Improving Access to Formal Finance in Artisanal and Small-scale Gold Mining

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Artisanal and small-scale gold mining (ASGM) is a significant source of livelihood for millions worldwide, from individual panners and their families to more mechanized operations. Typically an informal activity, ASGM is the chief source of income for many rural, low-income communities in the developing world that lack other economic opportunities. As a sector, it accounts for approximately 20% of the global gold supply, making it around a $35 billion (USD) industry per year.

Poorly practiced ASGM can be a source of significant negative social and environmental impacts, including the widespread use of mercury, a highly toxic metal. However, when conducted responsibly with appropriate environmental safeguards, ASGM can generate significant income and positive social benefits for miners and their entire surrounding community. Worldwide, it is estimated that 100 million people already rely on ASGM, either directly or indirectly, for their livelihood, and the sector is growing. For responsible ASGM to serve as an economic catalyst in these communities while avoiding negative impacts, the sector requires access to finance that will allow the deployment of cleaner and more efficient technology and sound environmental management practices, all conducted within an enabling policy environment. In the last decades, technology and policy advances have been made within the ASGM sector, yet strong barriers to formal finance remain.

Due to its informality and its perception as a high-risk sector, ASGM has had limited access to formal finance, and has traditionally been financed by informal lenders, such as local mining community groups, family members, and gold or mercury traders who offer finance in return for access to future gold production. This informal financing typically supports ASGM technologies and practices that are less costly in the short term, but generally less efficient with greater environmental and health impacts. Better ASGM practices require a level of upfront financing that informal lenders are either unable—or unwilling—to make.
Also, informal finance does not usually require miners to address environmental, social or governance (ESG) considerations, including mercury reduction or elimination.

It may be difficult for miners to change behaviors around ESG practices without economic incentives to do so. Further, ancillary services and technology to support effective exploration, mining, processing and remediation activities, all of which can contribute to more sustainable small-scale mining, remain largely out of reach for ASGM, due to their expense. In the worst cases, informal finance arrangements can result in miners being locked into unfavorable agreements, with enterprises owing significant portions of future gold production to lenders, becoming trapped in perpetual debt cycles or intertwined with illicit financial flows.

The informality of ASGM, and its lack of access to formal finance, is at the root of the poor social, economic and environmental performance of much of the sector to date. While a few ASGM operations have benefited from formal financial arrangements, most of this finance has been restricted to public donor and grant finance. There is limited evidence of finance from commercial lenders or investors, despite the potential for profit from the responsible, efficient production of gold, a highly valuable commodity.

While grant and donor funding will likely continue to play an important role in promoting responsible ASGM in the near term, access to formal private finance is key to establishing responsible and economically viable ASGM enterprises, to create a long-term, sustainable sector that realizes its full development potential.

Unfortunately, there remain real and perceived barriers to formal finance, including the reputational risk of ASGM; risks associated with environmental, social, and governance impacts; and practical regulatory, operational and commercial barriers. These must be overcome or mitigated to attract more formal finance to the sector.

This issue brief reviews past experiences with delivering financial and allied services to ASGM and examines existing barriers to attracting formal finance and investment in the sector. It concludes with recommended interventions for governments, donors and other allies to help improve ASGM’s access to formal finance in the future.
2. Overview of Financing Concepts

When considering access to finance, it is helpful to review the main types of finance, especially financing structures that have typically been employed for underserved sectors, as well as traditional sources of formal finance.

2.1 Types of Finance

The two main categories of finance are debt and equity. Debt involves a lender extending a loan to an entity with interest. Interest is often paid in instalments, while repayment of the principal (the original amount lent) is done either by instalment or via a lump sum payment at the end of the loan period. Equity financing involves an investor taking partial or full ownership of an entity in exchange for providing capital. A key feature of equity finance is that the investor can exercise some decision-making control by participating in the entity’s governance. In order to control financial risks, some financing arrangements have both debt and equity aspects. Such arrangements are called mezzanine finance. For example, a “warrant” will earn a specified amount of interest, similar to a debt instrument, and if certain conditions are met, will be eventually converted to an equity stake and the interest payments will stop.

Debt and equity financing arrangements are the building blocks for all other types of financing. Generally, equity-like financing arrangements have higher risk but also higher return. In contrast, it is typical for debt-like financing arrangements to have lower risk because they are backed by security or collateral requirements and are repaid before equity, but they also expect a lower return.

Blended finance involves the use of public or philanthropic money (grants or grant-equivalent tools) in conjunction with private and commercial finance products. Private financial institutions
may be reluctant to enter or expand financing to a specific industry. In these cases, blended finance interventions facilitate financing in the industry by sharing the risk of loss, which enables the financial entity to achieve acceptable returns. For example, the government might provide guarantees to a commercial bank for loans to ASGM businesses, or a philanthropic donor may provide a grant to build ASGM management capacity, which improves their ability to attract commercial finance. A typical objective of blended finance is to develop high-impact, economically successful businesses that also achieve socially and environmentally responsible objectives. The hope is that over time, as the finance recipients build a track record and as private financing institutions gain familiarity with the sector, they will become less risk-averse in providing services, and the need for public money backing will decline.

Leasing is another popular form of finance for small business. A lease is a financial instrument that either grants the right of use or control of a tangible asset—such as property, vehicles, or equipment—to the lessee in exchange for periodic payments. Where a lease only involves the right of use of an asset, the lessor maintains control and ownership of the asset while the lessee has the right to use the asset in exchange for periodic payments. In some leasing (lease-to-own) programs, asset ownership eventually transfers to the lessee.

2.2 Finance Structures Common for Underserved Sectors

Multiple financing structures have been developed for facilitating the delivery of finance to underserved sectors. These are designed specifically to assist with overcoming barriers such as lack of collateral and high-risk operating profiles.

For debt finance, example structures include:

- **Concessional loans** are offered by public and private financial entities but have softer borrowing conditions than market-rate loans, such as lower cost of capital, grace periods, deadline payment extension, and/or less stringent guarantee requirements. Concessional loans are often offered through government- or donor-sponsored programs. When administered through commercial banks, such programs can help build experience and capacity working with the underserved sector.

- **A revolving loan fund (RF)** is a loan fund sustained by repayment of loans into the fund so that new loans can be extended. RFs are often seeded with donor capital and targeted at borrowers who do not qualify for traditional financial services. Particularly in a local economic development context, RFs have been associated with strong community-level ties, local management, and borrower empowerment. Application processes may be streamlined and the approach to collateral security can be tailored. When RFs are used locally, community organizations can also act as monitors of the performance of the borrowers, which can enhance repayment rates.

- **A risk-sharing facility (RSF)** can support debt or equity financing and is a loss-sharing arrangement between a guarantor (often a government, donor, or NGO) and a provider of assets, such as a private financial institution. Under this arrangement, the guarantor reimburses the provider for a portion of principal losses incurred on a portfolio of eligible assets, such as a loan portfolio.
2.3 Categories of Formal Finance Providers

The main categories of potential formal finance providers for ASGM include the following:

Debt finance

- **Microfinance** is the most widely patronized source of small-scale financing for underserved sectors. Microfinance provides financial services to small and microenterprises that do not qualify for conventional banking products. Microfinance institutions provide loans but may also offer other services such as insurance and deposits.

- **Local savings and credit schemes.** Some communities have established village savings and loan schemes to support ASGM. In these schemes, every member contributes to the savings account, and loans are advanced to members from this pot. Interest on loans is reinvested to ensure growth in members’ savings.

- **Commercial banks.** Banks provide loans to businesses, offer investment products and provide financial services to their customers. They can operate at global, national and local levels and are accountable to regulated standards and codes of conduct. Ultimately, banks are tasked with managing risks to investments that they manage on behalf of their customers and shareholders, which affects their appetite for risk.

- **Cooperative banks** operate to serve their member communities who are their shareholders. Often, they are specifically mandated to provide services to small businesses.

- **National development banks.** National development banks (NDBs) are established by governments to provide financial support for economic development. Their usual role is to make available medium- and long-term capital for investment in industry, agriculture and other productive sectors, most likely at softer terms than commercial banks, since they have a development mandate.

Equity finance

- **Private equity investors.** Private equity (PE) investors can include individuals investing directly or groups of individuals operating as a consortium. Private equity investors can also invest through PE funds, which receive commitments from a small number of investors (called Limited Partners) against a given investment mandate.

- **Impact investors** require measurable social and/or environmental impacts as well as positive financial returns. Both private and public entities can make impact investments. Such investments can be in the form of debt or equity. Significantly, impact investment does not involve a complete sacrifice of financial returns but can offer returns that are comparable with conventional investments. Impact investors can include specialized funds, foundations, development finance institutions, family offices, high-net-worth individuals (HNWIs), and a small number of pension funds.
3. Previous Global Experience with ASGM Finance

In recent decades, governments, development agencies, NGOs, and a few private sector investors have carried out interventions to improve access to ASGM finance. The finance offered has spanned a range of types and sources. These experiences offer lessons, both on successful approaches and barriers encountered, that can inform the development of future interventions to improve access to formal finance for ASGM.

