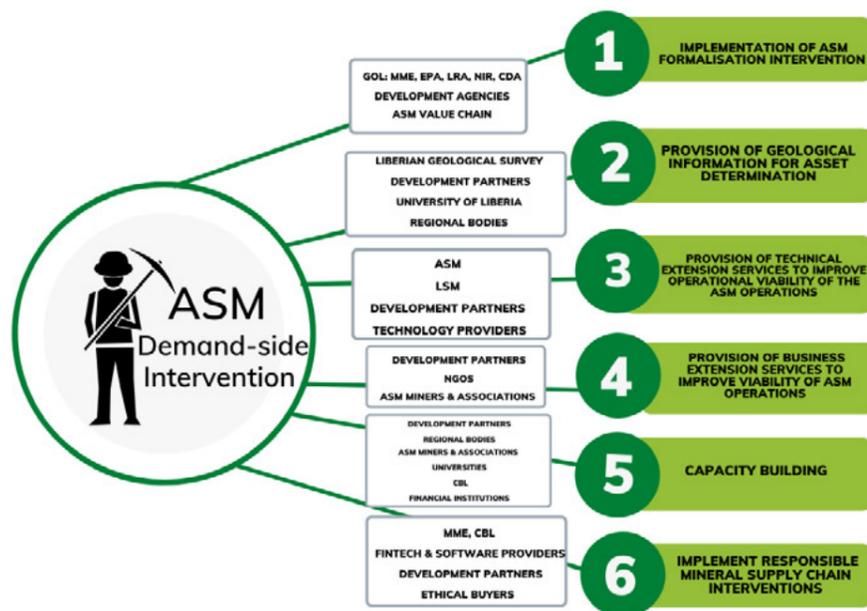
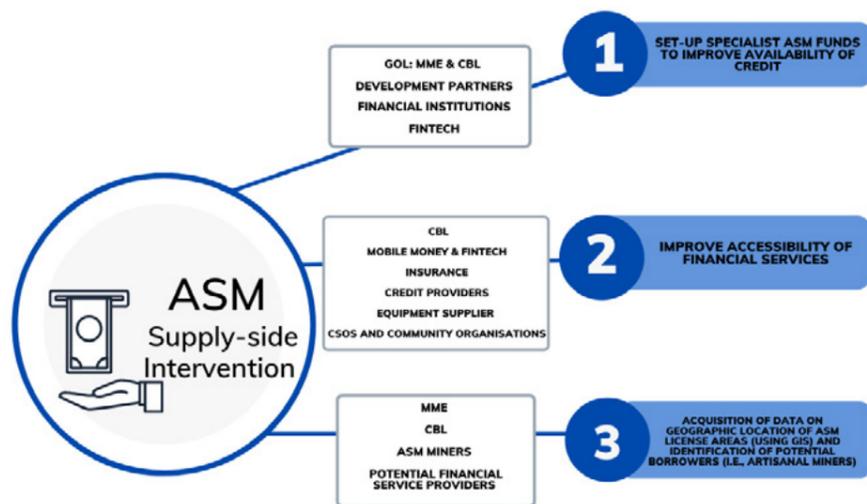


FIGURE 4:

Supply-side coordinated collaborative approach for financial inclusion in ASM.



The options for coordination are either to work with an existing structure, adapting it to serve the implementation needs of this framework, or to create a new structure. The conclusion from the stakeholders consulted is that an existing structure would offer greater benefits. The potential host structures that have been identified are the following:

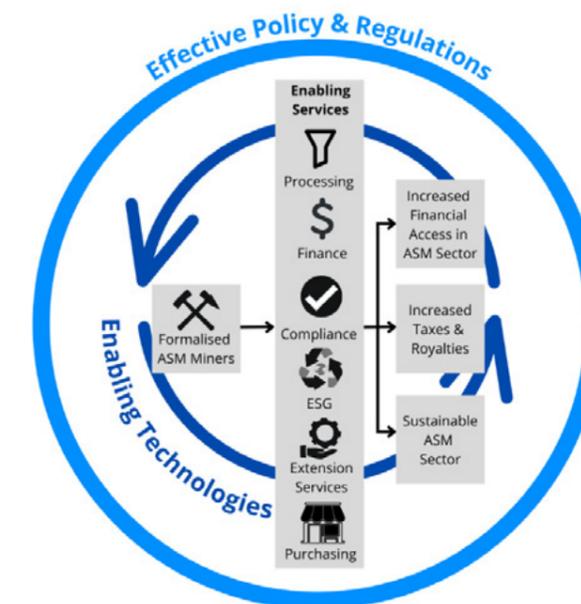
- National Financial Inclusion Steering Committee (NFISC):** The Steering Committee is led and chaired by the Governor of the CBL and is comprised of heads of relevant government ministries, heads of regulatory bodies, government agencies, heads of practitioner associations and development partners. In addition to the steering committee, an implementation committee should be established to provide support for Liberia’s financial inclusion initiatives which should comprise of senior officers from relevant institutions and a secretariat housed in the Financial Sector Development Unit.
- The Kimberley Process Certification Scheme (KPCS) Taskforce:** The Taskforce is housed in the MME and chaired by the Deputy Minister for Planning who is also the KPCS Focal Point. Its role is to oversee diamond recoveries, exports and to collect data for reporting to KPCS. Its members include CSOs, miners (both associations and individuals), government security agencies (excluding the army), the MME Manager of the Government Diamond Office (GDO) and some development partners. The Taskforce is intended to meet quarterly, however meetings had not occurred for some time and at the time of the study it was not fully functional.
- ASM Working Group:** Chaired by the Society for the Conservation of Nature Liberia (SCNL), this multi-stakeholder group is comprised of 22 organisations including the MME, UNDP, and FOMAL. It was established to coordinate the activities of a project funded by the Critical Ecosystems Partnership Fund (a USA-based initiative) which focused on managing the impacts of artisanal mining in the Gola Forest.

It is proposed that the oversight of this Financial Inclusion Framework for ASM could be provided by the NFISC and its Implementation Committee as a subsidiary of the NFIS.

It further recommended that implementation is coordinated by a multistakeholder subcommittee led by MME (possibly adapting the structure of the KPCS Taskforce), in which technical key implementing partners can be co-opted. Figure 5 summarises the enabling elements (policy, regulation, enabling technologies and services) and desired outcomes of the proposed interventions.

FIGURE 5:

The Liberia Value Chain Model



4.3. Framework Conclusion

In conclusion, this financial inclusion framework is developed through an examination and analysis of the institutions that today comprise Liberia’s financial sector, its ASM value chain and a review of global financial inclusion initiatives across the ASM sector. From this review it has been ascertained that financial inclusion in Liberia’s ASM sector can be achieved through actions which will contribute to the formalisation and consequently the risk reduction of the ASM sector. The informal nature of the sector and its risk profile were singled out as key barriers to improved financial inclusion. Additionally, the proposed framework was developed in alignment with Liberia’s

NFIS and the PAPD and it is underpinned by a clear theory of change, to ensure that all facets of ASM in Liberia are embraced and that financial inclusion is advanced through a holistic, integrated, multi-sectoral approach to formalisation. The framework is composed of a blueprint and a roadmap which are guided by six interconnected principles of access, usage, quality, social, education and infrastructure, which work together to achieve the goal of financial inclusion.

The blueprint requires a 'golden triangle' of support to develop the ASM sector and which will then form the basis of sustainable livelihoods and local economic development. The golden triangle will also provide an integrated approach to support the sector to formalise, through the creation of an enabling regulatory and institutional framework and the provision of extension services and finance. The blueprint takes an approach which considers the whole ASM value

chain and reviews the key issues, actions and the desired outcomes for each of the NFIS pillars at the exploration, mining, mineral processing and marketing levels of the value chain. It tackles financial inclusion through a series of supply-side and demand-side interventions informed by financial inclusion initiatives that have been successfully applied elsewhere in the world of mining, as well as in other sectors, with proven results which can contribute to the sector's risk management. The interventions take a holistic approach and review the coordination and collaboration required for implementation including the creation of a financial inclusion sub-committee for ASM, an Implementation Taskforce and a working group comprised of public, private and individual stakeholders. In addition to the blueprint, the roadmap for implementation provides a pathway for the implementation of the proposed interventions.



CHAPTER 5

Roadmap for Implementation

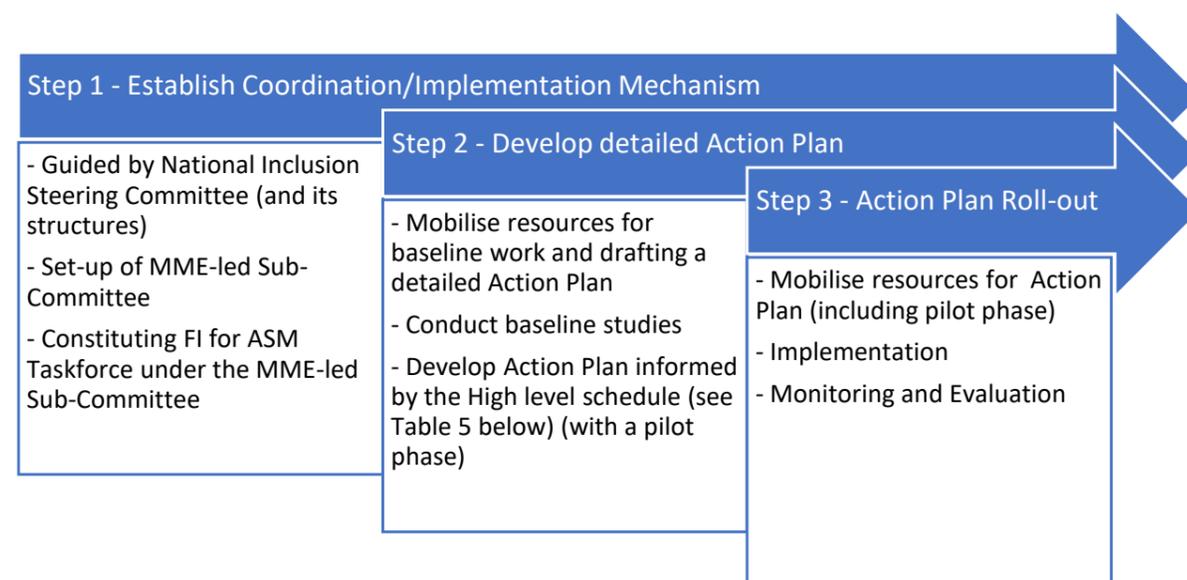
The aim of the roadmap is to provide a pathway for the implementation of the proposed interventions. For the successful implementation of the Liberian Financial Inclusion Framework for ASM formalisation, the following need to be in place:

- A detailed intervention action plan: this should provide a timebound plan for the implementation of the prioritised interventions, with short-term, medium-term and long-term indicators. The short-term plans will constitute the pilot;

- A coordination mechanism to guide the implementation of the framework;
- A monitoring and evaluation approach, with a results framework based on the theory of change;
- Sufficient resources mobilised.

FIGURE 6:

Illustration of the implementation pathway for the Financial Inclusion Framework



5.1 Key Success Factors

5.1.1 Interventions Implementation Framework

The interventions prioritised for implementation are detailed in the table below.

TABLE 5:

High level implementation schedule (demand-side)

Intervention	Implementing entities		Priority (low, medium, high)	Timeline (years)
	Primary Entities	Supporting Entities		
A1. Implementation of ASM formalisation interventions.				
A1.1 Development of an ASM policy with a clear implementation plan.	MME	EPA, LRA, FOMAL	High	1
A1.2 Development of ASM regulations, (including ASM designated areas).	MME	EPA, LRA, FOMAL	High	1
A.1.3 Streamlining license application and processing, enhanced by digital technology.	MME	EPA, LRA, NIR, FOMAL	High	1
A1.4 Institutional support.				
A.1.4.1 Formation or strengthening of ASM cooperatives.	MME	CDA	Medium	12
A1.4.2 Strengthening of MME's regulatory capacity to capture ASM production data that can also be used by third parties.	MME	LRA, Development partners (e.g. AFDB, GIZ, UNDP)	High	
A2. Provision of geological information for asset determination.				
A.2.1 Geological extension services by MME.	Liberian Geological Survey	MME (Bureau of Mines) Development partners (e.g. AFDB, GIZ/BGR, AMGC)	High	1
A.2.2 Promote development alternative geological services by development partners, private professionals or universities.	Liberian Geological Survey	University of Liberia Regional bodies (e.g., ECOWAS, AMGC etc.) Development partners (e.g., AFDB etc.)	Medium	3+
A3. Provision of technical extension services to improve operational viability of the ASM operations.				

TABLE 5:

High level implementation schedule (demand-side)

Intervention	Implementing entities		Priority (low, medium, high)	Timeline (years)
	Primary Entities	Supporting Entities		
A3.1 Develop technology driven solutions to support artisanal miners.	Technology providers	Development partners (e.g. AFDB) FOMAL MME	Medium	2
A3.2 Promote appropriate technologies.	Technology providers	MME Development partners FOMAL	Medium	2
A4. Provision of business extension services to improve viability of ASM operations.	NGOS (e.g. IPA)	Development partners (e.g. IGC, FOMAL)		
A4.1 Develop appropriate capacity building programmes (e.g. training materials, mentorship).	NGOs (e.g. IPA, SCNL)	Development partners (e.g. AFDB, UNDP, World Bank) FOMAL MME	Medium	2
A4.2 Implement capacity building programmes.	NGOs (e.g. IPA, SCNL)	Development partners (e.g. AFDB, UNDP, World Bank) FOMAL MME	Medium	2
A5. Capacity building.				
A5.1 Training in technical skills.	Development partners (e.g. UNDP, GIZ)	Regional entities (e.g. AMGC) Universities FOMAL	Medium	2
A5.2 Training in business skills.	University of Liberia	Development partners (e.g. AFDB, IPA, UNDP)	Medium	2
A5.3 Financial education.	CBL	Commercial banks mobile money operators fintech MFI development partners (e.g. AFDB, World Bank)	High	1
A6. Implement responsible mineral supply chain interventions.				
A6.1 Improve alignment of chain of custody interventions with regulatory provisions.	MME	Providers of chain of custody and due diligence schemes, development partners (e.g. AFDB, World Bank) CBL.	Medium	2
A6.2 Implement digital solutions to track mineral production (e.g. blockchain).	Providers of blockchain platforms (e.g. Minexx).	FinTech, ethical buyers, providers of responsible supply chain schemes, MME (OPM, GDO, Cadastre, Bureau of Mines).	Medium	2

TABLE 6:

High level implementation schedule (supply-side)

Intervention	Implementing entities		Priority (low, medium, high)	Timeline (years)
	Primary Entities	Supporting Entities		
B1. Set up specialist ASM funds to improve availability of credit.	CBL	Development partners (e.g. AFDB, ADF, African Export-Import Bank) Commercial banks, MFIs, FinTech, mobile money operators MME	High	1
B2. Improve accessibility of financial services.				
B2.1 Promote use of suitable digital financial products.	CBL	Mobile money operators FinTech	Medium	2
B2.2 Educate artisanal miners on use of digital financial products.	CBL	Mobile money operators FinTech	Medium	2
B2.3 Improve "last mile" access.	CBL	Mobile money operators FinTech MFI	Medium	2
B2.4 Promote innovative credit scoring.	CBL	Mobile money operators FinTech	Low	3+
B2.5 Promote appropriate micro-insurance.	CBL	Insurance companies	Low	3+
B2.6 Involve suppliers of inputs to the ASM sector in credit provision schemes.	CBL	Credit providers equipment suppliers	Medium	3+
B2.7. Promote acceptance of digital payments by local vendors.	CBL	CSOs and Community based organisations (CBOs) Commercial banks MFIs	Medium	3+
B3. Acquisition of data on geographic location of ASM license areas (using GIS applications) and identification of potential (artisanal miners).	MME	FOMAL MFIs Mobile money operators Commercial bank CBL	Low	3+

5.2 Accountability and Coordination

The successful implementation of this Financial Inclusion Framework will depend on effective and efficient coordination supported by clear roles and accountabilities.

It is proposed that the oversight of this Financial Inclusion Framework for ASM be provided by the NFISC and its

Implementation Committee, as a subset of the NFIS. It further recommended that implementation is coordinated by a multi-stakeholder subcommittee led by MME (possibly adapting the structure of the KPCS Taskforce), in which technical key implementing partners can be co-opted²⁰. The roles and accountabilities for actors in this coordination and implementation mechanism are detailed in Figure 7.

²⁰ To ensure gender equality, organisations representing women (e.g. Liberia Women in Mining Association and the Foundation for Women) should be included in the planning and implementation.

FIGURE 7:

Proposed coordination and implementation structure.



TABLE 7:

Coordination and implementation mechanisms

Title	Actors	Roles and accountabilities	Guidance
Steering Committee	As per NFIS	Decision-making and policy direction	FI Framework
Implementation Committee	As per NFIS	Provides implementation support for the NFIS	FI Framework; ToR developed by the Steering Committee
Financial Inclusion Secretariat	As per NFIS	Provides technical and administrative support to the implementation of the NFIS	FI Framework; ToR developed by the Implementation Committee
Implementation Sub-Committee (with its own Secretariat)	Chaired by MME; Members relevant members of NFIS Implementation Committee; Adapted KPCS Taskforce	Guides implementation of FI Framework	FI Framework; ToR developed by the Implementation Committee
Co-opted Key Implementing Partners	Financial Institutions; CSOs; miners (association and individuals), government security agencies (excluding the army), GDO or Office of Precious Minerals, development partners	Co-opted key implementing partners of the FI Framework	FI Framework; ToR developed by the Implementation Sub-Committee

5.3 Monitoring and Evaluation

5.3.1 Results Framework

Without the collection of solid baseline data and at this scoping phase, it is not possible to develop a detailed results framework. The results framework will be informed by the theory of change and be developed as part of Step 2 of the Roadmap (see Figure 6 above) focusing on the interventions that have been prioritised for implementation (refer to tables 5 and 6).

5.3.2 Measurement Plan

At this stage in the framework planning a detailed measurement plan to track progress is challenging, since there is no detailed results framework and an absence of solid baseline data. The areas that would require measurement are detailed in the priority intervention tables above.

5.3.3 Reporting

The reporting should be aligned to the roles and accountabilities indicated in the Coordination and Implementation Mechanism. The ASM Implementation Taskforce will therefore report to the MME-led sub-committee, which will in turn report to the National Financial Inclusion Steering Committee (through its implementing structures). Reporting timelines will be driven by the NFISC cycles.

5.4 Risk Management

The potential risks to the implementation of this Financial Inclusion Framework are summarised in Table 8 below. Mitigation measures are also proposed. However, it is important to note that at this stage in the planning of the framework that the risks are only indicative and a comprehensive risk matrix will be developed as part of Step 2 of the Roadmap.

TABLE 8:

Risk Management

Potential Risk	Possible mitigating actions
Reputational risk: Work could involve association with entities that may be involved in or associated with questionable activities.	<ul style="list-style-type: none"> All programme staff, experts and consultants will be required to disclose any conflict of interest. All conflicts of interest will be submitted to an oversight body. Due diligence will be conducted for each company or expert considered for sub-contracting. Only the experts with a good reputation will be hired.
Risk of conflict minerals: entering the relevant supply chain and the associated reputational risks.	<ul style="list-style-type: none"> Registration of miners and due diligence checks.
Corruption: Certain stakeholders may demand "pay to play" payments in order to participate, as over time some have come to expect financial inducement to participate in project activities.	<ul style="list-style-type: none"> Emphasise the importance of stakeholder participation in activities and non-monetary benefits. During all phases of the project, substantial effort will be devoted to due diligence and financial management.
Fraud: Programme assets could be misappropriated or deliberately mismanaged.	<ul style="list-style-type: none"> Develop robust verification and approval procedures and put them in place prior to executing payments and financial transactions. Ensure staff are trained on fraud and corruption risks and how to manage them. Ensure that all subcontractors sign up to the company's fraud and anti-bribery policy.
Safety and Security: Staff of the implementing partners could be exposed to high-risk areas.	<ul style="list-style-type: none"> Closely monitor and provide third-party security advice. Restrict travel in high-risk areas, including for contractors and subcontractors.

TABLE 8:

Risk Management

Potential Risk	Possible mitigating actions
Lack of government buy-in: changes in policy or priorities could side-line the programme; changes in key actors or supporters could set back progress.	<ul style="list-style-type: none"> • Close collaboration with the government from the outset; ensuring a range of contact points to mitigate the risk. • Staying abreast of all new developments and priorities, participating in government dialogues and forums. • Working with broader number of key stakeholders who can influence the government to retain support for the programme.
Lack of private sector buy-in: there could be a shortage of miners interested in participation; the programme could lead to disruption of vested interests or change market dynamics.	<ul style="list-style-type: none"> • Close collaboration with business entities, and including them as interventions are planned. • Transparency in engagement and procurement opportunities, recognising that the project operates in a competitive environment. • Feasibility assessments and business planning including an analysis of how the interventions could impact local markets.
Lack of development partner support: there could be limited support from development partners interested in providing resources and technical support.	<ul style="list-style-type: none"> • Close collaboration with development partners at the outset, including consultation through the development of implementation plans and incorporating partners in coordination and implementation mechanisms. • Clarity on roles and responsibilities.
Government bureaucracy could create obstacles: The need for additional approvals and permits may delay implementation of the project.	<ul style="list-style-type: none"> • Start approval processes early. • Provide regular updates to the government especially the direct beneficiary.
The number of sites suitable for interventions could be limited: or the project may be unable to secure sufficient ASM sites for implementation.	<ul style="list-style-type: none"> • Engage the ASM association early and involve them in the implementation mechanisms. • Conduct a rigorous feasibility study to pre-empt this challenge. • EIA, SIA assessments should be conducted to ensure socio-environmental issues are understood and mitigated, • Adaptability should be foremost in implementation planning.
Difficulties in accessing data: there could be breaches of confidentiality leading to commercial liability; public release of data could distort markets or trading relationships; ‘rushes’ could be stimulated.	<ul style="list-style-type: none"> • Through mapping, design and consultation, establish viable, credible and acceptable levels of data disclosure and transparency. • Use the highest data protection standards and mechanisms in databases.
Accidents, fatalities could occur in mining areas: the projects will have liability for the safety of staff, consultants, visitors and there could be negative publicity for projects.	<ul style="list-style-type: none"> • All staff and partners should be given training on personal safety and security in mining areas and provided with personal protective equipment. • All visitors should be given safety briefing before mine visits.
Cross-cutting issues could be insufficiently managed: Gender, poverty, occupational health and safety, and environmental issues may not be properly considered, integrated or addressed; cultural barriers to gender inclusion could delay progress.	<ul style="list-style-type: none"> • Incorporate cross-cutting issues into all stages of project design and implementation. • Use experts on these issues within the team to constantly review and support best practice. • Review the status of these issues regularly and consider how well they are integrated into the plans. • Implementing partners should provide leadership and monitoring to identify opportunities for engaging on cross-cutting issues and identify cross-cutting risks.





Annex 1

DESK RESEARCH REPORT

Development of an Innovative Financial Inclusion Framework to
Support Artisanal and Small-scale Mining Formalisation in Liberia

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Abbreviations and Acronyms

AfCFTA	African Continental Free Trade Area
AMV	African Mining Vision
ASGM	Artisanal and small-scale gold mining
ATM	Automatic teller machine
CIRDI	Canadian International Resources and Development Institute
EMMMDA	ECOWAS Model Minerals and Mining Development Act
EPA	Environmental Protection Agency
FI	Financial institution
FPP	Forward purchase programme
GDO	Government Diamond Office
GoL	Government of Liberia
KPCS	Kimberley Process Certification Scheme
LGS	Liberian Geological Survey
MFI	Microfinance institution
MME	Ministry of Mines and Energy
NEPS	National Electronic Payment Switch
NFSI	National Financial Inclusion Strategy
NSFI	National Strategy for Financial Inclusion
OECD	Organisation for Economic Cooperation and Development
OPM	Office of Precious Minerals
PLI	Partner Lending Institutions
POS	Point of Sale
YTS	Yayasan Tambuhak Sinta (NGO)

Part 1

Review of the Liberian ASM Sector

This study of the Liberian artisanal and small-scale mining (ASM) sector is based on a detailed literature review which is intended to form the foundation for further research. The study will be augmented in future with key informant interviews and site visits to a number of the main ASM areas in Liberia, and will support subsequent outputs of the project. The report covers the following topics:

- The policy, legal and institutional framework;
- Profile of sectoral activities;
- The sector's socio-economic, environmental, health and safety impacts;
- Capacity needs assessment;
- De-risking opportunities.

1 Policy, legal and institutional frameworks

In order to understand the policy, legal and institutional framework of the Liberian ASM sector, it is best considered from global, regional and national perspectives. The following section examines these comparative approaches.

1.1 Review of international and regional policies and protocols

The main international protocols impacting the administration of the ASM sector in Liberia are provided in the table below.

TABLE 1:

Review of International and Regional Protocols

Framework	Intention	Relevance to Liberia	Relevance to Financial Inclusion and ASM
Regional Policies and Protocols			
Africa Mining Vision (AMV)	The AMV is the pan-African mining framework which promotes "transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development".	Liberia has developed a mining policy aligned to the provisions of the AMV. Its support for ASM value chains is espoused in section 10, 12 –15 of the Mineral Policy of Liberia, 2010 and Liberia's Regulatory Roadmap for the Artisanal Mining Sector.	The AMV legitimises ASM on the African continent and provides a framework for it to be considered as an important economic activity poised for investment to contribute to the mineral-based transformation of African economies.
The Africa Continental Free Trade Area (AfCFTA)	AfCFTA is a continent-wide free trade agreement which aims to accelerate intra-African trade and strengthen Africa's external trade position.	Liberia is a signatory of the AfCFTA agreement but has yet to ratify it. President Weah confirmed he would forward the agreement for urgent ratification. Once the agreement is ratified, legislation would have to be amended to align with the provisions of the AfCFTA.	AfCFTA provides opportunities for the development of mineral value chains including those in ASM, on the back of which transboundary financial inclusion initiatives can be supported at a regional level. This introduces critical mass where it is needed and opportunities for replication and scalability improving the viability of interventions.

TABLE 1:

Review of International and Regional Protocols

ECOWAS Model Minerals and Mining Development Act (EMMMDA)	ECOWAS has drafted a regional mining and minerals policy which aims to harmonise regulatory frameworks and improve coordination and formalisation across the group.	Liberia is a member of ECOWAS. Once the Act is promulgated, Liberia will have to align its domestic policy to EMMMDA.	The regional framework provides for regional interventions that can address transboundary issues that can promote financial inclusion. This is closely related to provisions for best practice to increase formalisation of the ASM sector in the region, provided by EMMMDA.
Mano River Union	This union is based across Sierra Leone, Liberia, Guinea and Côte d'Ivoire and aims to expand trade and cooperation in the sub-region.	Liberia is a founding member.	The Union supports trade, infrastructure, education and agriculture projects which has previously included programmes in the mining sector.
International Regulations			
The United Nations (UN) Minamata Convention on Mercury Pollution	This international treaty aims to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds.	Liberia signed the Convention on 24th September 2014 but is yet to ratify it. Mercury pollution in Liberia has been highlighted as a problem area and has been included in environmental management interventions.	The Convention supports an integrated and holistic approach to ASM formalisation, as well as responsible sourcing. Its provisions impact artisanal and small-scale gold mining (ASGM) which is a lucrative activity of the sector globally.
European Union's Conflict Minerals Regulation (2017)	This regulation requires European importers of tin, tantalum, tungsten, ores and gold from conflict-affected and high-risk areas to conduct responsible sourcing due diligence.	This regulation applies to Liberia because it is categorised as a high-risk country.	Regulation seeks to improve transparency in responsible sourcing of minerals etc.
Organisation for Economic Cooperation and Development (OECD) Due Diligence Guidance	This guidance helps companies respect human rights and avoid contributing to conflict through their mineral purchasing decisions and practices. It is intended for any company potentially sourcing minerals or metals from conflict-affected and high-risk areas.	As a post-conflict and fragile nation this protocol is relevant to Liberia.	OECD DD seeks to improve responsible mining and the value chain

Responsible mineral supply chains: Underpinning the increasing global interest in responsibly mined minerals are recent international protocols that require supply chain due diligence. These aim to ensure that the minerals are not produced in ways that are directly or indirectly associated with either conflict situations or human rights violations. These protocols have resulted in the development of

standards and certification mechanisms with which ASM operations must comply to be able to access certain markets (e.g. the Intergovernmental Conference on the Great Lakes Region Regional Mineral Certification mechanism²¹, the CRAFT Code²², the ARM Fairmined standard²³ etc.). The key protocol is:

²¹ ICGLR - <https://www.icglr.org/index.php/en/>

²² CRAFT Code - <https://www.craftmines.org/en/what-is-craft/>

²³ ARM Fairmined - <https://fairmined.org/fairmined-for-miners/>

The Dodd-Frank Act (Section 1502): This a provision (Section 1502) in the United States (US) Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd Frank Act”) pertaining to trade involving so-called ‘conflict minerals’— tantalum, tin, tungsten and gold— produced in the Democratic Republic of Congo and adjoining countries. More specifically, Section 1502 requests the US Securities and Exchange Commission (SEC) to develop rules that oblige relevant companies to undertake efforts to ascertain the origin of tin, tantalum, tungsten and

gold in their mineral supply chains. The SEC’s Final Rule on Section 1502 published in August 2012 recognises the OECD Due Diligence Guidance (cf. page 5) as an international framework available to companies to perform due diligence in responsible mineral sourcing and help them meet their reporting obligations under the Act. Even though the Act’s focus is on the countries in the Great Lakes Region of Africa, its broader impacts have resulted in the development of mineral chain standards that are also relevant to Liberia.

BOX 1:

Relevance of responsible mineral supply chain initiatives to Financial Inclusion and ASM.

These responsible mineral sourcing initiatives provide incentives for ethical investment in the ASM sector. On the demand side, buyers of ethically produced minerals (particularly those prepared to pay a premium) improve the viability of ASM businesses. On the supply side the initiatives also provide an incentive for miners to keep to ethical and responsible practices in the production of ASM minerals.

These initiatives have also been reported to have unintended negative consequences. For example the cost of conformance is reported to have created de facto embargos on ASM production in some countries targeted. There is also the risk of disempowering national regulatory frameworks when they are side-lined by some of the externally developed responsible mineral compliance systems.

1.2 Review of the Liberia Mining Policy and current ASM strategies

The mineral policy position of Liberia is guided by the Liberian Constitution (1985),²⁴ particularly Article 22, which provides that all minerals belong to the Republic and

should be used for the benefit of all Liberians. This article is of specific relevance for ASM, as it confers operators with rights under the Constitution. Additionally, Liberia has created a regulatory framework for its mining and mineral sector, with individual laws examined further in relation to financial inclusion in the table below.

TABLE 2:

Liberia’s Mining Policy

Legislation	Objective	Relevance to Financial Inclusion
Mining Laws		
The Liberian Mineral Policy (2010)	This is the main policy instrument that guides the management of the mining sector. Its provisions are aligned to the AMV, and it sets out the vision that the Government of Liberia (GoL) has for the country’s mining sector. Section 9 outlines Liberia’s vision for the ASM sector acknowledging its potential economic and developmental benefits as well as the adverse impacts associated with ASM.	Section 9 explicitly identifies the provision of technical assistance and extension services including business skills transfer and the facilitation of capital through micro-loan schemes. It also includes the creation of a marketplace for buying and selling ASM minerals.

²⁴ https://www.constituteproject.org/constitution/Liberia_1986.pdf?lang=en

TABLE 2:

Liberia's Mining Policy

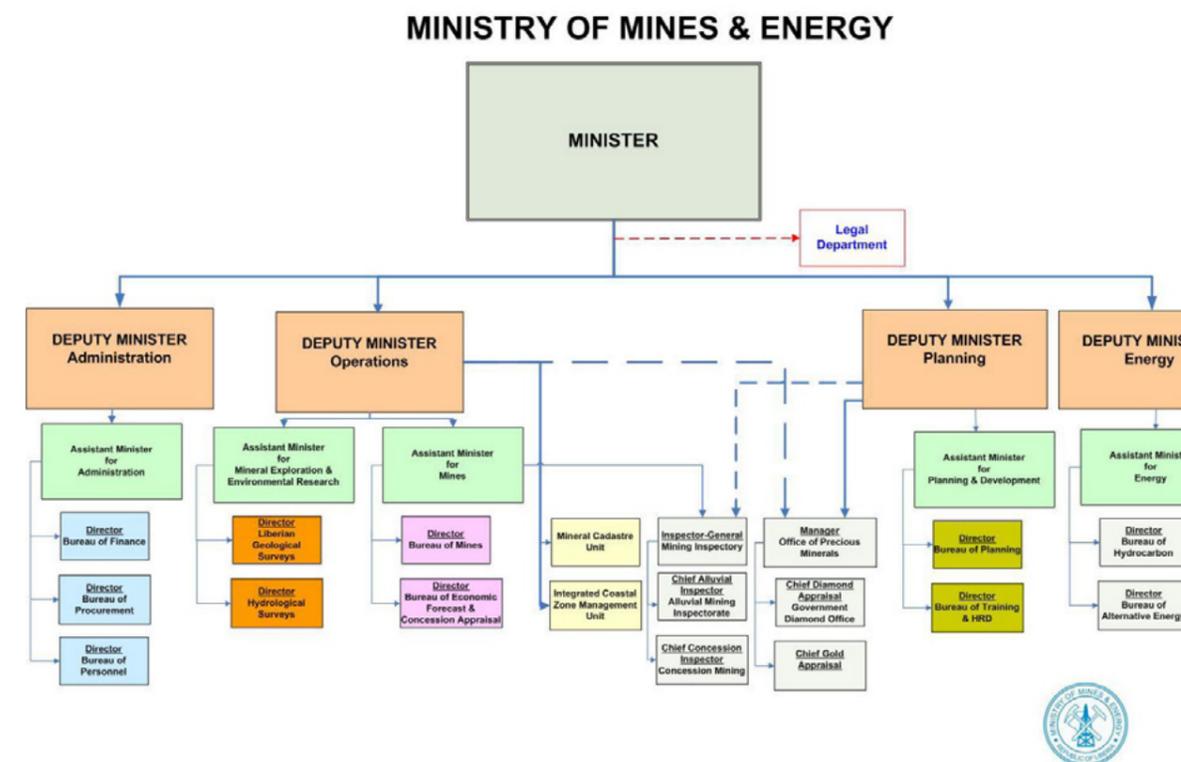
Legislation	Objective	Relevance to Financial Inclusion
The Minerals and Mining Law (2000) and Regulations Governing Exploration Under a Mineral Exploration License (2010)	This is the main legal instrument for the licensing and management of the mining sector. The ASM sector is regulated by Class B and Class C licenses.	The laws that regulate the mining sector determine the level of formalisation and therefore impact financial inclusion initiatives.
Regulatory Roadmap for the Artisanal Mining Sector in Liberia (2016)	Its objective is to guide the development of a new regulatory regime for the ASM sector in Liberia underpinned by formalisation interventions.	Formalisation and cooperative building enhance the opportunities for ASM value chain actors to access finance.
Attendant Legislation		
Environment Protection and Management Law (2002)	The main objective of this law is to promote the sustainable use of natural resources for socio-economic development without undermining the environment, so that the environment and natural resources continue to provide benefits for present and future generations.	The legislation provides for responsible production practices, which are of particular interest for potential investors in the ASM sector. For many, reputational risks associated with adverse ESG practices are barriers to invest. Additionally, impact investing can be a niche source of funding for ASM. Access to capital and investment directly impacts the financial inclusion of the sector.
National Forestry Reform Law (2006)	The main objective of this law is the sustainable management of Liberia's forest land, conservation of the forest resources and protection of the environment to the benefit of all Liberians.	
Land Rights Act (2014)	This Act provides for the definition and delineation of categories of land ownership and rights in Liberia, and the means by which land can be acquired, used, transferred and managed.	
Liberia Revenue Code of 2000 (as Amended 2011)	This Code governs all matters concerned with taxation. Every person in Liberia is obliged to pay tax. The taxation of mining is covered under Chapter 7 of Income Taxation of Natural Resources.	
Labour Practices law (1986)	This regulates employment conditions including labour contracts, minimum wages, hours of work, retirement, occupational health and safety, workmen's compensation, the prohibition of child labour, labour organisation and localisation.	