3.1 Informal Finance

In the absence of formal finance, small-scale miners often forge ties with informal financiers. These “middlemen” have often been branded as “unscrupulous,” 1 taking advantage of their monopolistic positions to broker unfair deals. Many have called for the removal of such financiers, despite the lack of substitute sources of finance. 2 From a different perspective, these middlemen can be crucial cogs in ASGM systems. Miners’ continued reliance on them for finance—both informal and licensed—is perhaps a telling sign of how few financial alternatives exist for miners and how little trust miners have had in governments and formal lending institutions. Efforts to make formal financing an alternative to these middlemen must, therefore, wrestle with the challenge of replacing these long-standing, trust-based business relationships or building upon them, working in partnership with these informal actors to develop solutions that recognize the local context and existing trust networks (so long as the informal financiers are not illicit).

3.2 Microfinance

Microfinance has been employed in several countries to support a range of needs for artisanal and small-scale miners (ASM), including gold miners. In Papua New Guinea, for example, a series of interrelated microfinance initiatives was used to build support over time for the ASM sector. One successful microfinance strategy employed in ASGM is to share risk across the lending group, a useful feature given the high-risk perception banks, donors, and lenders have of ASM operators. For example, microfinance, based on “group sharing” principles, was used successfully in the Bolgatanga and Tongo communities of Ghana. Self-selected groups of between five and 10 people were assembled, and participants within the group were ranked according to financial strength.


The ranking was used to determine the order in which members received loans. This effort was met with some success, although miners were awarded some equipment that proved inappropriate. Other notable examples of microfinance supporting ASM include projects in Tanzania, Nicaragua, and Sudan.

3.3 Government-backed Finance Schemes

Some commercial entities in developing countries have a history of making finance available to enterprises linked to small-scale mining. However, in most of these cases, the commercial loans provided are highly collateralized, have high interest with strict repayment schedules, and require substantial amounts of money upfront (up to US$1 million) to land. Thus only a select group of individuals—mostly affluent and/or well-connected—can realistically access these sources of commercial finance.

To address the need for more accessible commercial finance, some governments have directly offered or backed various types of finance schemes, with mixed results. Some of these schemes have often failed because miners struggle to repay loans, while others with very stringent lending criteria (with high collateral requirements) have failed to attract miners in the first place.

Several countries have experimented with dedicated mining funds, typically jumpstarted with funds drawn from national development budgets and sustained with portions of revenue generated from permit fees, export earnings and/or sales or leasing linked to mining. These funds have also been met with mixed results for various reasons. The Fundo de Fomento Mineiro in Mozambique, for example, could not be sustained; due to operational challenges that led to inconsistent production levels, miners failed to repay their loans. In Namibia, small-scale miners also complained that the Mineral Development Fund failed to supply the level of finance they require. In Zambia, miners were not able to access a €16.5 million credit facility because of the stringent conditions attached.

A mining fund in South Africa was ultimately cancelled because miners could not repay their loans. This fund may have simply been a case of unfortunate timing, as it was launched during a time of economic and political upheaval, preventing the government from monitoring borrowers or even pre-screening their applications for loans effectively. Ghana’s mining fund, which mobilized resources from the country’s Mineral Development Fund, had a “group lending” type design, in that miners were required to form cooperatives and were collectively bound by the terms of the

loan. Loans were subsidized by the government and repayments were not made until the production began. A licensed gold buyer acted as a guarantor to ensure that with each given volume of mineral sold, the agreed amount was paid into a loan recovery account. The results of this program were also mixed. In one town, the loan proved relatively successful, but in another, internal group friction proved too much to overcome and ultimately undermined the intervention altogether.

Equipment sharing/leasing programs have been a common form of government-backed assistance to ASGM. However, many of these efforts have been plagued by a combination of untimely repayments, damaged equipment and the absence of monitoring.

One notable successful state-led initiative is the National Mining Company of Chile (ENAMI), a state-owned enterprise that provides small- and medium-scale miners with a range of services, including finance, technical assistance, commercialization and training in business practices. To help finance this mission, ENAMI is also an ore buyer and processor, and engages in collaborations with large-scale mining companies. The World Bank and others have pointed to ENAMI as a model for other countries.

These experiences demonstrate that governments have consistently shown a willingness to establish funds to assist with the financing of ASM, including ASGM. Although donors have often helped to catalyze action, the logistics of coordinating these schemes cannot be overstated; for the most part, governments have handled the details of implementation. It is even more impressive that these schemes were launched by governments in countries that emphasize large-scale mine development, but nonetheless made space for ASM development. Unfortunately, many of these governments have been unable to sustain their schemes over the long term, struggling heavily with managing the local components of the work, including monitoring miners’ repayments and their use of leased equipment. A shortage of expertise has contributed to key mistakes early on, such as procuring inappropriate equipment and collaborating with inexperienced partners. The success of such schemes often also hinges upon ongoing, long-term participation from governments and/or donors. Governments have struggled to mobilize additional funding beyond the initial pots of money, such as local sources of commercial finance.

Hilson, and Ackah-Baidoo, 2011.
3.4 **Blended Finance**

In addition to state mining funds and credit facilities, governments and donors have also acted to buttress commercial finance in blended finance models. The African Guarantee Fund (AGF) works with financial institutions to guarantee loans and other financial products for small- and medium-sized enterprises (SMEs) in a variety of sectors. In 2017, the AGF agreed to work with the ACP-EU Development Minerals Programme to make available US$12 million in credit guarantees to financial institutions in Cameroon, Guinea (Conakry), Uganda, Nigeria and Zambia, for loans provided to SMEs in the development minerals sector. The program also included training by AGF and ACP-EU for financial institutions, focused on inclusive finance, as well as business training for miners. The program worked with savings and loan cooperatives and commercial banks to provide loans to operations at different scales of finance needs. These financial institutions collaborate with the program and with governments to monitor mining operations and their compliance with environmental, social and other requirements.

In Tanzania, the Bank of Tanzania recently pledged to provide a loan guarantee of up to 500 million shillings (approximately US$200k) through registered commercial banks in the country, catalyzed by the World Bank’s Small and Medium Enterprises Credit Guarantee Scheme (SME-CGS) and providing a 50 percent guarantee for up to five-year loans to small-scale miners.

Public-private partnerships have also benefitted small-scale miners. Sotrami S.A. in Peru, which started as an artisanal mining operation of about 165 miners and is today made up of 1,000 miners, benefitted from a loan of about US$1.3 million from the Impact Finance Fund, a private sector-financed fund. As part of the conditions of the loan, Sotrami was required to work with the International Labor Organization and the Swiss Agency for Development and Cooperation to eradicate child labor. This partnership has developed into the Better Gold Initiative. The program uses Swiss government funding to provide support to ASGM operators to improve practices and links them to Swiss private-sector gold buyers. A small premium is paid on gold purchased from miners who meet specific standards of the program, which is used in turn for ASGM community projects.

3.5 **Equity Investors**

On occasion, ASGM operators have managed to attract direct investment in their activities. For example, the Chambers Federation, an impact investor that first invested in a small-scale gold mining operation in Kenya, subsequently used this experience to establish Fair Congo in the Democratic Republic of Congo in 2017. Chambers Federation asserts that Fair Congo is currently the only conflict-free ASGM gold supply chain from an active Conflict and High-Risk Affected Area.

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Recently, Sustainable Economic Futures, a group in Canada, created the Clean Gold Community Solutions model (SEF Clean Gold), which aims to raise $1,500,000 for a responsible equity investor consortium to invest in processing facilities with links to artisanal mines in Ecuador. Generally, though, equity financing in the ASGM sector has been rare thus far.

### 3.6 Business Arrangements within the Mining Sector

Relationships between ASGM businesses and other mature actors in the mining industry, such as medium- and large-scale mining companies, may be suitable sources of financial assistance to small-scale miners, especially those working in the same region. Industry incumbents are more familiar with the industry and may operate in the same region with ASGM communities, which creates a sense of familiarity (lowering perceived risk) and may lead to possible win-win arrangements such as a joint venture or simply an operating agreement. Some mining companies may make some funds and/or expertise available to ASGM operations as part of a corporate social responsibility program. Support under such programs may not be intended to establish sustainable ASGM operations, but rather aimed at acquiring a social license to operate in the region. In other cases, there has been a tradition of business cooperation across the spectrum of mining entities in a given region. In Guyana, Ghana, and Tanzania, certain advanced medium-scale miners already assist some of the more artisanal operators, including providing training on environmental matters, providing purchasing services for gold onsite, allowing the artisans to use machinery and processing facilities, and leasing sections of concessions to them.