1.3 Institutional arrangements for regulating and promoting the mining sector

The Ministry of Mines and Energy (MME) is the main body responsible for administration of the ASM in Liberia (see organogram below).

FIGURE 1:

Organogram of the Liberia Ministry of Mines and Energy²⁵



BOX 1:

Relevance of the institutional framework to financial inclusion and ASM.

The institutional framework for the management of the ASM sector in Liberia puts into operation the provisions of the sector's regulatory framework. It is also important for the implementation of strategies to promote the sector's development. Both these parameters are important in the design and implementation of any financial inclusion initiatives as they relate directly to improving the formalisation of the ASM sector.

²⁵ <https://mme.gov.lr/organogram/>

Administration is performed through functions and key units, including those listed in the table below.

TABLE 3:

Summary of the key institutions involved in the administration of the ASM sector in Liberia.

Institution	Role
The Ministry of Mines and Energy (MME)	The main role of the MME in ASM is to issue mineral and mining licenses and to ensure that ASM activities comply with the law.
Bureau of Mines	Its role is to monitor and enforce compliance of all policies, laws and regulations pertaining to the mining sector. It manages the process of granting mining licenses.
Mining Inspectorate	The inspectorate is responsible for enforcing compliance with all operating requirements of mining operations, including occupational health and safety. It has a team of inspectors conducting visits to mining operations. Non-compliance may lead to sanctions including work stoppage. It is also responsible for investigating all reports of injury at mining operations, maintaining a register and following up on remedial instructions. The Alluvial Mining Inspectorate falls under this office.
Liberian Geological Survey (LGS)	LGS is the custodian of geoscientific information and assists and advises the GoL on policies related to Liberia's mineral resources. Its key activities are: <ul style="list-style-type: none"> • Geological mapping and mineral resources; • Monitoring compliance with reporting requirements of exploration and prospecting licenses; • Promoting exploration and development of mineral resources for socio-economic development; • Generating, collecting, storing and disseminating geoscientific data.
Government Diamond Office (GDO)	Oversees the initial evaluation and reporting of diamonds through a decentralised network of offices, mostly located near diamond producing areas. They were established to support the chain of custody processes of the Kimberley Process Certification Scheme (KPCS).
Office of Precious Minerals (OPM)	The OPM is the conduit for all of Liberia's mineral exports. It was established in 2004, when the offices of gold and diamond appraisals were amalgamated. Its key activities include: <ul style="list-style-type: none"> • Conducting valuations on precious minerals; • Determining export values and royalties; • Regulating the marketing of minerals with Liberia.
ASM Steering Committee	Its establishment is proposed in the Regulatory Roadmap for the Artisanal Mining Sector in Liberia, developed by the MME. Its role would be to coordinate the implementation of the ASM formalisation strategy. The members are planned to include representatives of the relevant government bodies, miners' associations, civil society organisations and development partners.
The Mining Cadastre Management Unit (MCIMU)	The Mining Cadastre is an information systems unit used by the MME to enhance transparency and accountability in Liberia's mining sector. It was deployed with the intention of attracting and retaining investment in the sector. Its key activities include: <ul style="list-style-type: none"> • Processing license applications in accordance with the law; • Systemically monitor the operations of all license holders; • Verify licenses and produce relevant documentation; • A repository for up-to-date information for investors.
Environmental Protection Agency (EPA)	The EPA is the regulatory body for the sustainable management of the environment and natural resources. Its objectives are to: <ul style="list-style-type: none"> • Coordinate, integrate, harmonise and monitor the implementation of environmental policy; • Collect, analyse and prepare scientific data and other information pertaining to pollution, degradation and on environmental quality, resource use;

TABLE 3:

Summary of the key institutions involved in the administration of the ASM sector in Liberia.

Institution	Role
	<ul style="list-style-type: none"> • Establish environmental criteria, guidelines, specifications and standards for production processes and the sustainable use of natural resources; • Monitor and assess projects and activities including those carried out by relevant ministries and other bodies to ensure that the environment is not degraded by such activities.
Forest Development Authority (FDA)	The FDA is a state corporation mandated with ensuring the sustainable management and conservation of Liberia's forests and related natural resources. Its key activities include: <ul style="list-style-type: none"> • The formulation and enforcement of forestry law, policy objectives and regulations in collaboration with the relevant ministries and agencies; • Enhancing the sustainable management, conservation and use of forests and related resources; • The control and monitoring of concession operations to ensure that concessionaires are compliant with legislation; • Offering protection and extension services for the sustainability of the forest estate.
Central Bank of Liberia (CBL)	The CBL is solely responsible for licensing, regulating, and overseeing the financial sector in Liberia. Its key activities include: <ul style="list-style-type: none"> • Achieving and maintaining price stability; • Ensuring sound banking and financial systems; • Pursuing appropriate interest and exchange rate policies; • Conducting economic analysis and publishing economic and financial statistics including information about mining; • Promoting and supporting the development of financial markets and efficient payment and settlement systems.
Liberia Revenue Authority (LRA)	The Authority is charged with the collection of tax revenues in Liberia. Its key activities include: <ul style="list-style-type: none"> • Administering revenue legislation; • Collecting legitimate revenue; • Executing sound revenue policies, fair and balanced enforcement for revenue growth thereby facilitating national development; • Facilitating legitimate trade and commerce within Liberia thus helping to ensure social protection and economic growth and development.



2 Profile of the Liberian ASM sector

This section of the research reviews the ASM sector broadly, as well as focusing on a few commodities that dominate it - gold, diamonds, and development minerals. It presents findings on:

- types of activities and their geographic location;
- the size of the sector, its economic value, levels of production and employment (including demographics);
- an analysis of ASM value chains, including key actors and illicit mineral trade.

2.1 ASM activities and their locations

The ASM sector in Liberia is largely informal and not well regulated. It is an important sector economically, with activities widespread across the country with an estimated

100,000 artisanal miners²⁶. It is not known how many women work in the sector but it is reported that many women are involved, and sometimes also children. ASM is known to attract foreigners, especially from neighbouring countries.

The commonly exploited commodities include diamonds and gold as well as building and construction materials. The operations are typically rudimentary, using only basic mining and processing methods. As in other Mano River Union countries, the history of the sector, particularly diamond mining, is marred by its association with conflict and war. Other challenges that the sector faces include illegal activities, unsustainable operations, its negative environmental and social impacts, and conflict over land use. A study funded by USAID estimated that 60-80% of artisanal diamond mining operations are unlicensed²⁷.



²⁶ Liberia PRSP, 2008.

²⁷ Siegel, 2014.

FIGURE 2:

Figure 2: Mineral occurrences map of Liberia²⁸.



The most extensive ASM activities occur in Bong, Lofa, Nimba, Grand Cape Mount, Bomi, Gbarpolu, Grand Bassa, Margibi, River Cess, Grand Gedeh Grand Kru, River Gee, Maryland, Sinoe and Montserrado counties.

2.2 ASM value chains

The three main commodities exploited by artisanal miners have different value chains.

- Diamonds:** The largest occurrences of diamonds in Liberia are in the West, near the border with Sierra Leone. However, there are also some occurrences in alluvial deposits in Kakata, Bolola and Sannaquellie

(near the border with Guinea and Côte d'Ivoire).

Ore extraction commonly involves the dredging of riverbeds, often accompanied by river diversion. The practice of diving for alluvial ore is also practiced in Liberia. Processing to recover the diamonds usually involves washing the alluvial ore in shaker-boxes and hand jigs, followed by hand sorting to pick out the diamonds. If complying with the law under the KPCS, the diamonds should be immediately declared to the GDO where they will be valued, and a record created that is maintained until the point of export as part of the chain of custody due diligence.

The actors in this value chain include license holders where the claims are licensed, miners and processors

²⁸ https://mimeliberia.files.wordpress.com/2018/08/mineral-potential-map-of-liberia_april2011.pdf

referred to as “diamond boys”, supporters and financiers²⁹, dealers and exporters.

- **Gold:** The occurrence of gold is widespread in Liberia. The deposits are alluvial, eluvial (saprolite) and hardrock (usually hosted by quartz veins). The type of ore extraction is determined by the type of ore deposit, often mined by so-called “gold boys”. Alluvial deposits are exploited through both dredging and riverbank mining. Eluvial deposits usually involve open pit mining either manually or with excavators (colloquially referred to as “yellow machines”). Mining hardrock deposits usually involves rock breaking with hammers and chisels or jackhammers where the operation is semi-mechanised, and sometimes the use of explosives (although their use is not allowed in Class C operations). Processing involves crushing and milling rock, usually manually, but simple mechanical crushers are often used, with the most common being a hammer mill that feeds directly onto a sluice box. The pre-concentrate from the sluice box is panned to upgrade the gold concentrate. At this stage mercury is often added to produce an amalgam that is eventually burnt to evaporate the mercury, leaving the gold behind. The purity of this gold is usually about 95%. When mercury is not used direct smelting to produce a ‘dore’ is common. Individual miners also commonly sell the gold as powder after upgrading the concentrate as much as possible.

The actors in this value chain include license holders

where the claims are licensed, miners and processors (referred to as “gold boys”), supporters and financiers³⁰, dealers and exporters. Suppliers of inputs include those that provide equipment, explosives and mercury.

- **Development minerals** (mostly sand and aggregate)³¹: The exploitation of these development minerals used in construction occurs near settlements and built-up areas. Sand occurs as alluvial deposits near rivers, as well as eluvial deposits in the case of pit sand. This is extracted either manually with shovels in micro-operations or with excavators in semi-mechanised operations. Usually, the sand is sold by the truckload with no further processing.

Aggregate exploitation is of hardrock, usually granite or similar rock types. Rudimentary exploitation involves breaking large boulders and crushing it using hammers. More mechanised operations use jackhammers and explosives to break the rock in quarries. The rock is then crushed using mechanical crushers and the final aggregate is sold by the truckload.

The actors in the value chains of these construction materials depend on whether the operations are basic manual operations or mechanised. In manual operations there are rock breakers (usually men), and crushers (who are often women). For the most basic operations, transportation is by wheelbarrows and motorbikes, and for larger, more mechanised operations lorries are used.

²⁹ It is common practice for artisanal miners to receive financial support either in cash or as inputs for mineral production. These “supporters” may be on-the-ground representatives of larger buyers based in bigger towns. These are de facto informal financiers, who are interested in securing supply of the gold at low cost.

³⁰ Ibid.

³¹ The term ‘development minerals’ is used to refer to the mineral resources (particularly coloured gemstones, industrial minerals and construction materials) that are usually consumed locally near where they are sourced, as opposed to most metallic minerals and precious stones that are usually exported in raw form. These mineral resources are generally considered to be of low value, due to their low price-to-mass ratio and relatively low value in commodity markets. Due to the predominantly local consumption, they are assumed to have a greater impact on the development of local economies.

FIGURE 3:

Location of Class C licenses in Liberia.

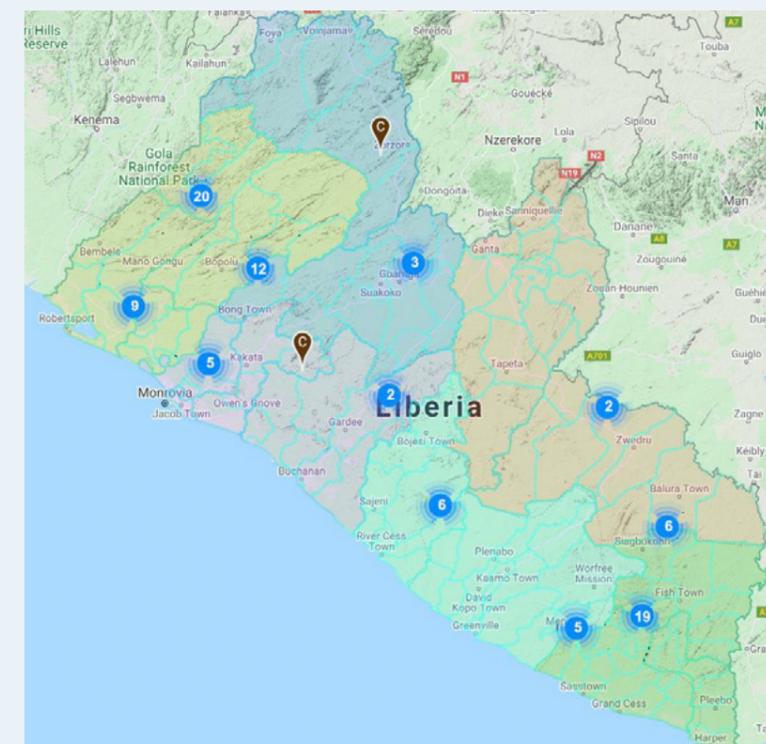
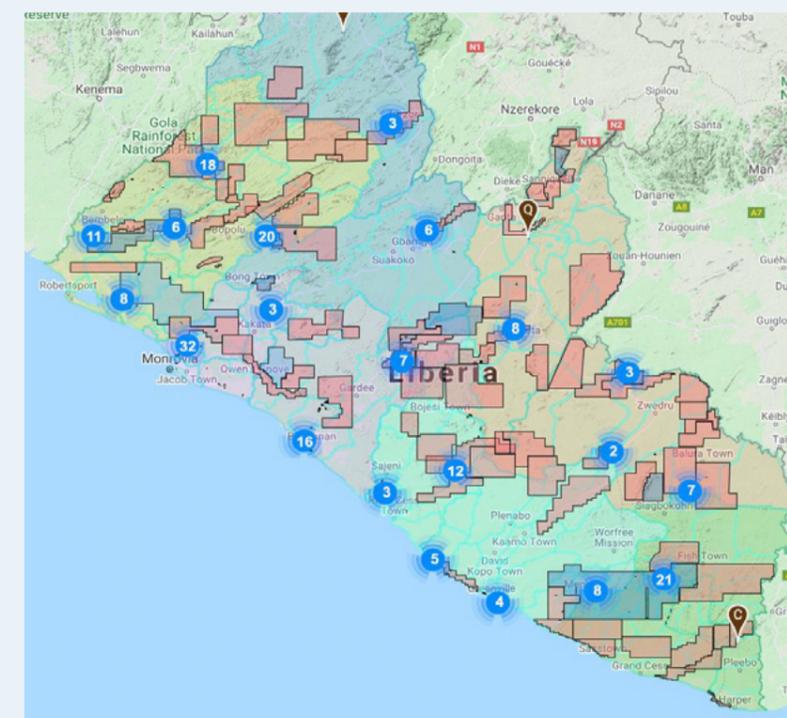


FIGURE 3:

Location of Class B licenses in Liberia.



3 Review of ASM's socio-economic, environmental, health and safety impacts

This section of the research presents findings on the socio-economic, environmental and health and safety impacts of ASM. Some of the impacts are specific to the type of mineral commodities exploited by ASM (mainly diamonds, gold and development minerals).

3.1 Socio-economic impacts

ASM is often the only livelihood opportunity other than agriculture for rural communities in Liberia. It provides a relatively quick way to generate an income. The barriers to entry are low, but the capital requirements to grow beyond a subsistence level of profit are quite onerous for most rural people. The main socio-economic challenges associated with ASM in Liberia include:

- Lack of access to finance;
- Unequal benefits from the proceeds of the mining;
- Illicit mineral trade (including transboundary export) which is associated with an inaccurate valuation of minerals (where miners fail to receive a fair price), and mineral theft;
- Unequal power relations between miners, supporters and financiers leading to exploitation;
- Child labour³²;
- Gender inequality where women are disadvantaged through unequal access to mineral deposits, and disproportionately high exposure to mercury pollution;
- Poor labour practices, including working hours, poor safety practices;
- High costs of mining license, survey and clearance fees

are barriers to formal entry into the sector;

- Intra-community tension (between community and miners) when miners' activities cause negative environmental and social impacts.

3.2 Environmental impacts

The environmental impacts of ASM include:

- Mercury use by artisanal and small-scale gold miners (ASGM) in Liberia is widely reported as the element is often used for the final gold extraction step. It commonly results in the toxin being released into the environment.
- Unrehabilitated mined-out areas are frequently reported in ASM areas. Mining pits are not regularly backfilled causing health impacts associated with water borne diseases and safety hazards to the unsuspecting.
- Poor handling of mining waste, and discharge of waste into natural water bodies is commonly reported at mining processing areas in Liberia. This leads to high levels of suspended solids in rivers and dams which affects the health of aquatic life, brings health risks and increases siltation, amongst its many impacts.
- Encroachment of mining into protected areas and subsequent deforestation has been reported as a problem of national concern. This is driven by the informal nature of ASM and associated with low levels of regulatory compliance. The limited capacity of regulatory agencies means that the level of enforcement is low.

3.3 Health and safety impacts

The health and safety impacts of ASM include:

- The release of mercury vapours from the burning of amalgam by artisanal miners in Liberia exposes them to mercury toxins and enables mercury to enter the food chain causing negative health impacts.
- Injuries and death from the lack of personal protective equipment (PPE). It is common practice in Liberia that miners do not use PPE and work-related injuries are frequent.

- Exposure to dust from poor dust suppression practices and lack of appropriate PPE is reportedly common and will lead to occupational diseases such as silicosis. However, as the practice of mining is so informal, data has not been collected on this or other health issues.
- Poor sanitation and hygiene practices are prevalent in Liberia. Reportedly, many ASM sites do not have toilets or clean drinking water for the workers. This increases the prevalence of waterborne diseases and illness for workers and host communities.



³² Child labour in mining is considered the worst form of child labour. https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-manila/documents/publication/wcms_720743.pdf

4 Capacity needs assessment

This section of the desk research presents findings on the needs of the ASM sector in Liberia. It provides a perspective on the capacity of the institutions that regulate and promote the ASM sector. The analysis is largely based on the work carried out by the Ministry of Mines and Energy (MME) in partnership with GIZ to inform the development of the Regulatory Roadmap for the Artisanal Mining Sector in Liberia.

The needs of the sector in Liberia can be summarised as follows:

- Affordable finance to formalise small-scale activities and capitalise them into larger, efficient and more viable operations;
- Developing accessible and fair markets for mineral products;
- The need for licensing offices that are in mining areas so that miners do not have to travel long distances to apply for mining licenses;
- Affordable license fees that do not disincentivise artisanal miners to formalise;
- Legal provisions that are appropriate and incentivise formalisation. For example, a level of mechanisation and permitting licensing to cooperatives, to allow pooling of resources which improve operational efficiency and compliance with regulations would be beneficial. Such cooperatives can also provide channels for supporting other formalisation interventions like financial inclusion, which provides access to financial products such as credit, savings and insurance, as well as technical and business training and better market access.
- Increasing miners' awareness, knowledge and skills on working efficiently, safely and without damaging the environment.
- Improved capacity for good environmental management practices in the sector. This would include the capacity to develop and implement environmental management plans and the use of mining and processing methods that minimise negative impacts on the environment such as using mercury-free gold extraction methods.
- Improved capacity for responsible behaviour with respect to health, safety and security. This would include the appropriate use of PPE, and safer working practices in the mining and processing of minerals.
- Improved capacity to address some of the challenges associated with informal ASM such as child labour, gender inequality and substance abuse. ASM operations should also contribute to the development of local host communities.
- Increased capacity of regulatory institutions to monitor the sector by enhancing their presence at the county level with improved regional institutional capacity, better financial resources and improved reporting protocols. This should include the OPM and GDO in order to facilitate correct valuation of mineral products.
- Improved information on the location and extent of ASM activities in the country using spatial data initiatives, such as GIS-mapping and an identification system for miners.

5 De-risking opportunities

Many programmes trying to support the development of the sector have approached their interventions from a risk reduction perspective, particularly with respect to access to finance. The main objective of these de-risking approaches is to overcome the reluctance of traditional mainstream financial institutions to invest in and service the ASM sector. The informal nature of the ASM sector is often cited as the main reason for this lack of engagement. Unfortunately, the lack of adequate capital and financial services for the sector could be perpetuating this informality, as ASM operators are forced to continue to use informal financing channels.

Some targeted research work has been completed to better inform the de-risking opportunities. One example is the work of the Global Environment Facility planetGOLD programme which sought to provide an improved understanding of some of the barriers and how they could be overcome.³³

5.1 Barriers to financial inclusion for the ASM sector

The barriers to financial inclusion for the ASM sector can be considered from a supply and demand perspective. The supply side includes actors in the financial services ecosystem including banks, and non-banking organisations who are able to offer services and products to the ASM sector with the intention of making a profit (refer to Part 2 below). The following barriers are often cited:

- Limited understanding of the ASM sector;
- Lack of suitable products and services;
- Fear of reputational risk related to the sector's environmental, social and governance (ESG) impacts.

The demand side consists of ASM actors seeking financial services. The following issues are often raised:

- Lack of mining sector knowledge and skills to generate the reports which would demonstrate the mineral assets sufficiently for the needs of the financial services organisations;
- Lack of operational and production data to demonstrate financial and operational performance for potential investors and service providers;
- Low levels of financial control of the operators;
- Low levels of financial literacy of the operators;
- Inappropriate licensing provisions, e.g. the short duration of ASM licensing being out of kilter with credit terms.

5.2 Potential solutions

It is generally accepted that there is a market failure and some of the solutions that have already been implemented (refer to Part 3) attempted to do the following:

- Provide credit guarantee schemes;
- Set up specialist ASM funds run by intermediaries;
- Implementation of formalisation interventions with a policy, legal and institutional framework at the core. These could include provisions for ASM-designated areas and cooperative licensing;
- Provide geological information to determine the scale and type of assets;
- Provide electronic identification and geographic information systems to identify potential borrowers;
- Provide technical and business extension services to improve the operational viability of the operators;
- Develop and implement chain of custody and standard frameworks for responsible mineral supply chains to address the ESG risks.

³³ *Unlocking Finance for Artisanal and Small-Scale Gold Mining: A Frontier Investment Sector. March 2020. planetGOLD, A GEF Initiative. https://www.planetgold.org/sites/default/files/2020-04/Unlocking-Finance-for-ASGM_final_0.pdf*

Part 2

Review of the Liberian finance ecosystem

6 The Financial regulatory and institutional framework in Liberia

6.1 Financial services laws

The Central Bank of Liberia (CBL) is solely responsible for licensing, regulating, and oversight of the financial sector in Liberia. It was established by an Act of the National Legislature of the Republic of Liberia in 1999. In 2000, it succeeded the National Bank of Liberia (NBL) as the country's primary financial institution.

Liberia's banking and financial sector is governed by two statutory laws. The Central Bank of Liberia Act of 1999 established the CBL, and has the principal objective to maintain price stability in the Liberian economy by formulating and implementing monetary policy. Its founding statute confers the following powers to the CBL:

1. The licensing, regulating, monitoring and supervision of bank and non-bank financial institutions, including specialised deposit-taking institutions;
2. Formulating and implementing monetary and macroprudential policy;
3. Administering, regulating and issuing currency;
4. Determining an appropriate foreign exchange regime, formulating and implementing foreign exchange policy; and holding and managing foreign exchange reserves;
5. Promoting and supervising a safe and efficient payment system;
6. Managing aggregate credit in the economy by indirect means, by loan securitisation, the purchase and sale of securities, transactions in derivatives and foreign exchange and through the establishment of required reserves commercial banks under its jurisdiction; and

7. Advising government on fiscal matters, acting as the government's fiscal agent and collecting and producing relevant statistics.

The New Financial Institutions Act (FIA) of 1999 is the principal law governing Liberia's financial sector. It regulates all aspects pertaining to the operation of commercial banks and other financial institutions in Liberia. The FIA is a comprehensive piece of legislation for the financial sector including licensing, financial management and reporting, prudential norms, resolution procedures and provisions.

In 2009, the CBL also developed the Microfinance Policy, Regulatory and Supervisory Framework for Liberia which does not yet include any regulation for non-deposit taking microfinance institutions (MFIs). The CBL exercises its regulatory authority through monitoring and supervision and the release of guidelines and regulation to the commercial banks and the general public in the official gazette of the Republic of Liberia. Regulations and guidelines are regularly issued on banking issues, microfinance and credit issues, the most pertinent of which are:

- Telecommunication Act (2007)
- Regulations for Microfinance Deposit-taking Institutions (MDI) (2012)
- Regulations for Non-Bank Financial Institutions (2012)
- Financial Intelligence Unit Act (2013)
- Payment Systems Law (2014)
- Mobile Money Regulation (2014)
- Payment System Act (2014)

- Regulations for Credit Unions (2015)
- Regulations for Rural Community Financial Institutions (2016)
- Agent Banking Regulation (2017)
- Competition Law (2017)
- Regulations for E-Payments Services (2020)

Gaps remain in Liberia’s legal and regulatory framework and it has often lagged behind private sector advancements and innovations but in the last decade the GoL has developed a more cohesive framework to enable innovation and financial inclusion in future.

6.2 Institutional framework for financial services sector

Since 2003, Liberia has undertaken a series of economic reforms to drive developmental efforts. The CBL increased capitalisation and reserve requirements to enhance commercial banking in 2006. To address regulatory and supervision shortcomings, the bank adopted the 2014-2018 Strategic Plan for Regulation and introduced a Supervision Department. In 2016, the CBL modernised its payments system by developing an Automated Clearing House, the Real Time Gross Settlement System and the national switch. In the same year, the CBL in partnership with the World Bank launched the Financial Sector Development Implementation Plan which focused on the development of infrastructure and digital technologies to expand access to the financially underserved. The CBL has also implemented consecutive Strategic Plans to modernise the financial sector and promote financial inclusion, with the present plan (2021 – 2023) focusing on financial digitalisation and the broadening of access through mobile money providers. Aligned with the Strategic Plan, the CBL is currently upgrading the National Electronic Payment Switch (NEPS) to promote inclusion and enhance Liberia’s banking sector.

In addition to its financial sector reform, the GoL has adopted several key policies with the specific goal of increasing financial inclusion, including:

- The 150 Day Action Plan (2006);
- The Interim Poverty Reduction Strategy (2007);
- Lift Liberia Poverty Reduction Strategy (2008-2011);
- The Liberian Strategy for Financial Inclusion (2009-2013);
- The Agenda for Transformation;
- The National Strategy for Financial Inclusion (NSFI) (2014-2018); and
- The National Financial Inclusion Strategy (NFIS) (2020-2024).

The most recent NFIS (2020-2024) aims to increase access to financial services through digital channels by building on the progress made by previous financial inclusion strategies. The 2009-2013 Liberian Strategy for financial inclusion focused on establishing a sustainable microfinance industry and the 2014-2018 NSFI helped promote access to financial services more broadly. The newest strategy aims to increase access to formal financial services from 35.7% to 50% of the population aged 15 and older.³⁴ The NFIS strives to advance digital financial services making borrowing, saving and making payments more accessible and affordable for Liberians. The NFIS is a detailed action plan with a set of 36 targeted actions built upon three tenets which improve:

- access to financial services and credit;
 - digital financial services;
 - consumer protection and enhanced financial capability.
- The first priority aims to expand access to the formal financial sector by addressing the low number and concentration of financial access points, establish regulation and supervision over non-bank financial institutions (NBFIs) and the creation of credit facilities and financing frameworks which target MSMEs (micro, small and medium-sized enterprises).
 - The second priority strives to support increased participation in the digital economy by enhancing the legal and regulatory frameworks for payment systems, including the creation of initiatives to digitise government payments and remittances; the introduction of digital credit; development of competitive pricing for mobile money payments; and enhanced information-

³⁴ <https://documents1.worldbank.org/curated/en/405051583394983755/pdf/National-Financial-Inclusion-Strategy-2020-2024.pdf>

- sharing between commercial banks and mobile network operators.
- iii. The third priority builds on recent progress made towards enhancing consumer protection by harmonising consumer protection across financial service providers, capacity building to ensure the enforcement of existing regulation, strengthening disclosure and complaints handling and implementing the National Financial Education Strategy.

The NFIS is closely monitored and guided by coordination structures and implementing agencies including a steering committee which administers the strategy’s initiatives and ensures progress is made on reaching the strategy’s targets. Through the NFIS, the GoL will develop the necessary financial infrastructure, enhance the regulatory framework, and build institutional and consumer capacity to reach the goal of improving financial inclusion. The GoL has chosen to specifically pursue policies which advance financial inclusion because the reduction in poverty which will result directly align with the government’s

Pro-poor Agenda for Prosperity and Development (PAPD). Moreover, the CBL committed to the Maya Declaration in 2013, when 45 central banks around the world committed to promote and support mobile money as a primary instrument of increasing financial inclusion.

6.3 Survey of financial institutions and financial inclusion initiatives in Liberia

Liberia’s financial ecosystem is composed of nine commercial banks (a detailed overview of the commercial banking sector is provided in Annex 1), one development finance company, 17 microfinance institutions, one microfinance deposit-taking institution, 19 insurance companies, 12 rural community financial institutions (RCFIs), 134 credit unions, two mobile money operators, and 1270 village savings and loan associations (VSLA) (refer to Annex 2).³⁵ Table 4 below provides an overview of Liberia’s financial institutions.

TABLE 4:

Liberia’s Financial Institutions

Bank	Main Business	Origin and Geography	Target Market	Product and Services
Commercial Banks	<ul style="list-style-type: none"> • Repository for funds. • Short-term trade financing and operating capital. • Major player in remittances through MoneyGram and Western Union. • Rely on the fees, interest and commission made on transfers, deposits and withdrawals. • Few banks offer digital products such as point of sale (POS) and electronic funds transfer. • ATMs are not connected to global banking network. • NEPS is weak. 	<p>9 commercial banks.</p> <p>Low penetration of facilities.</p> <p>4/15 counties.</p> <p>4 branches and 2 ATM per 100,000 adults.</p> <p>1 bank branch and ATM per 1000km².</p>	<p>Predominantly cash-based economy.</p> <p>Only 3% of Liberians have a debit card.</p> <p>Expensive and inaccessible services.</p>	<p>Most banks offer products and services specifically tailored for MSMEs.</p> <p>The CBL, Ministry of Finance and World Bank implemented a MSME project.</p>

³⁵ <https://www.imf.org/external/pubs/ft/scr/2016/cr16239.pdf>

TABLE 4:

Liberia's Financial Institutions

Bank	Main Business	Origin and Geography	Target Market	Product and Services
Mobile Money	<ul style="list-style-type: none"> Money is sent and received using a mobile phone through and electronic bank account called 'e-wallets'. Digital credit facilities are currently unavailable. Mobile money is used for remittances and to pay bill and taxes. 	<p>Lonestar Cell MTN and Orange Communications are the two registered providers.</p> <p>Available in all 15 counties.</p> <p>Almost 7000 agents.</p> <p>20.8% of Liberians already have a mobile money account.</p> <p>2.8 million mobile wallets.</p>	<p>Mobile money can reach urban and rural Liberians due to low infrastructural prerequisites.</p>	<p>Cash in/cash out services.</p> <p>No specific offerings for the MSME sector.</p> <p>Can facilitate payments between businesses and customers.</p> <p>Mobile money offers an alternative banking channel to those without formal access.</p>
Money Remitters	<ul style="list-style-type: none"> Money is sent from abroad and received locally. Accounts for 10.4% of Liberia's GDP. Is a significant portion of household income and foreign exchange. 	<p>MoneyGram, Western Union and Ria are the three remitters.</p> <p>Sent and received through banks NBFIs, FX bureaus, post offices, and money transfer operators.</p> <p>The cost of remittances is high.</p>	<p>Formal remittances are primarily sent and received in urban areas.</p> <p>Informal remittances (sent through couriers and friends) are prevalent and are not captured by official data.</p>	<p>There are no specific products specifically tailored for MSMEs.</p> <p>Remittances have been used to start businesses and supported post-Ebola reconstruction efforts.</p>
Insurance	<ul style="list-style-type: none"> The insurance sector is overcrowded with 19 operators. The CBL has created new a prudential policy to better regulate the sector. 	<p>Insurance penetration is extremely low.</p> <p>Only 5% of businesses in Monrovia are insured.</p> <p>The GoL and its ministries are the largest consumers of life insurance in Liberia.</p> <p>Insurance is inaccessible, expensive and there is a mistrust of the sector.</p>	<p>Coverage is limited to the urban centres due to infrastructural challenges and informality.</p>	<p>Medical, life, household, travel and motor vehicle insurance.</p> <p>They primarily target large businesses and are no products for MSMEs.</p>
Microfinance	<ul style="list-style-type: none"> MFIs provide people credit in the form of small working capital loans. 	<p>Liberia has 17 registered non-deposit (credit only) microfinance institutions and 1 deposit taking MFI.</p> <p>Most commercial banks have microfinance departments.</p>	<p>MFIs target rural and urban populations that are financially underserved.</p>	<p>MFIs offer individual loans between \$700-7000.</p> <p>Most MFIs do not require a deposit, interest is charged on the microloans, and clients are assisted with long-term planning.</p>

TABLE 4:

Liberia's Financial Institutions

Bank	Main Business	Origin and Geography	Target Market	Product and Services
		BRAC is the largest MFI with coverage in 12/15 counties but most MFIs lack resources to expand beyond Monrovia.		MFIs were created to service MSMEs and the unbanked.
Development Finance	<ul style="list-style-type: none"> The Liberian Enterprise Development Finance Company (LEDFC) was founded in 2007, as the country's only development finance institution. It was established to provide SMEs with technical assistance and business capital. 	<p>LEDFC was established with funds from international donors.</p> <p>It has invested more than \$28 million in over 500 SMEs and set up three additional offices outside Monrovia.</p>	<p>It provides flexible credit options to SMEs that are starting, rebuilding and expanding their operations.</p> <p>LEDFC requires the SME to be predominantly Liberian-owned, have experience, have collateral and have a job creation plan.</p>	<p>LEDFC offers:</p> <p>1) short-term loan (6-23 months) for working capital and short-term business needs and 2) a medium-term loan (2-5 years) for investments in equipment and purchasing other productive assets.</p> <p>The loans range between \$10,000 to 1 million.</p>
Foreign Exchange	<ul style="list-style-type: none"> Foreign Exchange (FX) bureaus in Liberia buy and sell currency on which they charge a commission, they cash travellers' cheques, cash GOL salaries and are permitted to exchange and transfer electronically via money transfer or mobile money. 	<p>Liberia has a floating exchange rate and the US dollar and Liberian dollar are both legal tender.</p> <p>There are 184 FX bureaus in and around Liberia and currency can be exchanged freely at petrol stations and large supermarkets.</p>	<p>The Liberian dollar is used for day-to-day routine transactions, whereas business transactions, government transactions, contracts, tax agreements and 85% of taxes are paid in USD.</p> <p>Most economic activity takes place in USD and most Liberians use FX bureaus.</p>	<p>FX bureaus are heavily regulated by the CBL, are not able to offer credit and do not offer any specific products or services to the MSME sector.</p>
Rural Community Finance Institutions	<ul style="list-style-type: none"> RCFIs are owned by members through capitalised share purchases. RCFIs offer several services including savings, checking accounts, loans, direct deposits, money transfer services and the payment of civil servant salaries. 	<p>12 RCFIs.</p> <p>Available in 8/15 counties.</p>	<p>These institutions were created in rural areas with a high concentration of workers that received salaries and/or agricultural strongholds where agricultural value chains are located.</p> <p>Liberia's RCFIs have 5,196 shareholders.</p>	<p>The RCFIs provide salary-based credits, pay civil service salaries and money transfer services.</p> <p>The institutions serve rural communities by providing them with banking services at a lowered cost burden.</p> <p>Local MSMEs would be able to access credit facilities on more desirable terms.</p>