In Minera Yanaquihua in Peru, cooperation between a medium-scale mine and ASGM, facilitated by the NGO Solidaridad, includes help with operational and safety improvements, and employing some local miners as “microcontractors,” providing ore that is then processed without mercury by Yanaquihua. This relationship is in line with the increase in “toll milling” over the last decade, where a licensed centralized processor purchases ore from ASGM operators. Established small-scale processing centers can also serve as a vehicle through which small-scale miners can access services (i.e. the “depot” or the “one-stop-shop” model). A depot erected in the rural locality of Shamva, Zimbabwe, for example, successfully attracted informal miners who had previously carried out panning activities along rivers using mercury. These miners patronized the amalgamation facilities at the center and received technical and environmental training as well. Eventually, the center closed due to a variety of issues, including the fact that its ball mill was undersized and therefore incapable of meeting the largely unanticipated processing demands of informal operators. Some processing centers have been designed to allow miners to initially process ore using mercury to extract a portion of the gold immediately, leaving behind tailings, which still contain significant amounts of gold. The gold-rich tailings are then further processed by the center owners to earn profits.

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17 Interview, ASM expert, Guyana, 1 May 201; interview, ASM expert, Burkina Faso 4 May 2019.
The global experience with ASGM finance interventions reviewed in Section 3 illuminates several challenges to increasing access to finance for miners. Further, recent research commissioned by the planetGOLD programme, based on a review of literature and more than 40 interviews with finance and investment experts, identified barriers for finance providers that prevent engagement with the ASGM sector. These barriers, from the perspectives of both the miners and the finance providers, are summarized below.

4.1 Barriers to Accessing Finance

**Legal status of ASGM operations.** A fundamental barrier to access to finance is the informal (and sometimes illegal) status of many ASGM operations. Most formal lenders are unable to enter into finance agreements with operations that lack legal status.

**Inability to meet due diligence requirements.** Increasingly, finance providers evaluate the environmental, social and governance (ESG) risks associated with financed activities. ASGM businesses may have difficulty complying with the full range of ESG criteria used by finance providers, and/or they may not know how to document their compliance. Similarly, ASGM operations may not understand how to characterize or quantify their potential positive impacts that would attract impact investors.

**Size.** Many ASGM operations are too small, and the transaction costs too high to attract finance from commercial banks or investors. Microfinance, community savings/loan facilities or specialized government mining funds can and have supported smaller operations, but the amounts available are often insufficient for major investments in operations and equipment that can fundamentally transform and professionalize operations.

**Lack of financial products that meet specific ASGM needs.** The widespread perception of ASGM as a high-risk sector means there are fewer finance providers willing to engage with the sector in the first place. When they are willing to engage, lenders can require hard collateral, high interest rates, strict repayment schedules or other conditions to achieve an acceptable risk-adjusted return. Also, the loan terms often do not account for operational realities of small-scale mining, such as seasonality or inconsistencies in production levels that can cause uneven cash flow, which undermines the ability to make regular payments. These terms make the loans prohibitively expensive or inaccessible for all but a handful of small-scale miners. Similarly, “finance first” equity investors in a high-risk sector such as ASGM require returns that are many multiples of the initial investment, a requirement that would exclude many ASGM operations.

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Previous global experience has also shown that finance interventions can be undermined by misjudging the type of assistance needed (for example, leasing programs that offer inappropriate equipment, or development of centralized processing facilities with insufficient capacity to meet the needs of the local ASGM community).

**Lack of business experience/information.** Many ASGM operators are unfamiliar with the formal finance structures and do not have the formal business and management training that would enable them to make their business case to financial entities. They also lack data, such as geological information to estimate the size of the gold reserve, which can help finance providers evaluate the future profitability of the business.

**Lack of consistent, ongoing support for government interventions.** As the review of global experience showed, a number of well-intentioned ASGM finance programs were eventually discontinued due to lack of ongoing support. In contrast, the story of ENAMI shows how the sector can benefit from consistent, long-term reliable support for training, capacity building and business services.

**Preference.** Finally, some miners simply cannot or do not wish to comply with the myriad financial and operating conditions under which formal finance is offered. As such, they may prefer to continue to rely on family, friends, and well-known trusted local middlemen. Further, from the point of view of the miner, remaining in the informal economy allows them to avoid taxes and royalties that eat into profits.

## 4.2 Barriers to Providing Finance

**Reputational and ESG risks.** For many lenders and investors, the major barrier to offering financing to ASGM is the reputational risk of the sector, and risks associated with environmental, social, and governance impacts. ASGM has a largely negative public perception, including among financial institutions, due to well-publicized negative attributes associated with ASGM: perceptions that is not carried out professionally and responsibly; the high level of informality and even illegality of ASGM in some areas; its association with money laundering or criminal activity; its potential environmental impacts; and its association with conflict in certain geographies. In fact, for many traditional mining sector investors, their first exposure to ASGM is as a risk or a conflict-based impediment to large mining project investments.
High costs of due diligence. Finance providers may find the costs of due diligence to be greater than the potential returns, due to the lack of widely available ASGM due diligence toolkits as well as the lack of reliable local mechanisms to monitor the use of funds.

Lack of experience with ASGM. Because ASGM is relatively new as a formal finance sector, finance providers lack experience and toolkits with which to evaluate finance prospects. Obstacles include:

- A lack of specialization in ASGM, which means that teams are not sure how to assess projects;
- The lack of a track record in the sector, which results in challenges in quantifying and managing risk;
- A lack of established intermediaries (such as social enterprises) to act as brokers between ASGM businesses and finance providers, especially where projects need to be bundled in order to achieve sufficient size;
- A lack of demonstrated ability to scale financing solutions in the sector;
- For impact investors, the lack of available data from pilot projects to prove quantifiable impact potential, and overall lack of established impact metrics for the sector.

Current lack of investable projects. The ASGM sector currently has a shortage of investable proposals with clearly articulated investment needs and terms of engagement, and of well-established intermediaries to present these opportunities. Further, the large minimum-dollar figures of many investor portfolios may be currently beyond the needs of ASGM enterprises or the capacity of intermediaries to manage. In some cases, ASGM may simply not be a fit with prospective investors’ mandates. Investors familiar with investing in gold often perceive ASGM as a sector that does not fit with their investment mandate, while investors that seek impact are largely mining-averse or do not understand the ASGM sector.

Regulations, standards, and guidelines may also pose practical barriers to finance for ASGM. These barriers will depend on the country and type of finance. For example,

- Direct foreign investment may face barriers from the regulation of foreign investment or ownership, as well as inconsistent or unpredictable policy for foreign direct investment and taxes. Restrictive application or interpretation of fiduciary duty (the legal and ethical responsibility of the investor) may also create a barrier for investors.\footnote{Global Impact Investing Network (GIIN). (2019). Annual Impact Investor Survey. Available Online: https://thegiin.org/assets/GIIN_2019%20Annual%20Impact%20Investor%20Survey_webfile.pdf} Finally, some investors are simply unable to work in certain areas, such as the Democratic Republic of Congo, due to restrictions on financial transactions. Countries on sanctions lists are also excluded.
- Local banks may be subject to interest rate caps that are too low to compensate for risks from ASGM.
- Limited or nonexistent reporting regulations will be a barrier for all sources of finance, since the absence of reporting will make it difficult for any financial entities. An absence of national regulation for impact investing, for example, will limit the appeal of this type of finance. For
all sources of finance, ensuring compliance with regulations and standards requires extensive due diligence and continued monitoring. In the case of ASGM, this cost may be considered prohibitive.

Due to these barriers, even finance providers who may be willing to take on high-risk projects may avoid ASGM because it is simply not yet able to compete alongside other well-established sectors, such as agriculture, when it comes to its risk-reward profile. The persistent perception of ASGM as a high-risk industry means that continued intervention from public and philanthropic capital will likely be needed to offset risk for private sector financiers, until significantly more positive experience can be gained and documented in the sector. An accumulation of “good” experiences is key for ASGM to gain traction in policy. Ongoing professionalization and financial capacitation of miners is critical to enabling them to create a better history of repayment.

5. Increasing Access to Formal Finance in ASGM

Facilitating access to a wider range of formal financial services for ASGM requires addressing the barriers identified and designing finance interventions that both suit the miners’ operations and mitigate the risks perceived by the financiers. Considering experience to date and bearing in mind the real and perceived barriers to financing the sector, this section discusses possible interventions by national governments, donors and others interested in overcoming barriers and increasing access to finance for ASGM. A table at the end of this section summarizes these recommendations according to the barriers they are intended to address.