TABLE 4:

Liberia's Financial Institutions

Bank	Main Business	Origin and Geography	Target Market	Product and Services
Fintech	<ul style="list-style-type: none"> Fintech is a technological innovation that aims to disrupt the traditional financial sector or augment pre-existing offerings by automating or digitising services. Mobile money is the most prevalent form of fintech in Liberia. More advanced technological innovations such as apps that facilitate digital lending, payments, blockchain and wealth management are far less prevalent due to low internet penetration and data prices. The government has not created appropriate regulation or an enabling environment for the establishment of a fintech sector. 	<p>Liberia has lagged behind neighbouring West African countries.</p> <p>In 2020, the first commercial banking app was launched.</p> <p>In 2021, the CBL approved the first Liberian-owned fintech company.</p>	<p>Data costs are prohibitively expensive.</p> <p>Internet access is gendered.</p> <p>Only 20% of Liberians use the internet.</p>	<p>Banking apps are underutilised due to limited internet access.</p> <p>EWallie is a mobile payments solution which can be used by individuals but has tailor-made solutions for SMEs.</p> <p>EWallie provides SMEs an affordable alternative to expensive enterprise software solutions and POS systems for managing stock or inventory and facilitating payments. However, internet inaccessibility can hinder the expansion of the app.</p> <p>TipMe and KanaCash also seek to expand access to individuals but are hindered by lack of internet access.</p>
Village savings and loan institutions	<ul style="list-style-type: none"> A VSLA is an informal micro-finance scheme comprised of 10 to 30 people who save together and take turns withdrawing lumpsum loans from the pooled savings. 	<p>Approximately 1270 VSLAs in Liberia with a membership of 21,000 people.</p> <p>Available in all counties.</p> <p>Women account for 90% of membership.</p> <p>Many of the VSLAs are partnered with NGOs and provide skills training and capacity building.</p>	<p>Most members use the micro-loans for agricultural initiatives such as crop cultivation, land expansion and diversification projects.</p>	<p>The contributors benefit by having access to a financial service provider which is informal and tailor-made to suit the needs of the rural, particularly agricultural, financially excluded segments of Liberia.</p> <p>The microloans are obtainable by anyone that can make the periodic payments, to spend on whatever they wish.</p> <p>The microloans are used to start, expand or service their small businesses, but they also fund agricultural activities, healthcare, education, and household supplies.</p>

TABLE 4:

Liberia's Financial Institutions

Bank	Main Business	Origin and Geography	Target Market	Product and Services
			<p>Credit unions target VSLAs, cooperatives such as susu clubs, schools and small businesses.</p>	<p>VSLAs can obtain funding that many MSMEs would not be able to access commercially, due to the lack of collateral and documentation.</p>
Credit Unions	<ul style="list-style-type: none"> Credit unions provide many of the same services as commercial banks such as credit, insurance, savings, asset management and financial skills training. SACCOs require a monthly minimum contribution from their members, and unlike VSLAs they are registered formal organisations that are run by elected members of the cooperative. 	<p>Approximately 134 credit unions in Liberia boasting a membership base of between 3000 to 7000 people.</p>		<p>Credit Unions offer the same suite of products as commercial banks without the high interest rates and banking fees.</p> <p>MSME operators can benefit from the banking services offered through the credit union without having to bear the cost burden or require high levels of collateral to fulfil prequalification criteria.</p>



To better understand Liberia's financial ecosystem in relation to financial inclusion and MSMEs, the following section will examine the key challenges and constraints for each of Liberia's financial institutions in servicing them and explore future solutions and opportunities.

Commercial Banks

Key challenges/constraints in servicing the MSME sector

Non-bank credit only institutions (NBCI) are more geographically accessible than commercial banks and account for a higher percentage of borrowing, even though their lending rates are higher. Commercial banks hold approximately 90% of Liberia's financial assets but the average borrowing rate is only 14%, in comparison to 25% for MFIs and 40% for credit unions.³⁶ The low borrowing rate at commercial banks is a consequence of their geographical inaccessibility and the banking sector's inexperience with lending to the MSME sector because they have historically preferred disbursing bigger loans to lenders with both a credit history and collateral.

³⁶ <https://documents1.worldbank.org/curated/en/405051583394983755/pdf/National-Financial-Inclusion-Strategy-2020-2024.pdf>

Additionally, because credit from commercial banks targets the larger trade sectors and MFIs provide only small loans, there is a gap in credit facilities for middle range loans from \$7000 – 300,000. Except for the Access Bank, banks typically provide loans between \$200,000 – 300,000. From a typical MSME borrower's perspective, even when credit is available, interest rates, fees and payment terms can be prohibitively high and securing collateral and the necessary documents may not be viable for small business operators.

Solutions and opportunities for servicing the MSME sector

Commercial banks have an extremely limited customer base in Liberia, but there are opportunities for the banks to expand their reach to MSMEs by deepening their partnerships with NBFIs. The banking sector offers more flexible financial solutions to MSMEs through VSLAs, RCFIs and MFIs at reduced rates and requiring lower qualification criteria for smaller loans. Commercial banks could leverage the widespread use of mobile money to offer specific services to MSMEs such as a mobile credit facility.



Mobile Money Operators

Key challenges/constraints in servicing the MSME sector

In Liberia, mobile money operators face similar challenges to the commercial banking sector where liquidity is a major challenge. Because commercial banks play the role of 'super-agents' in the mobile money ecosystem, low cash-in-hand directly impacts the agents on the ground, specifically those in rural areas without access to commercial banks. Due to Liberia's large informal economy, cash is the preferred payment option, which makes using mobile money for transactions difficult.

Solutions and opportunities for servicing the MSME sector

Mobile money operators have the greatest reach of all the financial service providers, which means that they have great potential to meet the unserved MSME sector. In partnership with commercial banks, mobile money providers could extend their services to provide small loans in real time at a reduced cost.



Money remitters

Key challenges/constraints in servicing the MSME sector

Due to the high levels of unemployment and low job prospects, remittances tend to be spent on fulfilling basic needs and buying consumer goods such as food, school fees, transport and clothes. Consequently, the potential saving and investment benefits of remittances are not being truly harnessed. The high level of remittances has created remittance dependency which has left the country and recipients vulnerable to external shocks, when for example, remittances decreased during the COVID-19 pandemic.

³⁷ <https://documents1.worldbank.org/curated/en/405051583394983755/pdf/National-Financial-Inclusion-Strategy-2020-2024.pdf>

³⁸ https://diasporaforddevelopment.eu/wp-content/uploads/2020/11/CF_Liberia-v.2.pdf

Solutions and opportunities for servicing the MSME sector

Presently remittances are cash-based and require infrastructure, which limit its geographical reach and excludes non-city dwellers. Digitising remittances and leveraging mobile money's reach could increase accessibility and support the expansion of the formal remittances sector.³⁷ The high cost of sending remittances is prohibitive and lowering the transaction rates could reduce informal remittances. Lastly, remittances channelled into investment funds or financing created and serviced by the diasporic community can provide MSMEs with the much-needed start-up capital and capacity building they need. The Liberian Diaspora Social Investment Fund, for example, directs remittances into investments in MSMEs, anti-poverty initiatives and skills development programmes.³⁸



Insurance companies

Key challenges/constraints in servicing the MSME sector

Profitability has been a main challenge for the sector. As insurance claims increased, several companies reported net losses and in this context, insurance companies have been unable to diversify or invest in innovative products that target the wider population.

Solutions and opportunities for servicing the MSME sector

At present, the insurance sector in Liberia only services a very small segment of the population due to its limited range of services. There are opportunities for the insurance sector to work with MFIs to provide micro-insurance products, where MSMEs are provided insurance to a specified amount as part of their MFI loan. Insurance companies could also work with RCFIs to provide insurance to the group for a fee, so in instances where the funds are threatened by external shocks, the insurance can help recover pooled savings.

Microfinance institution

Key challenges/constraints in servicing the MSME sector

Many MFIs already operate at a loss, lack sufficient capital and some are indebted to the CBL from acting as a conduit for government-directed lending programmes. In 2017, MFIs had an outstanding loan balance of over \$12 million. Non-deposit taking MFIs struggle to raise capital and are at the mercy of donations or capital injections from their owners. MSMEs are more vulnerable to external shocks and decreases in household income adversely impact loan repayment, limiting capitalisation and savings mobilisation.

Solutions and opportunities for servicing the MSME sector There is an opportunity to service the 'missing middle', because MFI loans are capped at \$7,000 (except for Access Bank loans) and commercial bank loans are generally larger than \$200,000. There is an opportunity for MFIs to extend credit to MSMEs and the individuals that occupy the space in the middle. To address this vacuum, the World Bank MSME project and the Ministry of Finance Development and Planning (MFDP) have piloted a project offering loans up to \$50,000.

Development Finance

Key challenges/constraints in servicing the MSME sector

LEDFC is a formal financial institution and as such has stringent qualification criteria even though they target SMEs. Applicants are required to submit a loan application, business plan, financial statement, cash flow projects, credit references, a copy of their business registration, bank statements, a credit history, and identification documents. By having such rigorous requirements, it limits SMEs from accessing LEDFC loans. The other challenge is that when loan recipients fail to pay back their loans it impacts the organisation's ability to finance more loans and it then needs to secure further external funding sources, which can prove difficult.

Solutions and opportunities for servicing the MSME sector

LEDFC is the only development finance organisation in Liberia and opportunity exists to expand it or supplement it with the establishment of further organisations. In addition to funding, development finance institutions provide a wide range of non-financial services, including technical assistance and skills development which is equally important for the growth of the MSME sector in Liberia.

Foreign exchange bureaus

Key challenges/constraints in servicing the MSME sector

As in Liberia's other financial segments, liquidity and accessibility are the primary constraints in servicing MSMEs and individuals.

Solutions and opportunities for servicing the MSME sector

Due to the nature of foreign exchange, there are no real opportunities for servicing the MSME sector.

Rural Community Finance Institution

Key challenges/constraints in servicing the MSME sector

Even though RCFIs exist in rural areas, they may still be hard to physically access. Like other informal financial institutions that are dependent on member contributions, they are also vulnerable to external shocks caused by payment defaults and non-performing loans.

Solutions and opportunities for servicing the MSME sector

There is a large demand for financial services that can reach the rural population, and many Liberians within this segment of the population save their money outside formal institutions. Domestic resource mobilisation through RCFIs will ensure that customers earn interest on saving and boost the local economy through investment.

Fintech

Key challenges/constraints in servicing the MSME sector

Accessibility is the key barrier to serving the MSME sector, as most Liberians cannot afford mobile data and do not have access to fixed-line alternatives. Therefore the fintech innovations that are meant to increase financial inclusion and optimise small businesses are underused. In addition, the GoL has focused its efforts on mobile money but has not yet created an environment facilitating the development of fintech to increase financial inclusion. Fintech companies thus face many hurdles including long consultation and assessment periods to gain approval from the CBL. The incomplete National Switch has also inhibited the emergence of Liberian fintech solutions.

Solutions and opportunities for servicing the MSME sector

Fintech offerings offer MSMEs the opportunity to overhaul their operations by reducing costs, improving efficiency,

and increasing transparency. There are various applications readily available to streamline, digitise business functions and close the financial gap. Jumo (used in East and West Africa)³⁹, for example, understands that accessing credit and capital is challenging for MSMEs and has created a platform in partnership with a range of financial service providers which aggregates funding options for them at the lowest possible cost. The Vuleka (used in South Africa)⁴⁰ and Sokowatch (used in East Africa)⁴¹ apps were specifically made to digitise and increase efficiency in micro and small businesses. Both platforms facilitate greater market access for informal traders, provide training and build up a credit profile within the app so informal traders can eventually access loans. Fintech offers many MSMEs access to financial services that would otherwise be too expensive or unavailable to them.

Village savings and loan institutions

Key challenges/constraints in servicing the MSME sector

Village Savings and Loan Associations are extremely vulnerable to external shocks. For instance, during the Ebola crisis all financial activity ceased, and numerous participants had to divert funds to service household or healthcare expenditures. Membership absenteeism decreased the purchase of shares, and subsequently the disbursement of microloans. Shocks also impact the recapitalisation of the pooled funds, because in a situation where participants have become illiquid, it becomes impossible to recover debts and restart the cycle. As a

result, some people will essentially be short-changed and will fail to service their businesses.

Solutions and opportunities for servicing the MSME sector

VSLAs play an important role in domestic resource mobilisation, allowing members to save and invest those savings to start or expand a business. The cyclical nature of the microloans means that MSME operators can anticipate future funds and plan to build their businesses accordingly or protect their businesses by providing a financial buffer in during difficult periods.

Credit unions

Key challenges/constraints in servicing the MSME sector

Just like VSLAs, credit unions are highly vulnerable to external shocks. In response to external shocks members can suddenly withdraw funds or have to default on their contributions because they become illiquid and need to shore up finances or divert resources.

Solutions and opportunities for servicing the MSME sector

Credit unions have partnered with mobile money providers to offer services digitally and expand their reach to people further afield. Credit unions have also partnered with commercial banks and now offer their services from a formal institution. These services could be expanded to reach more MSMEs.



Conclusions: Implications for ASM in Liberia

Key challenges and constraints in servicing the ASM sector

Globally, the ASM sector is habitually financially excluded or underserved because financial institutions find that the risk-reward ratio is too low to engage with ASM actors. In Liberia, FIs have struggled to extend their services to the MSME sector, due to challenges with accessibility, informality, liquidity, infrastructural weaknesses and external shocks. As in other MSME sectors, the informal characteristics of ASM are a critical barrier to accessing financing from commercial banks. ASM operators typically lack the legally-recognised corporate structure, a record of financial accounts, access to acceptable collateral and financial plans needed to access credit from banks. Artisanal miners are highly mobile and generally operate seasonally which increases their risk profile, and often disqualifies them for a bank loan. In Liberia, like most MSME operators, ASM miners can only access finance from Liberia's NBFIs, specifically the community-based facilities such as RCFIs, VSLAs and susu groups. Due to the nature of community-based NBFIs, they are particularly vulnerable to external shocks which affect its membership. Recent shocks including the Ebola virus and then COVID-19 pandemic resulted in a sharp reduction in membership contributions and higher instances of non-performing loans, which impact future recapitalisation.

Solutions and opportunities for servicing the ASM sector

Global finance has a generally negative view of the ASM sector, as FIs lack knowledge of the sector and its importance to local economies. In addition, because of their historical relationship with LSM they have pigeon-holed ASM as a far greater risk, and banks have been very inflexible on their lending terms. In Liberia, there are further opportunities for FIs to engage with ASM, although cost and collateral are the greatest barriers, but these could be overcome through the creation of tailored solutions for the sector. FIs including MFIs could create an informal prequalification criterion such as alternative collateral agreements for ASM, by accepting future purchase or off-take agreements, or geological studies (defining a mineral reserve, which is the basis of a mineral asset). FIs could also offer ASM operators rent-to-own credit options.⁴² MFIs could reach operators through a type of group sharing model, where a group of miners borrow money to buy equipment together and the risk of repayment is shared among the members.⁴³ The group lending scheme acts as a risk aggregator making lending to apparently riskier people more attractive to FIs. State and organisation-supported mining funds are an alternative source of financing that has been successfully used in other countries. The government or development organisation issues a line of credit which specifically targets the sector, for costs like licenses and equipment and thereby expands financial services to ASM.

³⁹ <https://jumo.world>

⁴⁰ <https://vuleka.com>

⁴¹ <https://sokowatch.com>

⁴² https://www.resolve.ngo/docs/ppa_-_barriers_and_opportunities_for_artisanal_access_to_finance_-_april_2019_-_final.pdf

⁴³ https://www.planetgold.org/sites/default/files/2020-06/Access-to-Finance-Options-for-ASM_FV.pdf

Part 3

Global review of existing financial inclusion initiatives

This section of the research presents a global review of existing financial inclusion initiatives which are specifically relevant to the ASM sector.

7 Survey of global financial inclusion initiatives

A survey was undertaken to identify financial inclusion initiatives targeting MSMEs which are relevant to the ASM sector (refer to Appendix 2). This survey collected information on the following:

- The form of initiative;
- Who developed it;
- Who the implementing partners were;
- Where it was implemented;
- Its key features (e.g. any specific products);
- Its degree of success;
- Its key challenges;
- Any specific lessons and learnings for financial inclusion in the ASM sector.

Financial inclusion initiatives relevant to ASM take the form of:

- Government-backed schemes,
- Development finance-backed projects,
- Private equity financing,
- Local and regional credit schemes,
- Downstream buyer projects,
- Microfinance, and
- Mobile money.

Each type is discussed in more detail below and includes references to a specific initiative with successful characteristics. Formal banking institutions are largely absent from the ASM space due to the remote location of the activities and perceived risk of the ASM sector.

7.1 Government-backed schemes

Several African countries, such as Mozambique, Namibia, Zambia, South Africa (refer to Financial Inclusion Data Collection Matrix appendix document for more details) have created dedicated funding mechanisms for ASM with varying levels of success. Due to their low levels of production, low levels of loan repayment, corruption and problematic selection criteria, running these government-backed facilities was unsustainable and they are all now defunct. However, The National Mining Company of Chile (ENAMI) is one of the oldest state-sponsored mining facilities and provides a good example of how to foster financial inclusion and sustainable development. It is examined in more detail below.