5.1 Understanding the ASGM and Finance Landscape

Previous interventions to improve access to finance illustrate the importance of having a comprehensive knowledge of target populations and local mineral markets. A clear picture of the mining population is needed before any action can be undertaken, and specific financial/lending needs can be determined. Data collected should include:

- **Basic demographic data on the populations in areas being targeted.** Emphasis should be placed on gathering qualitative and quantitative information about miners’ educational backgrounds, experience, indigenous status, age range, motivations for mining, and production levels. Special care should be taken to understand the miners’ typical operational needs (for example, types of equipment and capacity to maintain it) so that lending, leasing or investment programs can be designed to provide the appropriate scale of support.
- **Geological data.** Knowledge of the geological landscape is not only important for identifying and demarcating areas with ASGM-accessible deposits. It can also be used as a basis for supporting applications for finance for ASGM operating in those areas by estimating the size of the mineral resource and planning business operations accordingly.

- **Gold market and supply chain information.** Every local small-scale gold mining market is different. Strategies aimed at formal financing of gold production must acknowledge these existing market dynamics and incentive structures, including how gold is bought and sold, influences on pricing, the chain of gold buyers and traders, and the tax and royalty requirements, especially compared to neighboring countries to which gold may be smuggled.

5.2 **Creating the Enabling Policy Environment**

Governments and donors can also work more broadly to create an enabling environment that will facilitate access to ASGM finance, including:

- **Accelerate formalization.** Underlying all recommendations is the need for governments to actively engage in formalizing ASGM and continuously identify ways to improve the sector’s operations. Formalization, including clear legal status, is foundational to catalyze the delivery of financial services to small-scale miners. While formalization on its own will not guarantee the elimination of all barriers to finance, it imparts legal recognition, stability, and organization that provides for a structure with increased probability for business success. Formal status helps to instill confidence in a potential financer. The United Nations Environment Programme describes very clearly how this formalization process can be
achieved in its *Guidance Document* for producing National Action Plans. Measures can include supporting the establishment of mining businesses and cooperatives where appropriate, creating a well-defined and accessible system for the granting and maintaining of ASGM licenses, and providing public information that demonstrates mining entities’ compliance with regulations.

- **Provide sustained technical support** for the ASGM sector, including training and demonstrations of improved production methods and measures to improve the social and environmental performance of the business.

- **Make geological information on the gold deposits and basic resource estimations available to ASGM**, which can help support applications for finance by defining the likely future profitability of the business.

- **Conduct research at the local level with finance entities** to identify existing SME products that could be tailored to ASGM. This research can also identify specific barriers to providing financing in the local context.

- **Include a broad range of services to ASGM, over the long term, to complement finance.** As exemplified by ENAMI in Chile, providing multiple services that are complementary to financial support improves the chances of an intervention being sustainable over the long term.

- **Support communications efforts** that ensure the wider dissemination of “good news” stories, to combat the widespread negative perception of ASGM in the popular press, which in turn influences risk perception by finance providers.

- **Create a stable source of finance through gold taxes**. A tax on production, or a fraction of the earnings generated on gold purchases, could be used to create funds for ongoing support of ASGM. An example of this is Ghana’s Land Reclamation Fund, which used 1 percent of all gold sales from ASGM to the government to reclaim landscapes affected by the sector’s operations.

- **Consider how rules** for foreign investment, impact investment, and other relevant policies could be revised to incentivize investment in ASGM.

- **Consider programs through Export Credit Agencies** to provide government-based loans, guarantees, credits, and insurance to private companies interested in carrying out business with the ASGM sector, such as manufacturers of mining equipment used by ASGM (e.g., excavators).

### 5.3 Matching the Appropriate Source of Finance to the Needs of the Miners

Access to finance requires a match between the needs of ASGM business and the objectives of the finance provider. Considering both sides’ perspectives can help improve the likelihood of success by targeting finance that is appropriate to the needs and capacity of ASGM enterprises.

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ASGM needs

Artisanal and small-scale gold miners typically seek finance for mining, processing and related operating equipment (e.g., generators). For well-run, responsible operations, resources are also needed to pay for geological prospecting and exploration, environmental and social assessments, business planning, and related business development activities. However, the ASGM sector comprises an eclectic, diverse group of activities and actors operating in a wide range of settings: workforces can range from a few individuals to thousands of people, working underground, in open-pit bedrock deposits, or on alluvial gold. Operations can be collectively run cooperatives or owned by individuals. ASGM enterprises vary widely in their technical and financial knowledge, ability to manage environmental and social issues around their operations, and in their application of available technology. Given the diversity of operations and individuals in question, there is no “one-size-fits-all” finance source that is suitable for all circumstances. An artisanal or small mining operation, for instance, could benefit considerably from a loan of US$10,000 to buy a pump to extract water from a flooded mine pit, whereas US$1.5 million might be needed for equipment at a processing hub serving multiple ASGM enterprises. Several small mines clustered together could have more substantial investment needs for significant mining infrastructure that would have a highly positive effect on their productivity.

The financing arrangement should create tangible value for the business in a relatively short amount of time: a high debt burden or a high dividend paid to the financial investor may undermine the ability to use the finance to achieve the desired results. Furthermore, some financial products may be better suited than others to serve different types of finance needs. For example, expansions of existing operations with new or additional equipment may be best served by a loan or a lease, while financing the startup of a completely new business may require equity. However, the decision to choose a specific instrument for finance will depend on many project factors.

Matching ASGM needs to suitable finance providers

When targeting finance providers to meet the needs of ASGM enterprises, it’s important to take into account not only the providers’ financial objectives, but also their social and environmental objectives, if any. Table 1 shows likely finance sources by scale of finance need/types of ASGM operations, given the finance and other objectives of the provider. A discussion of further considerations, by type of finance, follows the table.
### Table 1 - Possible Sources of Finance, by Scale of ASGM Operations

<table>
<thead>
<tr>
<th>Finance Source</th>
<th>Microfinance; Village level savings</th>
<th>Commercial banks</th>
<th>National Development Banks</th>
<th>Pre-financing from downstream gold buyers</th>
<th>Private capital (equity, debt or blend), including impact investing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Objectives</td>
<td>Preservation of capital; modest returns at or below market rates</td>
<td>Competitive returns</td>
<td>Modest returns at or below market rates</td>
<td>Preservation of capital; potential repayment premium</td>
<td>Preservation of capital (“impact first”) to competitive returns (“finance first”)</td>
</tr>
<tr>
<td>Other Objectives</td>
<td>Support for livelihoods and poverty elimination; gender mainstreaming</td>
<td>For cooperative banks, mandate to support small business [may have more modest returns or below market rates]</td>
<td>Leveraging commercial capital with blended finance</td>
<td>Securing access to responsible sources of gold</td>
<td>For impact investors, defined, measurable social impacts deriving directly from investments</td>
</tr>
<tr>
<td>Scale of ASGM Supported</td>
<td>$500-10K (Artisanal scale)</td>
<td>$10K – 50K (Individual small scale)</td>
<td>$50K to 500k (community small-scale mining)</td>
<td>$500k – 5M (medium-scale, bundled small-scale)</td>
<td>$5-10M (larger operations e.g., centralized processing)</td>
</tr>
</tbody>
</table>

**Donor/philanthropic finance**
- Can support other types of finance through blended finance;
- Can also support ASGM-sector building through technical assistance

**Debt finance**

- **Microfinance.** Because microfinance does not require the same level of formality as typical commercial lenders, it could be especially suited for small operations that have limited financial skills and capacities. However, the amounts available from microfinance institutions are generally limited and would not necessarily meet the needs of miners who need to establish or upgrade operations to meet all formal environmental and social requirements required by formal lenders, investors, government and downstream gold buyers.
Local savings and credit schemes. The community-level management and monitoring inherent in village-level savings and loan schemes help to ensure that the funds are tied closely to the capacities and needs of the ASGM borrowers, and the conditions of the loans take into account local conditions. These schemes often involve the training of community members on finance and business skills. The amount of capital available from these local sources is likely to be relatively modest and thus most suitable for smaller operations.

Commercial banks. Banks are usually relatively conservative lenders, which will likely require the borrower to have hard asset collateral. In addition, because ASGM is perceived to be high risk, they may also require higher interest rates and/or rapid payment schedules, which will create barriers for many ASGM borrowers who require softer terms absent blended finance. In contrast, since cooperative banks are mandated to provide services to small businesses, they may have softer terms than private commercial banks.

National development banks. While NDBs are a diverse class of entities that have varying mandates and market approaches, generally, their development mandate enables these banks to focus on types of investments that contribute more broadly to long-term, dynamic growth, such as sustainability and support for innovative and small business. NDBs can play an important role in the growth of the ASGM sector, for example, by providing low-cost capital to incentivize commercial banks to lend to the ASGM. Financing could be accompanied by technical assistance, where needed.