Key drivers

The National Mining Company of Chile (ENAMI) is a state-owned enterprise established in 1960 to provide services to the country's ASM sector. ENAMI is a dual-purpose enterprise aiming to increase profitability and enhance sustainability in the mining space implemented through providing financial and extension services to mining businesses in Chile. Mining is Chile's most productive industry and small-to-medium sized operations are a major contributor to the economy and employment generating approximately 50,000 jobs. Small-scale operators produce approximately 6% of Chile's copper, 20% of its gold, 10% of its silver, 32% of its iron and 100% of the magnesium it produces.⁴⁴ ENAMI recognised that to fully harness the

⁴⁴ https://www.enami.cl/SobreENAMI/Documents/Modelo%20ENAMI%20buenas%20pr%C3%A1cticas%20para%20sostenibilidad%20PYME%20minera%20-%20CEPAL%20-%20Meller.pdf?_x_tr_sl=es&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc

ASM sector’s development potential, facilities should be created for miners to access financing and to process and sell their metals and minerals.

How it works

ENAMI operates in 52 locations across Chile. Chilean state policy allocates resources from the national budget for the SME Development Programme, spearheaded by ENAMI. ENAMI’s primary aim is to enhance small-scale mining in Chile, which it does by:

- a. Financing operations,
- b. Production including mineral processing and smelting,
- c. Commercialisation including the purchase and sales of minerals.

ENAMI provides credit to support the start-up of viable projects including:

- Loans for operation: a line of credit aimed at stabilising cash flows, financing purchases of minor equipment and other inputs to ensure the continuity of the operation of the mine and processing plant;
- Credit to development and prepare mines: a credit line for financing the surface and underground works necessary to allow access to the mineralised sectors;
- Credit for investments: financing for the acquisition and renovation of equipment, production machinery and technological innovations;
- Emergency credit: a credit facility for unforeseen situations e.g. caused by natural catastrophes.

ENAMI loans range between \$25,000 up to as much as \$200,000. The applicant can apply at the regional offices, and must have a financial statement which demonstrates their liquidity. Loans agreements typically require the borrower to pay back the loan within two years, however small-scale miners are not charged interest because they are considered development funds.

ENAMI is a holistic operation and in addition to financing, it conducts district studies collecting basic geological information about mining districts, determining

metalogenic models that allow the exploration of unrecognised deposits, and planning reconnaissance and development actions. These district studies include:

- Geological mapping of surface and interior mine detail, including topographical survey;
- Sampling and chemical analysis;
- Determining mineral resources and reserves in mines within the sector study;
- Proposing a specific exploration or reconnaissance programme for each deposit and mine;
- Integration of databases and geo-referenced drawings, management of information and final editing of plans, plant profiles and topographies under the GIS platform.

It runs a mine reactivation programme which helps miners restart operations in previously defunct sites. ENAMI also provides extension services such as advice on the preparation and evaluation of projects, safety and environmental training and reserve appraisals.

A relationship is cultivated between ENAMI and artisanal miners. Initial contact occurs when a staff member visits the mine site to assess the deposit and then continues to visit annually. ENAMI also provides the miner with ore samples to independently test to ensure they are not cheated by the assessed grade of the ore. Miners are paid promptly for minerals sold to ENAMI, 50% of the value after the first five days, with the remainder after 12 days, which is important for the liquidity of a small mine.

The Ministry of Mining and ENAMI signed an agreement which facilitates lease agreements between ASM and 13 large scale mining (LSM) companies. This means that under the administration of ENAMI, small-scale miners can become more productive and efficient without the financial burden. The miners only have to download and complete an online application form, and submit it to their local ENAMI office.

The Ministry of Mining and ENAMI have also provided resources and technical assistance to 1000-2000 ASM miners through the Artisanal Mining Modernization Assistance Programme (Pamma). Approximately \$200 million was spent on technical assistance programmes for ASM miners. Technical assistance is provided through a

consultancy and is project-specific. It can include:

- Advice on mining property;
- Geological and topographic advice;
- Exploitation method study;
- Study of unitary operations (such as fortification, drilling and blasting, loading, transportation and extraction, ventilation, drainage, road and access design);
- Commercialisation;
- Business management of mining business;
- Increasing the added value of the product;
- Activities related to the value chain of the mining business.

Key Findings

Through the creation of ENAMI, the Chilean government has invested in the sustainable development of the country’s mining sector. Other countries have tried to implement similar schemes, but ENAMI is unique because of its long-term vision and its extensive range of support services.

ENAMI's programmes and instruments have been

designed to suit small-scale producers as they respond to the fundamental restrictions that such mining faces such as the lack of knowledge of reserves, use of rudimentary techniques, lack of training, lack of liquidity and financial credit. ENAMI has lowered the barriers to formalisation by providing financial services to miners at no cost.

Lessons Learnt

The creation of ENAMI has changed the relationship between the mining sector and the State, where the image of an inaccessible inactive state has been replaced by a capable state enterprise. ENAMI was created to develop mining SMEs and has significant resources, such as productive assets, technicians, and the backing of state finances. ENAMI has also ensured that 90% of its technical workers and staff are based in areas where SMEs operate instead of the headquarters in the capital city.

ENAMI has shown that institutional support to formalise ASM through a combination of technical assistance, financial services and access to market can create a productive sector that can work successfully with LSM.

Strengths <ul style="list-style-type: none"> • Long-term vision • Government backing • Geographical reach • Well-resourced 	Weaknesses <ul style="list-style-type: none"> • Limited ability to replicate and scale • Focused on SMEs and not ASM
Opportunities <ul style="list-style-type: none"> • Leveraging success with PAMMA and providing financial services to ASM operators 	Threats <ul style="list-style-type: none"> • Becoming unsustainable due to high costs

7.2 Development finance-backed projects

Multilateral organisations finance a wide array of projects, especially in sub-Saharan Africa, with varying points of focus depending on the organisation's remit. The World Bank and European Union have financed projects in the ASM space, and the African Guarantee Fund (AGF) has been a long-standing feature of African financing with a specific component targeting SMEs in mineral development.

Key drivers

AGF was established in 2011, with funding capital of \$50 million from the AfDB, the governments of Spain and Denmark. It was established to address the mismatch of supply and demand in MSME financing in Africa. It is a permanent regional conduit for channelling guarantees and technical assistance to financial institutions in Africa with the objective of generating enhanced growth in the SME sector, thereby creating increased employment opportunities in the economy.

How it works

The AGF provides:

- Loan portfolio guarantees to Partner Lending Institutions (PLIs),
- Financial guarantees to PLIs,
- Bank raising guarantees;
- Equity guarantees;
- Capacity development support for PLIs, and
- Capacity development support for SMEs.

Through the provision of credit lines, partial and portfolio guarantees, the AGF enables and incentivises its partner FIs to lend to SMEs. The capacity development assistance arm is offered to PLIs to support them in order to mitigate their operational risks when lending to SMEs and to help them increase their SME portfolio. The AFG also offers capacity building assistance to SMEs to equip them with

the necessary financial acumen.

The AGF has a rigorous partners selection process and only selects those PLIs that have shown a clear commitment to growing their SME portfolio. Equally, the SME is also required to be a formally recognised enterprise.

In 2018, the AGF partnered with the ACP-EU Development Minerals Programme on a guarantee scheme for SMEs in the mineral sector. The AGF made \$12 million in credit guarantee facilities available to PLIs in Cameroon, Guinea (Conakry), Nigeria, Uganda and Zambia to specifically be disbursed to SMEs working in the development minerals sector.⁴⁵ This programme will also invest \$200,000 on capacity building to enable the PLIs to correctly assess credit and risk in the mineral sector. The AGF will work with borrowers to improve their entrepreneurship skills, including accounting, marketing, sales promotion and purchasing.⁴⁶

Key findings

As of 2019, the ACP-EU Programme has supported more than 6000 ASM operators (half of whom are women) to formalise, and has worked to build the capacity of 164 savings and loans cooperatives, who act as the intermediaries for disbursing small loans to the miners.⁴⁷ Since the launch of the AGF, it has partnered with financial institutions in 38 African countries and more than 4,000 SMEs have already benefited from its loan guarantee facilities.

Lessons Learnt

The provision of partial guarantees from a donor source to financial institutions incentivised FIs to increase debt and equity investments to SMEs.

The capacity development arm of the financing was an important aspect of the programme, as it helped FIs understand, appraise and manage SME portfolios. It also improved SME financial product offerings as PLIs could

⁴⁵ <http://www.acp.int/content/us12-million-loans-support-thousands-small-businesses-quarrying-development-minerals-africa>

⁴⁶ <http://www.acp.int/content/us12-million-loans-support-thousands-small-businesses-quarrying-development-minerals-africa>

⁴⁷ https://www.planetgold.org/sites/default/files/2020-05/Access-to-Finance-Options-for-ASM_1.pdf

better understand the short- and long-term needs of the SMEs.

The ACP-EU Development Mineral Scheme, disbursed through the AGF, required miners and mineral producers

to have valid operational permits, which immediately excludes large swathes of the ASM community. However, phase 2 of the ACP-EU Development Mineral Programme currently being implemented by the UNDP specifically targets ASM.

Strengths <ul style="list-style-type: none"> • Tailored for SMEs • Has donor backing • Well-resourced • Capacity building to service SMEs 	Weaknesses <ul style="list-style-type: none"> • Focused only on SMEs and not ASM
Opportunities <ul style="list-style-type: none"> • Create smaller loans for ASM • Expand into more African countries 	Threats <ul style="list-style-type: none"> • Becoming unsustainable due to high costs • End of donor funding

7.3 Private equity financing

There is a history of private sector actors, specifically medium to large scale mining companies working with ASM. In countries like Tanzania, Guyana and Ghana (refer to the Financial Inclusion Data Collection Matrix appendage document for more details), larger mining companies have provided ASM operators with training, purchased ASM minerals, have allowed ASM operators to use or borrow their machinery and have leased parts of their concessions for ASM. In many African countries, LSM companies are required by law to enter into tributer (or lease) arrangements with ASM miners enacted by an LSM.

Key Drivers

GemFair⁴⁸ was established in 2018 by the De Beers Group to support the formalisation of ASM in Sierra Leone. GemFair aims to raise the standard of the ASM sector by using an app to track and trace ASM diamonds. Additionally, participants are required to meet minimum operating and ethical standards prescribed by De Beers.

Through enhanced traceability and the creation of a

⁴⁸ https://gemfair.com/#our_promise

transparent value chain, GemFair can connect the ASM sector with reputable buyers, ensuring access to fair market prices.

Part of the GemFair initiative is the Forward Purchase Programme (FPP) which was created in recognition of the financial access barriers ASM miners in Kono, Sierra Leone were facing. Due to the informal nature of ASM, the miners lacked the necessary criteria to access formal credit facilities, which meant that their only option was informal financing, which has traditionally supported pre-financing ASM activities but can be predatory and create unwanted dependencies. To bridge the financing gap, GemFair developed a portfolio risk-based financing tool, where GemFair enters into Forward Purchase Agreements (FPA) with selected licensed ASM miners. Under the contract, the miners and GemFair agree on a workplan and accompanying budget for the season which gives the miner access to sufficient working capital for the duration of at least one mining season of approximately nine months. In exchange, GemFair has the right to purchase the miner's future diamond production during the contract period at a price that is equivalent to market value.

How it works

The FPP works as a capital advance, and once the diamond is logged and evaluated, GemFair withholds 70% of the value of the diamond (or up to the amount in the FPA) and the risk premium, calculated on the historic default risk of the entire portfolio of participant miners. The risk is calculated in accordance with development financing standards. By receiving 30% of the value of the diamond, the miner can put the money back into his business or cover expenses. After the miners pay back the advance, they receive the value of the diamond in full. However, if due to the nature of the cash advance, if the miner cannot pay back the money, there is no penalty as long as they can show no breach of contract. If there is a breach of contract, such as the production being significantly lower than what was agreed, the miner will be required to repay the advance and be disqualified from future financing.

Key Findings

The FPP is still in its pilot phase and has entered into FPAs with more than 20 miners over two mining seasons. GemFair reports that initial findings are positive: 1) capacity building has enhanced the formalisation of business practices and miners have introduced records such as wage sheets and purchase logs; 2) FPA participant miners are reaching GemFair’s minimum operational standards in contrast to non-participants; 3) FPA participants are using the funds to become more productive as FPA sites have yielded twice as many diamonds as non-FPA sites; and 4) the data suggests that the FPP could become financially sustainable as sites that were not able to pay back the

⁴⁹https://www.trafigura.com/media/3127/2020_trafigura_state_of_artisanal_and_small_scale_mining_sector_report.pdf

Strengths <ul style="list-style-type: none"> • Tailored to ASM • Well-resourced • Existing trust between stakeholders • Capacity building • Constant communication and monitoring 	Weaknesses <ul style="list-style-type: none"> • Accessibility issues with ASM sites further away from centres • Payments had to be made in cash due to high levels of financial exclusion
Opportunities <ul style="list-style-type: none"> • Pilot testing in different areas • Potential to upscale 	Threats <ul style="list-style-type: none"> • Miners not being able to pay back their loans

advance were subsidised by the higher yielding sites and the risk premium, allowing GemFair to break even.⁴⁹

Lessons Learnt

FPP worked because GemFair was already an active participant in ASM in Kono and a trust base already existed between the miners and GemFair. It conducted site visits weekly to ensure that any irregularities were detected and remediated quickly, and also conducted training to ensure miners understood the programme properly. Through this process GemFair created an environment where ASM operators felt safe and fairly treated and upheld their commitments to sell all their diamonds to GemFair.

GemFair found that accessibility was an issue for sites that were further away from the regional office, where it was more difficult to monitor activities and harder for miners to access GemFair services to sell their diamonds. This may hinder the potential scalability of FPA to other, more rural, sites. Additionally, ASM in Kono was desperately underserved by financial services, including even mobile money, and therefore GemFair had to disburse payments in cash, which is more time-consuming to conduct in terms of due diligence, because of reduced transparency. The FPA has produced positive results and illustrated that improved financial access for ASM operators can improve occupational health and safety standards, enhance transparency and increase production. The pilot demonstrated its potential to become financially sustainable, and indicates that there is potential to upscale to other sites in Sierra Leone and across Africa.



7.4 Local and regional credit schemes

Historically, local and regional credit schemes have existed in various forms, by various names in rural communities around the world, sometimes known as tontines, susu group and asue in Africa. Since the 1990s, large international organisations and NGOs have promoted the use of VSLAs in rural communities around the world. The reason for this is that VSLAs are specifically geared to overcome the financial and physical barriers that formal institutions face in servicing rural populations. VSLAs provide rural populations with generally inaccessible financial solutions, specifically savings, credit and access to investment vehicles. In the long-term, VSLAs can boost local economic development, through investment in rural MSMEs. VSLAs have commonly been used to close financial access gaps in ASM communities in Tanzania, Ghana, Guyana and Mozambique (refer to Financial Inclusion Data Collection Matrix appendage document for more details). Autonomisation des femmes par l'épargne et le crédit communautaire responsable (AFECCOR), discussed in more detail below, is an example of a VSLA initiative that was used to bridge the financing gap in remote mining areas.

⁵⁰ Reichel, V. (2020). Financial inclusion for women and men in artisanal gold mining communities: A case study from the Democratic Republic of the Congo. *The Extractive Industries And Society*, 7(2), 412-419. doi: 10.1016/j.exis.2019.05.003

Key Drivers

IMPACT, the Canadian NGO, led a pilot programme from 2017-2019 to establish community-led savings and loans services in selected mining areas in the eastern part of the Democratic Republic of Congo (DRC). Due to the location and risks associated with ASM, formal banking channels rarely served the ASM sector. In lieu of formal FIs, ASM actors have been known to trade using high value minerals such as gold and diamonds, which in a conflict area such as the DRC, are at risk of being smuggled or financing conflict if they stay in circulation and are not captured properly.⁵⁰

AFECCOR was the financial inclusion component of IMPACT’s ‘Just Gold’ Project which was being implemented in DRC’s Ituri Province. Just Gold supported formalisation initiatives and gender mainstreaming interventions in the artisanal and small-scale gold mining (ASGM) areas. AFECCOR was created at the request of the Just Gold programme participants, where they asked IMPACT to address the high levels of financial exclusion in the eastern DRC. The mining communities in the area were largely financially excluded, and only 3-5% of community

members even had a bank account, which dropped to 3% for male miners and 1% for female miners, and when contrasted with the 26% of Congolese people that access formal banking channels, a stark financial divide was evident.⁵¹ Additionally, while mobile money and other technological offerings are often touted as the financial inclusion solution for the rural poor, phone ownership remained low in the remote areas of the eastern DRC and many of the Just Gold participants were illiterate and required an initiative that took that into consideration. With that in mind, IMPACT launched a savings and credit programme using the VSLA model to work in concert with Just Gold programme.

How it works

AFECCOR was implemented over a two-year period with funding from the European Partnership for Responsible Minerals (EPRM) and later Dell. IMPACT began with an initial ‘sensitisation period’ where more than 1,400 mine community members across 14 mining camps and nearby villages enrolled in the programme. 50 VSLAs were created, each consisting of 20-35 members that chose to group together. AFECCOR worked in the same way as a traditional VSLA, where members contributed a fixed amount of money on a weekly basis. The group’s treasurer was responsible for the collection box which was secured by a triple key holder system. After approximately three months or once enough capital had been generated, the VSLAs would start lending, the members would pay back the loan with interest, typically 10% for easy bookkeeping, which would get re-entered into pooled savings and distributed at the end of the year. The VSLAs also set up a separate social fund vehicle, where members’ contributions could be withdrawn to cover emergencies such as funerals, weddings, and illnesses, and which did not require repayment.

To access a VSLA loan, the applicant would submit an informal business plan outlining their business idea. The group would then have to approve it, and if agreed, the loan was disbursed to the borrower. As the VSLA had to service many community members within a single financial

cycle, the borrower was required to pay back the loan with interest within four weeks of receiving the funds.