Equity finance

Private equity investors. Some subsets of private equity investors—for example, those interested in “getting in early” on a growing sector, or those who want to generate financial returns through “responsible” investing—may be a good source for ASGM investment, perhaps through joint ventures or other equity arrangements. On the other hand, PE funds employ a rigorous due diligence process, and for new or undeveloped industries, the required return on investment is expected to be many multiples of the original investment. For these reasons, ASGM is not likely to have an attractive investment profile for large PE funds.

Impact investors. Impact investors are not necessarily risk takers, either in terms of reputational risk or financial risk, and thus are not always open to new investment sectors such as ASGM, even if it does present the potential for impact. Many impact investors are
publicly wary of mining and single out the sector as being inseparable from pollution and negative social impacts, perhaps due to a lack of familiarity with small-scale mining and its development potential. Nonetheless, opportunities for projects in sectors such as ASGM, which carry high risk but also have high potential for impact, may be found among more risk-tolerant impact investors—often HNWIs or family offices. HNWIs and family offices have the flexibility to follow their individual investment interests, as well as the ability to invest the relatively low sums appropriate for early-stage, unproven concepts. They also have much lower reporting requirements compared to larger investment firms, which reduces their exposure to reputational risk. Impact investing is growing: US$77.4 billion was reported to be under management in 2015, and this amount is projected to reach US$2 trillion by the end of 2025.\(^{22}\) Despite this sizable availability of impact finance, the amount invested is limited by the volume of investable projects matching the needs of investors\(^ {23}\) (that is, projects that meet targeted financial and impact returns). Further, the average deal size may be beyond the capacity and needs of some ASGM projects and would need an intermediary such as a social enterprise or other brokers to facilitate grouping multiple smaller investments in ASGM projects.

**Other potential sources of finance**

- **Larger scale gold mining companies.** Larger scale gold mining companies are known to invest in the acquisition of smaller gold mining companies or exploration projects. They may also invest in community development funds to augment corporate social responsibility initiatives. There is growing recognition of the opportunity for larger gold mining companies to invest more directly in ASGM, through an equity arrangement such as a joint venture or licensing agreement. Large-scale mining can also assist local ASGM operations, for example, by helping them access geological information on ASGM-accessible deposits or offering training on improved practices.

- **Downstream off-takers (refineries or commodity traders).** While downstream off-takers—or buyers of physical gold—are not traditionally investors in gold mining entities, they do sometimes enter into agreements in which an advanced payment is made in return for the right to purchase future gold produced by that mine, often at a discount. Recently there has been growing interest in the origin of gold from midstream and downstream companies, including gold refiners, and their small and large gold buying customers (international electronics companies, jewelry makers and finance companies). Some are actively engaging ASGM through streaming agreements and pre-financing to have better traceability. As investors in gold production, off-takers have different motivations from investors who seek financial returns. Off-takers are often concerned with London Bullion Market Association requirements, OECD Due Diligence Guidance, and increasing scrutiny from manufacturers and consumers. They may be willing to invest in ASGM, targeting capital preservation only, in return for access to responsibly mined gold and greater influence over the ESG performance of their upstream suppliers (although sometimes they require a repayment premium to offset

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transaction costs or to fund further Corporate Social Responsibility (CSR) engagement). Thus, off-takers are not “investors”: they are more interested in securing the product (responsible gold) than generating a return on investment. As such, they are not best placed to directly finance ASGM in the long run, but in the short to medium term, in the absence of other sources of finance, they could strengthen ASGM as an investable sector.

**Donor/philanthropic funding sources**

- Philanthropic or donor funding may be supplied by trust funds, charities, foundations or donor agencies, many of which are currently engaging with ASGM. These entities can supply grants to governments or NGOs to provide technical assistance to miners, to capitalize financial mechanisms for miners (such as government mining funds) and/or provide blended finance for leveraging private capital. Such funding may focus on achieving social objectives such as gender mainstreaming, supporting rural livelihoods, or addressing environmental issues. These funds can also be used to engage in proof of concept of regulatory strategies, alternative technologies, ASGM capacity building and pilot models of formal ASGM businesses, all of which help to develop ASGM as an economic sector. Donors or philanthropic funders do not typically expect their capital to be returned. However, some philanthropies engage in program-related investing, to further their programmatic strategy. They expect the principal capital to be returned with or without an additional, below-market interest rate. The financial return is secondary to the furthering of the philanthropic mission.

### 5.4 Developing ASGM-appropriate Finance Mechanisms

Governments, donors and others who wish to create specific finance mechanisms for ASGM (particularly debt mechanisms) can consider several steps to tailor these mechanisms to enhance their likelihood of success, including:

- **Research the types of financial services already available in the country**, especially those tailored to SMEs. It is crucial to have a clear understanding of the perceived and real barriers that banks and local finance providers face when considering ASGM, so that products can be developed (including through blended finance) to address these barriers. The long-term success of any finance option for ASGM hinges upon mobilizing local interest in continuing to provide finance after donor/government support ends. Working with local and national
lenders to participate in ASGM finance will help build domestic expertise in this sector and will enable scaling in hard-to-reach areas. Possessing the requisite geological and demographic information when talking to such institutions will increase interest and ultimately catalyze finance locally.

- **Educate and develop the capacity of financial institutions to evaluate ASGM projects.** Financial institutions may perceive ASGM projects as risky based in part on ignorance and misperceptions of the sector. Educating key decision makers in financial institutions could break down these perceptions and lead to successful financing. Even a basic description of ASGM operations, as well as some discussion of potential for gold yield and potential profits in small-scale concessions, could help build interest in miners as desirable customers. More knowledge sharing between the finance sector and ASGM can help each better understand the other’s needs.

- **Structure debt products to suit the ASGM target population.** Financial products should be tailored to the current capacities and needs of ASGM; the size and terms of the finance package should be appropriate for the capacity of the operation. For example, the design of the loan should consider concessional rates, and/or have features (e.g., grace periods, long repayment schedules) that accommodate the realities of miners, or else the programs will suffer from low repayments and/or no uptake. Finding innovative ways to provide collateral, such as using production history to provide evidence for the likelihood of future production, can also open up more debt finance for ASGM. This financing may include special arrangements such as alternative sources of collateral, lower interest rates, minimal down payment, extended payment terms, delayed payments until after the start of production, and seasonal skip payments. It could also include consideration of alternative forms of documenting profit potential, such as the use of production records, rather than geological studies, to provide evidence of the existence of the gold resource.

- **Incorporate principles of shared risk and group solidarity and cooperative formation, for the purpose of minimizing risk.** Although it is not advisable to “force” this coming together of people, particularly in locations where there is no culture of group work, if the situation allows, spreading financial risk and responsibility across groups has been a successful strategy to encourage financial responsibility in previous interventions.

- **Facilitate blended finance arrangements.** As described earlier, governments and/or donors can provide funds to help de-risk debt (or equity) finance through guarantees, collateral, or underwriting. For example, NDB capital can be used to guarantee loans from local banks lending in local currency.

### 5.5 Attracting More Private Investment to the ASGM Sector

Increased investment to the ASGM sector requires sufficient-sized investments, attractive rates of return, some evidence/track record of previous success and a proven local management team, all of which help to alleviate perceived ESG or reputational risk. Actions to attract more investment to ASGM include:
• **Develop investment-ready projects.** Identifying a suite of investment-ready projects that meet the attributes sought by investors can facilitate the engagement of investors. Key attributes of projects that are commonly considered by financers are project size, targeted returns, security, region, impact (in the case of impact investors), and risk-adjusted return.

**Investment size.** Investment mandates include minimum and maximum investment sizes. Generally, amounts ranging from tens of thousands to hundreds of thousands of dollars are appropriate for individual ASGM enterprises, unless projects are clustered or centralized—in which case investment can be larger, around US$1-2 million, for example. These figures are often low for many investors, who look for larger deals.

**Targeted returns.** A majority of investors are seeking market-rate returns unless they are nonprofit or impact-first investors. Some sources of finance may not expect a return, such as in the case of donor and grant finance, or impact-first investors.

**Security.** In the case of a debt investment, many investors require a marketable asset to be put up as collateral. Failing that, they might require a guarantor who can step in to cover at least some potential losses. Having some form of security in place before seeking investment makes the proposition more attractive by reducing risk, and for some investors this is a requirement. It is useful to understand the precise percentage of the principal investment they require the collateral to cover or the nature of security they will accept.

**Region.** Many investors include a geographic or jurisdictional restriction in their mandate, which is based on either perceived risk or regulations that prevent their investing in certain regions, such as conflict areas.