Similar to most VSLAs, AFECCOR made a special effort to include women (although groups were mostly gender mixed), because rural women and particularly those participating in small-scale mining, are overlooked and underpaid because of gender norms. IMPACT therefore added components recommended from the International Rescue Committee’s gender-based violence toolkit to the programme to help empower female participants. The programme included numeracy training, workshops on gender norms and women’s economic participation and female participants also received business skills training. AFECCOR also actively supported female leadership of the VSLAs, and as a result 80% of the gender-mixed groups had women-led management committees, 65% of the community volunteers that received training by IMPACT to support the VSLAs were women and childcare was available to women during the sensitisation training sessions.⁵²

Key Findings

AFECCOR’s assessment found that the project was generally successful and well received by the mining communities.

- Of the 50 savings groups, two dissolved after only three months and six of the remaining groups had an absenteeism rate higher than 50%.⁵³
- The majority (72%) of the loans were disbursed to women, but men took out loans that were on average 37% larger.
- Many women accessed secondary loans during the first lending cycle.
- Three groups did not grant any loans during the cycle because they considered it too risky or did not trust the other group members.
- Due to the short repayment terms, many of the groups experienced slow reimbursement and most lenders required an extension. However, loan repayment reached 98% at the end of the cycle.

⁵¹ Ibid
⁵² Ibid.
⁵³ Ibid.

Lessons Learnt

AFECCOR’s success built on IMPACT’s Just Gold initiative, which meant that IMPACT already had an existing relationship with the mining communities in the region, and because they had already developed a trusted status and positive reputation, community members were willing to actively participate in the programme. Additionally, the 35 AFECCOR staff on-the-ground were residents of the project zones and would regularly interact with the VSLAs, ensuring that group members were continually motivated and involved.

IMPACT’s findings suggest that the VSLAs improved the livelihoods of the participants, as the thousand small loans that were disbursed were used to invest in new or existing businesses or to pay for essential services. Having access to the social fund also meant that members did not need to divert money from their businesses to cover their medical expenses or other emergency expenditures. IMPACT created the social fund to create a social safety net and build confidence in borrowing for business investment

without worrying about external shocks. However, as the social funds were oversubscribed, members were concerned about being able to access funds in cases of emergency.

In the few instances where members did not or were not able to pay back the loans, conflict within the groups arose and to mitigate this, VSLA management paid back the defaulted loans on behalf of their members which is an unsustainable practice.

Due to its special focus on women participants, IMPACT found that women were more loyal to the programme, and they had a lower dropout rate. Although men earned more, women made higher average contributions to savings and over 72% of the loans were disbursed to women.

VSLAs are typically built upon social solidarity and social cohesion. The AFECCOR groups were self-selected to foster this feeling, and most members also reported improvements in their social environment due to the connections they made in the group.

<p>Strengths</p> <ul style="list-style-type: none"> • Focused on rural mining communities • Pre-existing trust between stakeholders • Capacity building and financial literacy training • Constant communication and monitoring • Fostering social solidarity • Geographic reach 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Slow and late repayment • Conflict in the groups because of non-payment • Groups did not take out loans due to distrust in the group
<p>Opportunities</p> <ul style="list-style-type: none"> • Potential to upscale to other rural mining communities 	<p>Threats</p> <ul style="list-style-type: none"> • External shocks impede miners’ ability to pay back loans

7.5 Downstream buyer projects

Downstream buying arrangements are uncommon in ASM, due to the high level of risk, distrust between businesses and ASM miners, and high start-up costs. The Better Gold Initiative for ASM, Cartier's initiative in Goldlake Eurocantera, Honduras and the Pamuan Jayan Panners Collective in Indonesia, are the three main initiatives identified in ASM. Downstream buyer arrangements typically aim to enhance social circumstances for mining communities and are linked to improving ethical and environmental practices more broadly. Buyers are willing to pay a premium for these minerals because the practices used in their production are aligned to their philanthropic or brand vision. The Pamuan Jayan Panners Collective is an example of a downstream buyer programme which successfully increased the incomes of its participants and reduced mercury use in Indonesia and will be discussed further below.

Key drivers

In Indonesia, approximately half a million people are directly involved in ASM, with an additional three million people deriving indirect benefit from ASM activities.⁵⁴ ASGM is the central livelihood activity in the Central Kalimantan Province, however data collected by the local NGO Yayasan Tambuhak Sinta (YTS) indicated a clear gender divide in accessing and controlling both mining resources and the income generated from mining. Gender inequalities between men and women miners are common in the sector and prevalent all around the world.

In Tewang Pajangan, male miners outnumber the women 10 to 1 with an estimated 50 women aged between 25-40 years old working on the ASGM site. Women miners lack access to resources, education, capital and skills training and are therefore unable to perform intensive or mechanised mining activities and are relegated to working as panners. For this reason, women miners generate less income compared to their male counterparts who use machinery and the mine bosses who are the capital investors and buyers. The miners in the Central Kalimantan

Province lack access to capital and the miner bosses in Tewang Pajangan are the only sources of financing. This form of borrowing is often predatory and exacerbates power asymmetries between the miners and bosses. Due to their low status as mere panners, and inherent gender barriers women are particularly disadvantaged and struggle to access financing through even informal vehicles such as the miner bosses and credit unions.

In an effort to overcome the lack of financial access in the area, YTS partnered with the Canadian International Resources and Development Institute (CIRDI)⁵⁵ to pilot a downstream buyer model programme to empower women miners and panners. YTS identified an opportunity for a Bali-based jewellery designer willing to buy gold from the panning group at a premium through a buy-back agreement.

How it works

Baseline data was collected by CIRDI as part of their Capacity Building for Multi-level Governance of ASM in Indonesia project. This data was supplemented by a needs assessment, community consultations and focus groups, which indicated a significant gap between the income earned by men and women miners. This was the situation even though women panners were the primary earners of their households.

During the preparation phase women miners were organised into a cooperative, which involved registering the collective with the village head and the Indonesian government. This conferred legal status on the group, enabling them to open a bank account and pay taxes.

The capacity and trust-building stage involved a facilitated discussion between YTS and the women miners, to understand the nature of the agreement between the collective and Gardens of the Sun, the Bali-based jeweller. The panners worked together with YTS to draft the cooperation agreement.

During the finalisation phase, members of the cooperative met with the owner of Gardens of the Sun and agreed the terms of the relationship. Gardens of the Sun in turn

⁵⁴ <https://cirdi.ca/wp-content/uploads/2020/05/ASM-Access-to-Finance-Indonesia-Use-Case-11052020-3.pdf>

⁵⁵ CIRDI - <https://cirdi.ca/>. The Canadian International Resources and Development Institute (CIRDI) is a centre of expertise on natural resource governance. It works at the request of governments that seek to strengthen their capacity to govern and manage their natural resources for the benefit of their people.

agreed to buy gold recovered through a mercury-free process at a rate 20% higher than local market value and to provide an interest free capital loan to cover the initial operation costs of the equipment needed for mercury-free gold processing. The loan repayment was set at a 10% deduction of the gold payment every month. Gardens of the Sun was willing to agree to these terms as an 'ethical' jeweller, willing to invest 10% of its profits in social impact projects and the owner was specifically interested in advancing women's rights and supporting the collective. The collective was then provided with technical assistance on how to use direct smelting instead of mercury to process gold. The women made their first sale to the jeweller in 2019 but YTS had to work closely to support the collective for a year before they could carry out transactions independently.

Key findings

YTS⁵⁶ reported that the project was successful, providing the following measures of achievement:

- By the end of November 2019, the cooperative was able to pay off its initial capital loan, which was an earlier date than anticipated;
- The group had accrued capital of \$1,650;
- The collective expanded with 15 additional people joining, bringing the total to 25;
- The capacity building, financial literacy and extra income had allowed the women in the group to better meet their financial needs;
- The group has already requested a second capital loan to enable them to scale up membership and production;
- The group has also begun discussions on using their profits to develop a Savings and Credit Cooperative Organisation (SACCO).

Lessons Learnt

The programme was successful because it was built on strong partnerships between stakeholders: the miners,

YTS, Gardens of the Sun and village leaders. It would not have worked without the level of support Gardens of the Sun provided and most buyers are not willing to pay above market price, provide an upfront capital investment and enter a buy-back commitment with gold sellers.

The programme did not disrupt any pre-existing mining system, as it targeted a small group of women who were already part of the value chain. Larger operators and semi-mechanised miners still yielded higher amounts of gold and profits.

YTS's supporting role was important. The organisation worked closely with the collective throughout the programme, conducting capacity building, providing technical assistance, and regularly visiting or communicating with the group to ensure that they were supported and any problems were resolved.

In addition, the local government played a critical role in the success of the programme. They helped with the formalisation of the group, prepared documents needed for tax deeds and the group bank account as well as facilitating the resolution of internal group problems and broader issues in the community.

YTS identified and addressed several risks within the programme design. They found that there was general community mistrust of the intervention, specifically from the male miners and miner bosses. To address this, the NGO opened channels of communication between village leaders and local authorities to clarify the scope and impact of the programme, and to assure the male miners that they would not have negative financial impacts.

Secondly, corruption was an area of concern, until YTS implemented a transparent payment system where every purchase of operational equipment was tracked and recorded in the collective's ledger. All payments were made directly to the group bank account, which could only be accessed by the collective's chairperson and treasurer.

⁵⁶ <https://cirdi.ca/wp-content/uploads/2020/05/ASM-Access-to-Finance-Indonesia-Use-Case-11052020-3.pdf>

Strengths <ul style="list-style-type: none"> • Focused on rural mining communities • Strong partnerships between stakeholders • Capacity building and financial literacy training • Constant communication and monitoring • Fostering social solidarity • Geographic reach 	Weaknesses <ul style="list-style-type: none"> • High level of dependence on the implementing NGO • High start-up costs
Opportunities <ul style="list-style-type: none"> • Potential to upscale to other rural mining communities • Potential to grow collective 	Threats <ul style="list-style-type: none"> • Dependent on a specific type of gold buyer

7.6 Microfinance

Microfinance has commonly been used to bridge the financial access divide between rural and urban people. There are many examples of microfinance schemes as part of agricultural development or rural livelihood programmes. However beyond hypothetical reasoning⁵⁷ microfinance has not been deployed in ASM for several reasons. The characteristics of microfinance are largely unsuitable to the sector as microcredit facilities are usually

short-term, high interest-bearing loans for working capital (the high interest rates are driven by the work required to service large numbers of small loans), normally requiring collateral and under such conditions many ASM operators will not be able to repay these loans. Additionally, due to ASM's particular practices and challenges such as migratory patterns, lack of land ownership, varying legal status, poor financial literacy, remote geographies, and unacceptable levels of collateral, MFIs find it difficult to service the ASM sector.

Strengths <ul style="list-style-type: none"> • Focused on financial inclusion 	Weaknesses <ul style="list-style-type: none"> • High interest rates • Collateral requirements • Ill-suited to ASM
Opportunities <ul style="list-style-type: none"> • Can support interest-accruing savings 	Threats <ul style="list-style-type: none"> • Possibility of loan non-repayment

⁵⁷ Spiegel, S. (2011). Microfinance services, poverty and artisanal mineworkers in Africa: In search of measures for empowering vulnerable groups. *Journal Of International Development*, 24(4), 485-517. doi: 10.1002/jid.178; Munyoro, G., Nyandoro, Z., Tanhara, J. R. and Dzapasi, Y. M. (2017). The significance of the Microfinance Sector on the Development of Artisanal and Small Scale Mining in Zimbabwe: A Case of Mashonaland West. *Development and Resources Research Institute Journal, Ghana: Vol. 26, No. 3 (4), Pp. 29-43*

7.7 Mobile money

Since the success of M-Pesa⁵⁸ in Kenya, telecoms operators in African countries have tried to replicate its achievements. Although the results have varied across the continent, there has generally been a high uptake of mobile money solutions. Two-thirds of all mobile money transactions are conducted by users in sub-Saharan Africa⁵⁹ and roughly one in ten African adults have mobile money subscriptions.⁶⁰ Mobile money has been widely used because it provides access to the financially excluded using basic telecom infrastructure, rudimentary technology and a geographically accessible agent-system. Due to this accessibility, many governments and development partners have advocated its use in financial inclusion initiatives, specifically in agricultural and livelihoods projects, including in Kenya, Mozambique and Nicaragua. However, so far there has only been one pilot project targeting ASM communities which is currently underway in Tanzania.⁶¹ The pilot is a joint venture between Halotel, NMB Bank, Gottek, and is coordinated by the Tanzanian government. The pilot includes 600 miners from around the country and involves them opening a bank account with NMB Bank and buying a linked Halotel SIM card and bundles specially designed for miners which will be loaded with information on mining and prices. Profits from the sale of the SIM card and mining-related bundles are intended to create a fund from which the miners can apply for loans, and include intensive financial inclusion training. Further information is not yet available. This pilot illustrates the belief that there is potential application for mobile money in ASM, and possibilities to learn from financial inclusion initiatives in comparable sectors. The Kilimo Booster Loan, is an interesting example because it combines microfinance and mobile money to provide financial access to smallholder farmers in Kenya.

Key Drivers

The Kilimo Loan is a partnership between the Grameen Bank and Musoni (a Kenyan microfinance company) with a

financial product which targets smallholder and emerging farmers, who form a large segment of the market as more than 75% of Kenya's workforce employed in agriculture. Musoni saw this as a crucial growth opportunity because farmers are currently underserved by FIs. They wanted to create a product that spoke to the needs of smallholder agriculture and helped farmers overcome the challenges they were experiencing with traditional borrowing facilities, specifically:

- Repayment schedules did not fit the farming cycle. Farmers can only start re-paying the loan after the crops have been harvested which is typically six months after capital is needed.
- One big loan payment can lead to misappropriation.
- Loans do not allow for crop pivoting or rotation.
- FIs do not know how to properly appraise farmland.
- Loans do not respond to external farming shocks such as pest or weather changes which need to be remediated quickly.

How it works

Musoni designed a loan tailored for smallholder agriculture and addressing their financial access challenges. By giving farmers access to finance, the Kilimo loan aimed to help farmers diversify, expand and start ventures in new activities. The loan differed from traditional loans in several ways:

- The terms of each loan are determined on an individual basis, including staggered payment options and repayment cycles that mirror agricultural cycles;
- Village-based loan officers are required to have agricultural knowledge;
- A 72 hour loan application and disbursement time helps farmers weather shocks;
- The loan repayment is linked to one of the farmer's established, income-generating enterprises allowing farmers to diversify;
- Musoni provides capacity building and training;
- Insurance is a requirement of every loan.

⁵⁸ <https://www.vox.com/future-perfect/21420357/kenya-mobile-banking-unbanked-cellphone-money>

⁵⁹ <https://www.povertyactionlab.org/blog/10-22-20/rise-mobile-money-sub-saharan-africa-has-digital-technology-lived-its-promises>

⁶⁰ <https://borgenproject.org/mobile-money-accounts>

⁶¹ https://www.planetgold.org/sites/default/files/2020-05/Access-to-Finance-Options-for-ASM_1.pdf

Borrowers can apply for the loan as an individual or as part of a collective for a loan between \$50 and \$30,000. One of the conditions of the loan is that the borrower has a mobile phone and an M-Pesa account (M-Pesa has a 96% penetration rate in Kenya⁶²), because the loan is disbursed using mobile money so that farmers in rural areas can easily access their funds. By incorporating mobile money this allows the loan officer to process the application on the spot and the funds to be wired directly to the farmer. The use of M-Pesa also enables the borrower to use unstructured supplementary service data (USSD) codes to access information about their loan or apply for an individual loan.

Key findings

In 2015, Musoni piloted the loan in two locations but due to its early success, they extended it to all of its branches within six months. In the first 18 months, Musoni disbursed more than \$6.4 million in loans to smallholder farmers. By 2019, this number had risen to \$18 million⁶³ which had been provided to 31,000 farmers, approximately 60% of whom are women and 70% of all loans were disbursed to collectives. The farmers used loans to buy agricultural assets and equipment, and borrowers benefitted from agronomic training provided by extension officers which allowed them to improve productivity, and borrow more. As a whole, increased agricultural production had a knock-on effect and created employment in a virtuous circle.

⁶² https://digitalprinciples.org/wp-content/uploads/Musoni_Case_Study.pdf

⁶³ https://www.idhsustainabletrade.com/uploaded/2021/09/Musoni_SDM-Final-Report_Public-Version.pdf

Lessons Learnt

The Kilimo loan's success was due to its ability to respond to a gap in the market by tailoring a solution for an underserved, large segment of the market. The solution was created with direct input from farmers and agronomic experts who understand the special needs of smallholder agriculture.

Musoni overcame geographical financial limitations by building on existing M-Pesa networks which are ubiquitous in Kenya, even in remote rural areas. Consequently, borrowers were not required to learn a new technology, which overcame several barriers of access and hesitancy.

Since the inception of the Kilimo booster loan, Musoni has expanded their stable of product offerings and has included a small business loan, an emergency loan, an asset loan and education loans.

Due to the characteristics of microfinance discussed above, the interest rates on the loans range between 18 and 22%, which is relatively high. Consequently, there has been a higher write-off rate for larger loans but encouraging borrowers to group into collectives has allowed Musoni to spread the risk.

Strengths <ul style="list-style-type: none"> Tailored for a specific sector Responds to challenges Builds on existing infrastructure Capacity building Individual offerings 	Weaknesses <ul style="list-style-type: none"> High interest rates Collateral requirements Dependent on external infrastructure
Opportunities <ul style="list-style-type: none"> Potential to expand into other segments such as MSMEs Potential to upscale into other countries with similar infrastructure 	Threats <ul style="list-style-type: none"> Possibility of loan non-repayment Vulnerable to external shocks

7.8 Blockchain for financial inclusion

Blockchain is a relatively new technology often associated with speculative cryptocurrencies. Cryptocurrencies run on a blockchain, a decentralised database or ledger of transactions, which allows multiple parties to agree on the state of those transactions without the need for middlemen.⁸³ On many blockchains, all recorded transactions are immutable, transparent, encrypted and enable financial transactions to be more secure, cheaper and more efficient. For financial inclusion, the hope has been that blockchain technologies can expand or bypass traditional financial institutions by extending services to the unbanked by facilitating payments, storing savings, providing credit and insurance at lower cost.

But until recently, the business use case for blockchain in financial inclusion was largely hypothetical, while various organisations trialled the application of blockchain in their financial inclusion initiatives around the world. Kotani Pay⁸⁴ and Leaf⁸⁵ (Rwanda) both utilise blockchain to enable more efficient and cheaper money transfers using simple USSD short codes to send and receive cryptocurrencies and convert them into domestic currencies. Xcapit⁶⁴ used AI (artificial intelligence) and blockchain to create a platform for unbanked people in Latin America to save and invest. After downloading the app, the users can buy cryptocurrencies in-app or transfer cryptocurrencies from another app and then can save, invest and donate from the wallet in a transparent way. Grassroots Economics⁶⁵ in Kenya aims to close the credit gap in low-income communities by using a blockchain-based token and trading system which allows groups of people to create Community Inclusion Currencies (CIC) which ultimately allow people to quantify the services in a specific community and monetise these resources in exchange for other goods and services. CICs are then held in pooled funds, where the users can access credit tokens. Etherisc

⁶⁴ <https://www.unicefinnovationfund.org/broadcast/updates/xcapit-building-platform-using-blockchain-and-ai-increase-easy-safe-access>

⁶⁵ <https://www.grassrootseconomics.org>

⁶⁶ <https://blog.etherisc.com/etherisc-update-etherisc-and-acre-africa-announce-first-payouts-through-blockchain-based-platform-a0c5194214f4>

⁶⁷ <https://minexx.co>

⁶⁸ <https://goldfinx.com/>

and Acre Africa⁶⁶ is a decentralised insurance partnership which insures farmers in Kenya against climate-related risks to their crops. The solution uses self-executing contracts on the blockchain to trigger M-Pesa pay-outs when extreme weather situations affect their crops. The transparency and automation that the blockchain provides reduces the onerous process of farmers having to prove the damage and removes claim waiting times.

Minexx⁶⁷ is a blockchain company operating at the intersection of ASM and financial inclusion. Minexx uses blockchain to secure the mineral value chain from the earth by creating a trusted data layer along the value chain. The technology is currently being tested on cooperatives in the DRC and Burkina Faso, and it appears that the platform enables miners to confirm the exchange of ore for income via mobile payment, ensuring miners get paid fairly and on time. It also intends to deploy a fintech solution through its partner MineSmart which is an operating system for small-scale mining where data on due diligence, traceability and transactions are registered. Through this data, the partner can attribute a credit score to the entity and can give them access to Minexx Capital, which offers loans to eligible miners. The loan can be used for prefinancing, trade finance, equipment and development. Through this multi-pronged approach, Minexx aims to overcome the barriers ASM miners face in accessing finance and ensuring transparency.

GoldFinX⁶⁸ is another competitor that leverages blockchain technology to provide "decentralized microfinance" to artisanal gold miners. The loans are provided to fund the adoption of sustainable mining practices and GoldFinX provides an advance purchase agreement. In exchange for the credit, GoldFinX takes a 20% lifetime royalty share of ALL ongoing production. The company is currently operating two mines in the Côte d'Ivoire and plans to add two additional mines in the first quarter of 2022.

Strengths <ul style="list-style-type: none"> • Innovative offerings • Problem-specific solutions • Enhances transparency • Cheaper than traditional FIs • Broad geographic reach 	Weaknesses <ul style="list-style-type: none"> • Requires phones and sometimes internet access • Dependent on external infrastructure
Opportunities <ul style="list-style-type: none"> • Potential for more applications to be designed in the ASM/financial inclusion space • Potential to upscale in many countries and regions 	Threats <ul style="list-style-type: none"> • Low ASM uptake due to technology hesitancy • Could exacerbate the gender divide in ASM



8 Comparative analysis of financial inclusion initiatives

The table below provides a comparative analysis of the financial inclusion initiatives discussed above using the six critical indicators: the access achieved, level of usage, quality of the intervention or product offering, its social impact, education provided and adequacy of infrastructure provided.

TABLE 5:

Comparative analysis of financial inclusion initiatives, assessing access achieved, level of usage, quality of the intervention or product offering social impact, education provided and adequacy of infrastructure provided.

	Access to the initiative	Usage of products and services	Quality of products and services	Social impact interventions	Education outcomes	Infrastructure requirements
Government-backed scheme (ENAMI)	52 rural and urban locations.	SMEs and ASM have accessed loans and training.	Well-resourced and well-funded.	Contributes to livelihoods.	Provides capacity building and skills training.	Provides processing and access to leased equipment.
Development finance backed projects (AGF)	Only available in five African countries.	Supported 4000 SMEs.	Well-funded.	Contributes to livelihoods.	Provides capacity building and skills training to PLIs and SMEs.	Uses pre-existing banking infrastructure but requires donor financing for partial guarantees.
Private equity financing (GemFair)	Predominantly in peri-rural areas. Accessibility problems with rural ASM sites.	Unknown Supported 20 miners in the pilot phase.	The FPA addresses specific financial barriers for ASM.	Enhanced responsible mining practices.	Provides financial literacy and capacity building.	Uses GemFair's pre-existing infrastructure, but requires upfront capital investments.
Local and regional credit scheme (AFECOR)	Accessible to remote rural communities without technology.	50 VSLAs were created reaching 1400 mine community members.	Over 1000 loans were disbursed with an extremely high repayment rate.	Enhanced social cohesion in the groups.	Provides financial literacy and capacity building.	Built on IMPACT's previous project.

TABLE 5:

Comparative analysis of financial inclusion initiatives, assessing access achieved, level of usage, quality of the intervention or product offering social impact, education provided and adequacy of infrastructure provided.

	Access to the initiative	Usage of products and services	Quality of products and services	Social impact interventions	Education outcomes	Infrastructure requirements
Downstream buyer project (The Pamuan Jayan Panners Collective)	Accessible to remote rural communities without technology.	The collective grew from 10-25.	The group sold their product and accrued savings	Enhanced social cohesion in the group and empowered women.	Provides financial literacy and capacity building	Required relationship building, upfront capital investment and equipment.
Microfinance/mobile money (Kilimino Booster Loan)	Accessible to remote agricultural communities with phone and access to mobile money.	31000 farmers have accessed loans.	Well-funded and well-resourced.	Created opportunities for women to access finance.	Provides capacity building and skills training.	Built on M-Pesa and Musoni infrastructure but requires a village-based loan officer, digital infrastructure to process loans and a high initial capital investment.

Low success ■ Medium success ■ High success ■

8.1 Lessons for improving financial inclusion in ASM

The key learnings from the analysis of the financial inclusion initiatives are:

- Financial inclusion initiatives in ASM must consider the particular needs of the segment and of the population being targeted, such as location, access to technology, demographical age, financial limitations, and infrastructure in order to be effective.
- There is a need to identify critical challenges in the segment and turn them into opportunities for financial inclusion – an innovative approach is key.
- Capacity building, financial literacy and skill training are important components of initiatives that serve financially excluded populations, to build up their knowledge and understanding of how to manage and account for large sums of money.
- Capacity building and skills training is equally

important for implementing partners that have never interacted with ASM miners before, to assist FIs that do not understand how to appraise ASM operations or calculate risk accordingly.

- Financial inclusion initiatives are more successful and easier to implement when they are enacted as an extension component of another project because there is a level of trust that already exists between all the stakeholders, whereas when new stakeholders are engaged the trust-building takes longer and uptake can be slower.
- Technological limitations and infrastructural weaknesses are prevalent in remote and rural ASM areas, and initiatives that target ASM communities have to find solutions to overcome these constraints, such as the creation of informal financial institutions to have traction in the segment.
- Collectives have greater social cohesion benefits, especially for women miners.



Annexes

ANNEX 1:

Summary of financial services in Liberia

Bank	Owners Hip	Area of Operation	Full service	MSME Offerings
Liberian Bank for Development and Investment (LBDI)	44% foreign 56% local	17 locations	×	LBDI has a history of developing and managing lending schemes which targeted the MSME sector. It has specifically managed lines of credit funded by donors or governments such as the World Bank, EIB and AfDB. The Bank has also provided small loans to SMEs and to microenterprises such as tie dye and soapmakers.
Ecobank Liberia Limited (EBLL)	Foreign	14 branches 33 ATMS 90 POS 200 agent locations	×	In 2017, EcoBank Liberia signed a trade finance guarantee agreement with the French Development Agency (AFD) allowing Ecobank to issue trade finance instruments up to \$10 million which is fully guaranteed by AFD This means Ecobank can support MSMEs and start-ups in Liberia with desperately needed capital investments.
International Bank (Liberia) Limited (IB)	Local	9 branches	×	Through an on-lending scheme enacted by the US International Development Finance Corporation, International Bank Liberia was able to lend between \$500,000 to \$3million to Liberian SMEs in key industries such as food value chains, logistics and manufacturing.
Global Bank Liberia Limited (GBLL)	Foreign	9 branches	×	Unknown, with no internet presence.
Sapelle International Bank Liberia Limited (SIBILL)	Foreign	12 branches 3 mobile banking services	×	SIBILL offers special credit services targeting MSMEs and personal micro-loans. The Liberia Pay After facility allows customers to take short term loans (for between 12 and 18 months) for basic household items, building materials, electronic goods, and cars. The MSME loan facility provides loans to small-medium sized Liberian businesses, women's organisations, market unions and credit unions with good credit that meet the bank's basic requirements.
United Bank for African Liberia Limited (UBALL)	Foreign	7 branches	×	United Bank provides an Agric Credit Support Scheme and a Tractorisation and Mechanisation Scheme which is a special credit facility designed to offer credit to farmers under the Agriculture Loan Scheme Initiative of the GoL. The bank offers loans to micro/ small farmers, medium- and large-scale farmers, corporates, NGOs, government and its agencies engaged in crop production/cultivation, plantation agriculture, agro-processing, farm machinery and hiring services.
Guaranty Trust Bank Liberia (GTBANK)	Foreign	10 locations	×	None.

ANNEX 1:

Summary of financial services in Liberia

Bank	Owners Hip	Area of Operation	Full service	MSME Offerings
Afriland First Bank Liberia Limited (AFBLL)	Foreign	Unknown	×	Afriland Liberia is specifically focused on servicing SMEs and agricultural lending and is the most active agricultural lender in the country. In 2019 the bank partnered with USAID on the Feed the Future Liberian Agribusiness Development Activity. The Bank committed to work with USAID on easing access to finance for smallholder farmers in Liberia, specifically unlocking credit facilities for Liberia agrodealers, processors and aggregators. In 2020, Afriland Bank launched their mobile banking app SARA, which allows people to transfer funds, deposit and withdraw cash at Rural Community Finance Institution (RCFIs) and MC2 (community banks) around the country and transfer money into mobile wallets. To expand access to areas where banks have little or no presence, Afriland launched agent banking.
Access Bank Liberia	Foreign	7 branches	×	Access Bank specifically targets low to middle income customers and is reportedly Liberia's leading provider of services to MSMEs. It provides numerous personal, business and SME specific services including short-term micro business loans and small business loans.

ANNEX 2:

Comparative analysis of the Liberia Financial Ecosystem

	Access to the initiative	Usage of products and services	Quality of products and services	Social impact interventions	Education outcomes	Infrastructure requirements
Commercial Banks	Presence in 4/15 counties and only 2 ATMs per 100,000 adults.	Mostly cash-based as only 3% of Liberians have a debit card.	Few access points, low liquidity ratios and high NPLs.	Most banks have specific MSME facilities or act as PLIs for DFIs.	Low level capacity building.	Banks require physical infrastructure, human capital and online infrastructure. Users require documentation and collateral to apply for loans.
Mobile Money Operators	Available in all 15 counties and 7000 mobile money agents.	338,844 active users and 2.8 million wallet accounts in Liberia.	Many access points but liquidity problems especially in rural areas.	Creates access to financial services and job creation for super agents.	Low level capacity building	Uses telecoms, banking infrastructure and super agents. Users require mobile phones.

ANNEX 2:

Comparative analysis of the Liberia Financial Ecosystem

	Access to the initiative	Usage of products and services	Quality of products and services	Social impact interventions	Education outcomes	Infrastructure requirements
Money Remitters	Available at banks, NBFIs, post offices and through mobile money.	Remittances amount to 10% of Liberia's GDP.	Many access points, but challenges with liquidity.	Contributes to household income and provides a financial buffer against shocks.	No capacity building.	Built on pre-existing FI infrastructure.
Insurance Companies	Limited to urban centres.	Approximately 5% of business have insurance in Monrovia.	Expensive and unregulated and issues with payment of claims.	No real contribution.	No capacity building.	Requires physical infrastructure and cash reserves.
Microfinance Institutions	Available in 12/15 counties.	The average borrowing rate is 25% at MFIs.	High interest rates, and short repayment times.	Contributes to household income and creates access to credit for unbanked.	Provides capacity building and training.	Requires physical infrastructure and funding. Users require collateral, and documents to submit an application.
Development Finance	Available in Monrovia.	Serviced 500 SMEs.	High level of collaboration between LEDFC and client.	Focused on livelihoods and empowering SMEs.	Provides capacity building and training.	Requires physical infrastructure and funding. Users require collateral, and to submit an application.
Foreign Exchange Bureaus	184 bureaus, mostly in Monrovia.	Most Liberians use forex.	Problems with liquidity.	No real contribution	No capacity building.	Built on existing infrastructure, high capital requirements and liquidity problems.
Rural Community Finance Institution	Available in 8/15 counties.	5,196 shareholders in RCFIs.	Accessibility issues and vulnerabilities to external shocks.	Expands financial access to rural communities	Provides capacity building and training.	Initial set up costs are high.
Fintech	Apps include Jumo, Vuleka and Sokowatch.	High data costs and low internet penetration.	Few fintech solutions exist.	Solutions have limited reach.	Solutions offer capacity building but have low penetration.	Ecommerce requires users to have mobile phones and access to internet which is low in Liberia.

ANNEX 2:

Comparative analysis of the Liberia Financial Ecosystem

	Access to the initiative	Usage of products and services	Quality of products and services	Social impact interventions	Education outcomes	Infrastructure requirements
Village Savings and Loan Association	Available in all 15 counties.	Membership is estimated to be approximately 21,000.	Accessible even in remote rural locations but vulnerable to external shocks.	Contributes to social cohesion, expands access to rural populations, provides credit to local MSMEs.	Provides capacity building and training.	Requires trust building and financial literacy training.
Credit Unions	Available in all 15 counties.	134 credit unions with a membership of between 3000-7000.	Accessible even in remote rural locations but vulnerable to external shocks.	Contributes to social cohesion, expands access to rural populations, provides a wide range of financial products.	Provides capacity building and training.	Requires branches, human capital and trust building.

Low ■ Low-Medium ■ Medium ■ Medium-High ■ High ■

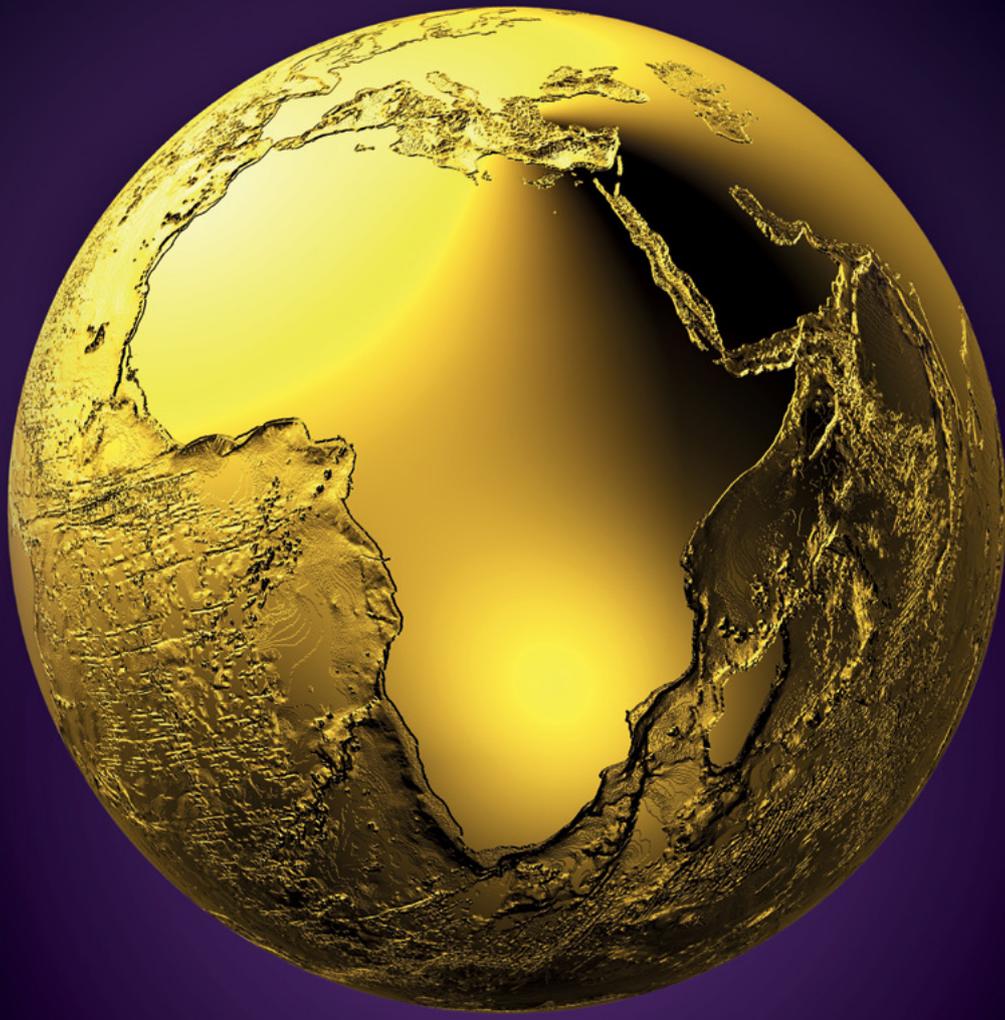
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