**Impact.** Formal sources of finance can be organized by their expectations for return on investment along a spectrum of “impact first” through to “finance first.” Finance-first investors are those who prioritize the generation of financial return on investment, such as banks or private equity mining funds. Impact-first or “impact” investors seek to generate some measurable impact in tandem, or as a priority over, financial return. Impact-first finance is often tied to specific impact-performance criteria that can incentivize such improvements.

**Risk versus return.** Investors consider the risk of a project relative to its potential return. Projects that are high risk and low return must reduce risk or increase return, or both. There are both real and perceived risks commonly associated with ASGM that must be eliminated or managed to attract more formal finance to the sector. If a risk is perceived but can be eliminated or managed, then real risk is lower than perceived risk. For example, investors may perceive working in ASGM in parts of Africa as extremely high risk, but the reality might be that the risk can be managed and mitigated, and that the real level of risk is therefore much lower.

• **Target early adopters and innovators.** ASGM projects can maximize their chances of securing finance by seeking innovators and early adopters, rather than diluting resources by searching for finance across the full range of finance sources. For investment, innovators are more likely to be found among high-net-worth individuals and family-office impact investors;
traditional mining finance, either large private equity or resource funds, and large or mining-adverse impact funds, should be lower-priority fundraising targets. Based on our research, key motivations present in those who are likely to invest in ASGM include one or more of the following: mission- or impact-driven, are seeking a competitive advantage, and are willing to take more risk. Some may consider a significant part of the return on investment to be the generation of impact not only at an enterprise level but also at the sector level, by providing proof of concept that enables other, less risk-tolerant investors to engage and scale up investment in ASGM.

### 5.6 Building Miner Capacity on Finance

ASGM operators need to develop the appropriate business management skills, and gradually build on their practical experience in successfully managing formal finance. Efforts to help build miner capacity include:

- **Help miners define finance needs and capacities.** Clearly defining ASGM finance needs makes it easier to identify the types of financers who are most likely to meet those needs. The ASGM finance needs and value proposition must align with the mandate of the potential source of finance. ASGM enterprises must understand their own capacity to accept and manage commercial finance, their own finance needs, and the terms on which they can and cannot engage a financer. Understanding the limits of its organizational capacity will assist an ASGM project in targeting sources of finance that are appropriate to its circumstances and minimize the risk of mismatched expectations between financer and financee.

- **Train miners to make the case using business plans.** Understanding how risk is evaluated by different types of financers enables ASGM projects to better proactively mitigate risk and present their strategies to prospective investors. ASGM operations looking for formal finance from commercial sources need to have a clear business plan describing the opportunity for value creation and detailing the resources required and the path to realizing that value. While business plans come in a variety of shapes/forms, they are essential for assessing the viability of the project. Formal lenders and equity investors learn a great deal about the business through such documents, which serve an important role in the financier’s due diligence process. A business plan should also include a clear understanding of the factors that may impact the ability to realize the potential value. The writeup of the investment opportunity can include: mine profile (production, cash flow, worker demographics); why the investment is required; what it will be used for; the expected rate of return; expected investment term; how the enterprise will benefit (economic growth, and measurable impact if required); volumes of gold it may be able to deliver; articulation of risks and a sensitivity analysis to understand best- and worst-case scenarios; steps that can be taken to eliminate risks or reduce
them to acceptable levels; and underwriting to cover financial loss where possible (through partnership with a guarantor). By clearly articulating how finance can support its business model and profitability, the ASGM enterprise will build confidence in its ability to repay the loan and allow greater clarity on the length of repayment period required and the rates of interest that would be feasible. An ASGM project may also wish to describe how investment might resolve specific environmental or social challenges within the project or its community, and if that impact would be measurable. If such measurable impact is possible, then impact investment might be approached as a suitable source of finance for the project. Trusted groups can play important roles in communicating with and educating miners on finance (and other) skills. Involving and empowering national ASGM associations, for example, can act as a conduit for reaching and communicating with operators of all types.

- **Encourage a participatory approach.** ASGM enterprises that participate actively in articulating their own investment needs improve chances of both social and financial returns. ASGM enterprises generally have a good idea of what they need to improve the viability of their businesses and can help shape feasible terms on which they repay their loans. For example, in regions where productivity is affected by seasonal rains, they may request repayment plans that include seasonal pauses or “grace periods” on loan repayments.

- **Support the development of intermediaries who can assist with facilitating finance.** Organizations such as donor agencies, NGOs, and social enterprises can play different roles in helping to facilitate access to finance, from providing technical assistance and education, to acting as a broker/bundler of multiple small ASGM projects. ASGM enterprises may only be familiar with local lenders and have limited financial literacy and low investment needs, unable to handle large loans. They may also lack trust in formal financial systems and prefer to rely on known, trusted informal actors and personal business relationships. Until
the enterprises themselves gain more experience with formal finance, social enterprises, social finance intermediaries, charities/NGOs, development and/or government agencies and programs, local banks and others can serve as a bridge between ASGM and financers. They can work with ASGM businesses to define and present their financing needs until the businesses establish sufficient financial and business literacy on their own. Intermediaries can also serve as effective bundling points of the finance needs of multiple ASGM enterprises. Such bundling is often required if working with small enterprises, as capital allocations in the hundreds of thousands of dollars (as typically required by ASGM projects) are regarded as uneconomical by many investors, since the cost of finance—due diligence, monitoring, reporting and collecting repayments—is high when compared with the potential total financial return on relatively small allocations to single enterprises. Clustering ASGM enterprises in lending/investment portfolios or building centralized processing hubs makes investment at scale increasingly possible.

- **Build financial experience of miners, step by step.** The business acumen and financial management capacity of ASGM can be developed through the following: financial literacy education, assistance in establishing finance and accounting systems, and assistance in developing business models and articulating investment needs. This capacity of the ASGM sector to absorb finance/investment and create a successful track record can be built over time. For example, initially, local entities such as village savings and loan associations may help build financial literacy and a basic financial track record for ASGM enterprises, while access to processing centers/processing services that serve as training and knowledge dissemination points can be an effective way to transfer information on safer and more effective production techniques. Once ASGM enterprises have a sufficient level of technical know-how, coupled with financial literacy, small loans or investments in low-to-mid-five-figure amounts may be appropriate, perhaps funded by microfinance, blended finance executed through local banks, or even financial innovators (social entrepreneurs, high-net-worth individuals, midstream companies, or early-mover impact investors). As both the finance and ASGM sectors mature, ASGM enterprises should be able to access conventional financial services for small- or medium-sized enterprises from banks.

For ASGM operators who are unable or unwilling to take on debt and/or where upfront capital costs of low/mercury-free equipment are a barrier, leasing can be a more feasible way to facilitate access to equipment for ASGM operators without paying high upfront costs. These leasing programs, accompanied by training, can also serve as a first step to engaging miners to build capacity and a track record for responsible financial management.

- **Help ASGM entities to eliminate/mitigate risks evaluated in due diligence assessments.** Due-diligence processes are used by finance and other entities to assess the business prospects of the mining entity and to evaluate environmental, social and governance risks. ASGM entities whose operations avoid and/or mitigate ESG risks will be more attractive to financial institutions as well as to downstream gold buyers. Education on common due diligence approaches will help miners mitigate relevant ESG risks and document conformance with relevant requirements. Specific training will be needed for ASGM
entities on conformance with due diligence criteria, including frameworks such as the OECD Due Diligence Guidance for Responsible Mineral Supply Chains,\textsuperscript{24} and on the methods for collection and documentation of evidence supporting conformance with ESG criteria.

5.7 Building Capacity of Other Actors in the Sector to Support ASGM

Other actors who engage with ASGM can play important roles in supporting the professional development of the sector and facilitating access to finance. Efforts to encourage the greater participation of these actors can include the following measures:

- **Enhance large-scale/small-scale relationships to build ASGM capacity and professionalization.** Knowledge of efficient processing methods, safety, value creation, and business skills among others can be transferred from large- and medium-scale operators to small-scale miners. For such transfers to be effective, trust relationships must be built between the large-scale operators and the small-scale operators. Although this may not be a long-term solution, these partnerships could be viewed as a step to transitioning toward a more independent, professional, sustainable licensed small-scale mining sector.

- **Use local actors for monitoring operations to enhance repayment.** One of the key success factors for repayment of finance is the ability to monitor activities of the borrower. Previous discussions with ASGM lenders in countries such as Ghana and Suriname brought to light the possibility of employing local monitors at ASGM sites. Local trusted gold buying entities, village associations, local civil society organization, local/community banks themselves (if they are the lenders), and other entities could be trained and capacitated to act as local monitors.

\textsuperscript{24} https://www.oecd.org/daf/inv/mne/mining.htm
However, some lenders indicated the ease with which such observers become corrupted by the quick access to cash that gold offers. It is therefore important that a system of multiple observers is implemented.

- **Consider the role of existing trust relationships.** New finance interventions should observe the organization and trust-based relationships that already exist; in particular, the key role played by middlemen as trusted brokers in existing informal financing will need to be taken into account in the design of new programs. It is unrealistic to assume that all these dynamics can be replicated, wholesale, in a new system of ASGM finance. These trust-based relationships often grew due to the lack of confidence and trust in formal systems and cannot be replaced overnight. Unless alternative roles are found for these middlemen, they can be expected to actively work to undermine changes in the *status quo*.

### 5.8 Documenting Results

As new finance models are tested for ASGM, the experiences with these interventions should be well documented in detail to enable later analysis of the causes of success or failure. Indicators of success in this area include:

- The type of financial instrument(s) employed;
- The number of financial support packages dispensed;
- The repayment rate (success linked to repayment of installments and the loans themselves);
- The number of people supported;
- The application success rate; and
- Actual evidence of operational improvements.

It is also advisable, once data on the suite of finance options are identified, to measure the numbers of corresponding applications/success rates/operators impacted. Gathering and maintaining this information is the foundation of a positive cycle: with more data comes more clarity and ultimately, greater interest, refinement, participation, and money.

### 5.9 Summary of Recommended Interventions to Overcome Finance Barriers

The recommended interventions described above can help to overcome both the barriers to accessing finance for ASGM, as well as the barriers to engaging with ASGM for finance providers. Table 2 matches the recommended interventions by governments, donors and other allies to the barriers they may help to address.
Table 2 - Summary of interventions, by barrier addressed

<table>
<thead>
<tr>
<th>Barriers to formal finance</th>
<th>Possible interventions by governments, donors, other allies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASGM</strong></td>
<td><strong>Finance Provider</strong></td>
</tr>
<tr>
<td>Lack of legal status of operations</td>
<td>• Accelerate formalization and professionalization of the sector, at local, regional and national governance levels</td>
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<td></td>
<td>• Provide technical support for more sustainable mining methods, potentially through enhanced relationships with large-scale miners</td>
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<tr>
<td></td>
<td>• Support better balanced public communications about ASGM to improve perceptions</td>
</tr>
<tr>
<td>Inability to meet due diligence requirements</td>
<td>• Educate miners on common due diligence frameworks</td>
</tr>
<tr>
<td></td>
<td>• Support miners in due diligence processes to demonstrate elimination/mitigation of relevant risks; including</td>
</tr>
<tr>
<td></td>
<td>establishing ESG baselines and ESG monitoring practices</td>
</tr>
<tr>
<td>Lack of finance products that meet needs of ASGM</td>
<td>• Collect data on the current ASGM landscape: target populations, geologies, supply chains, and existing financial services available to ASGM or other SME sectors in ASGM areas</td>
</tr>
<tr>
<td>(unfavorable cost and terms of finance, not suited to realities of operations)</td>
<td>• Educate financial institutions on the basics of ASGM</td>
</tr>
<tr>
<td></td>
<td>• Match appropriate finance source to ASGM needs</td>
</tr>
<tr>
<td></td>
<td>• When seeking investment, target early adopters and innovators who are more tolerant of risk</td>
</tr>
<tr>
<td></td>
<td>• Use blended finance to de-risk lending and investment</td>
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<tr>
<td></td>
<td>• Structure finance mechanisms to suit ASGM capacities (e.g., seasonal or skip payments, alternative sources of collateral, etc.)</td>
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<tr>
<td></td>
<td>• Encourage miners to actively participate in the design of products to suit their circumstances</td>
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<td></td>
<td>• Spread risk across multiple responsible entities, where feasible</td>
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<tr>
<td></td>
<td>• Use local actors for monitoring repayment</td>
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<tr>
<td></td>
<td>• Build miners’ finance track record, step by step</td>
</tr>
<tr>
<td></td>
<td>• Document results, quantitatively where possible, to create track record for finance returns and positive impacts</td>
</tr>
<tr>
<td>Lack of business experience/data to make business case</td>
<td>• Assist miners with developing geological/technical knowledge to articulate the value of their mining assets</td>
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<tr>
<td></td>
<td>• Use existing trust relationships to communicate and educate miners on finance</td>
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<tr>
<td></td>
<td>• Build miner capacity in finance, by helping to clearly define needs and build business plans</td>
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<tr>
<td></td>
<td>• Identify and develop a suite of investment-ready projects that suit investors’ criteria</td>
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<tr>
<td></td>
<td>• Support the creation/development of intermediary organizations (social enterprises, CSOs) who can help miners build finance capacity, act as go-betweens, etc.</td>
</tr>
<tr>
<td></td>
<td>• Include a broad range of business services to miners, over time, to complement finance</td>
</tr>
<tr>
<td>Size of operations</td>
<td>• Use intermediaries to help bundle projects to increase size of overall finance/investment</td>
</tr>
<tr>
<td>Transaction costs associated with small amounts of finance</td>
<td></td>
</tr>
</tbody>
</table>
6. The Future of ASGM as an Economic Sector

The profile of the formal ASGM sector as a whole is evolving, in terms of its level of professionalization. Over time, different types of finance will become more readily available as ASGM matures as a sector. Annex 1 shows how different sources of finance have different roles in building the formal, professionalized ASGM sector over the long term. Grant and donor funding, and sometimes offtakers or mining companies, can be seen as builders of market infrastructure for the sector. For more substantial (but still small-scale) operations, the foundations laid by infrastructure builders can attract market innovators to enter the sector. These actors have a higher risk threshold and a mandate for “patient” capital, which means their expectation for the timing of loan repayment or exit can extend to many years. In some cases, they may be willing to accept below-market rates of return. This source of finance can be used to demonstrate formal ASGM enterprises as responsible finance recipients, and can target ESG or development goals, such as mercury elimination. Once solid financing experience has been documented and the sector has a better track record, thus de-risking the sector, the market scalers (e.g., large resource funds, impact investors targeting market rates of return, lending banks, or large private equity funds), which are less tolerant and seek proven concepts with competitive returns, may be more attracted to enter. Once this final phase is reached, the sector will be mature enough to access the full suite of formal finance options. This continuum can be viewed as applying to the sector as a whole; it can also be applied to individual companies that will follow their own path through a series of different financial relationships, as the companies grow in size.

Different kinds of finance “archetypes” engage with a developing sector like ASGM at different stages as the market matures. Innovators are visionary and creative with a high risk tolerance; Early Adopters seek a competitive or strategic advantage with a view to reinventing the mainstream; the Early Majority is cost sensitive and risk averse, and seek proven concepts and simplicity; the Late Majority are highly conservative, risk averse and compliant with social norms; and finally, the Laggards are last to accept, and may be driven to do so by external factors. Based on the results of the research mentioned above, sources of finances were mapped onto the curve of adoption to help identify the characteristics of innovators and early adopters for the ASGM sector (Annex 2). This mapping shows that potential innovators and early adopters span multiple categories of finance sources, including off-takers, impact investors (including debt from a family office, social impact bonds, and blended finance combining development finance institutions (DFIs) and national commercial banks), donor and grant finance, responsible equity investment (as private investors or an investor consortium) and investment through ASGM-mining partnerships. Entities such as national banks may be viewed as more traditional or risk-averse sources of finance, but interviews revealed that some, with the right support, might be willing to engage with ASGM. This confirms that, when targeting financial actors to attract to the ASGM sector, it may be more effective to focus on investor archetype than finance type.

Access to investment, finance and markets is essential for small-scale gold miners and their communities to ensure the long-term viability and development of a responsible ASGM sector. The ASGM industry is diverse and it is therefore important to understand the different sources of financing, the mechanisms they provide and the applicability of those mechanisms to the various recipients. A number of financial interventions may be feasible options for ASGM enterprises, such as government-backed finance schemes or innovative impact investments. Incorporating elements in financial mechanisms that mitigate real and perceived risks is key to facilitating access to a wider range of financial services for ASGM enterprises. Due to the persistent perception among financiers that ASGM is a high-risk industry, continued intervention from public and philanthropic capital will likely be needed through blended finance models in order to offset risk for private sector financiers. Seeking financing from impact-driven high-net-worth individuals and family-office impact investors willing to take more risk can also maximize the chances of an ASGM project securing financing.

Moving forward, as more positive experiences are documented in the sector providing proof of concept that these enterprises are viable, other financial actors that are less risk-tolerant will be enabled to engage and scale up investment in the responsible ASGM sector. Developing the knowledge and capacity of both miners and financial institutions should additionally help open up access to more conventional financial services.
## Annex 1 - The Investment Continuum

<table>
<thead>
<tr>
<th>Finance Source</th>
<th>Informal Finance</th>
<th>Donor and Grant Finance</th>
<th>Impact Only</th>
<th>Impact</th>
<th>Sustainable</th>
<th>Responsible</th>
<th>Financial Only</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Role in ASGM Sector</strong></td>
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<td>Competitive return</td>
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<tr>
<td>Delivering competitive financial returns</td>
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<tr>
<td><strong>Focus</strong></td>
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<tr>
<td>Addressing social, environmental and economic impact with no expectation of return</td>
<td></td>
<td></td>
<td></td>
<td>Mitigating Environmental, Social and Governance risks</td>
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<tr>
<td>Delivering measurable high impact solutions</td>
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<td></td>
<td>Pursuing Environmental, Social and Governance opportunities</td>
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<tr>
<td><strong>Targeted Return</strong></td>
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<tr>
<td>No returns</td>
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<td>Capital Preservation</td>
<td>Below market returns</td>
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<tr>
<td>Competitive</td>
<td></td>
<td></td>
<td></td>
<td>Competitive financial returns</td>
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<tr>
<td><strong>Investor Profile</strong></td>
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</tr>
<tr>
<td>Focusing entirely on financial returns with no concern for environmental, social or governance practices</td>
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<td></td>
<td>Addressing social, environmental and economic challenges that will not generate a financial return for investors but where capital investment will be preserved</td>
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<tr>
<td>Addressing social, environmental and economic challenges while targeting below market financial returns</td>
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<td></td>
<td>Addressing social, environmental and economic challenges while targeting competitive financial returns</td>
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<td></td>
<td></td>
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<tr>
<td>Addressing social, environmental and economic challenges while targeting competitive financial returns</td>
<td></td>
<td></td>
<td></td>
<td>Adopting progressive environmental, social and governance practices to enhance investment value</td>
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<tr>
<td>Mitigating environmental, social and governance risk to protect investment value</td>
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<td></td>
<td></td>
<td>Focusing entirely on financial returns with limited concern for and minimum compliance to environmental, social or governance practices</td>
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<tr>
<td><strong>Evidence of activity in ASGM Sector</strong></td>
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<tr>
<td>*Mercury traders</td>
<td>*CSR programs</td>
<td>*midstream companies</td>
<td>*International development funds</td>
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<tr>
<td>*Gold traders</td>
<td>*Equity investors</td>
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</tbody>
</table>

**ASGM financing activity along the continuum to date**
Annex 2 - The Curve of Adoption

<table>
<thead>
<tr>
<th>INNOVATORS</th>
<th>INNOVATORS</th>
<th>INNOVATORS</th>
<th>INNOVATORS</th>
<th>INNOVATORS</th>
<th>INNOVATORS</th>
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</thead>
<tbody>
<tr>
<td>Commodity Trader (blending impact investment and streaming agreement) already engaging with one ASM group</td>
<td></td>
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<tr>
<td>Private equity investor (with hybrid Impact focus) invested in one ASGM with local partner</td>
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<tr>
<td>Impact Investment through social enterprise/Family Fund hybrid actively investing in and engaged with ASGM project</td>
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<tr>
<td>Grant funding (to unlock commercial loan) actively invested in ASGM</td>
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<tr>
<td>ASM &amp; Corporate Partnership (non-gold) need driven innovation that led to seeking and experiencing a business advantage</td>
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<tr>
<td>Local lending bank &amp; DFI disbursing loans to ASGM</td>
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<tr>
<td>Refinery investing in ASGM to promote change in supply chain and eventually demonstrate commercial viability</td>
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<tr>
<td>Refinery investing in ASGM as corporate responsibility</td>
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<tr>
<td>Grant funding for ASGM social enterprise</td>
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<tr>
<td>Private equity investor consortium profit sharing agreement with ASGM</td>
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<tr>
<td>Impact Investor invested and exited from ASGM project</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>EARLY ADOPTERS</th>
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<tbody>
<tr>
<td>National commercial bank interested to loan to ASGM with a 3rd party facilitator including a guarantor function</td>
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<tr>
<td>Social Impact Bond scoping and interested in developing an innovative product for ASGM</td>
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<tr>
<td>Impact Investing (blended finance) not currently investing in ASGM but interested and risk tolerant</td>
<td></td>
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<tr>
<td>Impact Investing interested to engage through programmatic investing</td>
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</table>

<table>
<thead>
<tr>
<th>EARLY MAJORITY</th>
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<th>EARLY MAJORITY</th>
<th>EARLY MAJORITY</th>
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</thead>
<tbody>
<tr>
<td>Cooperative bank expressed some interest in ASGM but were limited by lack of evidence of manageable ESG footprint</td>
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<tr>
<td>Impact Investing (general) ASGM is just not mainstream enough for the Impact Investing majority</td>
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<tr>
<td>Impact Investing perceive ASGM as too young and unproven but may revisit this in 2-4 years as they see the impact potential</td>
<td></td>
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<tr>
<td>Impact Investing perceive ASGM as not ready but should, over time, be able to deliver market rates and manage risk</td>
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<tr>
<td>Foundation have reviewed ASGM projects, but the sector is not ready</td>
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<tr>
<td>Impact Investing are interested in ASGM but at a firm level it would require &gt;2Million investment size</td>
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<tr>
<th>LATE MAJORITY</th>
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<th>LATE MAJORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private equity fund Simply not “investor grade” and too much risk. May consider investing into ASGM through a 3rd party with a view of cleaning up the sector (impact)</td>
<td></td>
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<tr>
<td>Private equity unable to invest under current structure as fund targets USD20M transactions and ASGM is perceived as very high risk, however sustainability is becoming of more longer-term interest</td>
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<tr>
<td>Impact Investing perceive ASGM as not ready but should, over time, be able to deliver market rates and manage risk</td>
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<tr>
<td>Mining company (general) perception is ASGM as a risk however if co-existence becomes more proven it (investment) may become a viable solution to conflict and companies are becoming more interested in this</td>
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<tr>
<td>Impact Investor ASGM is not currently investable</td>
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<tr>
<th>LAGGARDS</th>
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</thead>
<tbody>
<tr>
<td>Resource fund unwilling and unable to invest in ASGM. It is not perceived as a commercial opportunity and the lack of corporate structure is a risk. They are limited by shareholder obligations and see ASGM as a development challenge</td>
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<tr>
<td>Resource fund unwilling and unable to invest in ASGM, the only invest in publicly listed entities. ASGM is outside the remit of resource funds</td>
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<tr>
<td>Resource fund unable to invest in ASGM as listed with a shareholder mandate but if mining companies start investing in ASGM, resource funds may follow</td>
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<tr>
<td>Impact Investor not willing to consider ASGM as it is not a sector they support</td>
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<tr>
<td>Refinery where ASGM is not part of the business model</td>
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<tr>
<td>Investment banking ASGM is generally not appropriate and poorly understood. Lower risk, stable investments are typically sought</td>
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<tr>
<td>National bank cannot finance ASGM due to current due diligence requirements</td>
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<tr>
<td>Impact Investor has no plans to finance any kind of mining project</td>
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</tbody>
</table>

Annex 2 - The Curve of Adoption

ASGM financing currently falls in the innovator or early adopter category.

Note: Interviewees were placed on the curve of adoption where they were interpreted to fit based on the discussion. This plot gives general insights into different financing sources and where they might fall on the curve of adoption. Non-responses may not necessarily indicate a disinterest in ASGM.

Interpreted archetypes of supply side interviews mapped on to the curve of adoption.

( Based on curve of adoption theory, Rogers, 2003)
Annex 3 - About the Issue Brief

This issue brief produced by planetGOLD presents an overview of fundamental concepts, global experience and recommendations for improving access to finance for artisanal and small-scale gold miners. Portions of the material contained in this report were originally published in two in-depth planetGOLD reports:

- **Access to Finance - Options for Artisanal and Small-Scale Mining**, authored by Abby Efua Hilson and Gavin Hilson, May 2020; and

- **Unlocking Finance for Artisanal and Small-Scale Gold Mining - A Frontier Investment Sector**, authored by Sarah Caven, Assheton Carter and Ed Bowie, March 2020

Some material from these reports has been summarized in this issue brief, supplemented with additional information and background for further explanation and clarification. Readers are encouraged to consult the original reports for more detailed information.

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Supported by the Global Environment Facility and led by the United Nations Environment Programme, planetGOLD works in partnership with governments, the private sector, and ASGM communities in nine countries to significantly improve the production practices and work environment of artisanal and small-scale miners. By working to close the financing gap, supporting formalization, raising awareness, and connecting mining communities with mercury-free technology and formal markets, the programme aims to demonstrate a pathway to cleaner and more efficient small-scale gold mining practices that benefit everyone, from mine to market. The planetGOLD programme is implemented in partnership with the United Nations Industrial Development Organization, United Nations Development Programme, and Conservation International.