

## Lessons learned on managing the interface between large-scale and artisanal and small-scale gold mining



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## Contents

Foreword – Monica Rubiolo	
Swiss Government Secretariat for Economic Affairs	01
1. Introduction	02
2. Executive summary	06
3. Background	10
4. Company organisation, policies and tools	20
5. Understanding the local stakeholder and ASGM context	25
6. Working with governments and mobilising partnerships	34
Perspectives 1 – Carolina Rojas-Hayes Former Vice Minister of Mines of Colombia	42
7. Formalisation and Coexistence	43
Perspectives 2 – Marcin Piersiak Executive Director, Europe, Alliance for Responsible Mining	51
8. Socio-economic development and alternative livelihoods	52
9. Capacity building and providing technical support	59
Perspectives 3 – Ludovic Bernadaut Co-lead UNEP Mercury Partnership, ASGM area	64
10. Security, conflict, human rights and child labour	65
11. Market access and due diligence	73
12. The beginning and the end – interactions between LSM and ASGM at exploration and closure	80
13. Understanding local ASGM: baseline checklist	86
Appendix A Index of case studies by company	90
Appendix B Index of case studies by country	91
Appendix C Risks and opportunities for large-scale mining companies in their interactions with ASGM	92
Bibliography	95

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Cover image: Artisanal gold miner underground.  
Photograph taken in Yako, Burkina Faso. Copyright: Hugh Brown.

# Foreword



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Artisanal and small-scale gold mining is a particularly important development issue. It generates employment and income for over 20 million workers worldwide and feeds around 100 million people. It is at the source of 20% of the global gold production and has therefore the potential to act as an economic engine to drive mineral-endowed communities. However, it also poses problems that must be solved if it is to contribute to poverty reduction.

However, the environmental and social challenges of artisanal and small-scale gold mining (ASGM) are numerous: uncontrolled use of mercury, deforestation, water contamination, child labor and source of income for criminal groups - the list is long and tackling these issues is a complex endeavor.

Switzerland is a leading gold trade center worldwide due to its political neutrality, macroeconomic stability and financial strength, as well as its manufacturing and watchmaking tradition. This places a special responsibility on Switzerland in the gold supply chain, both nationally and internationally. Building on the significant development potential of ASGM, SECO launched the Swiss Better Gold Initiative back in 2013 in line with the recommendations of the Federal Council, together with the Swiss Better Gold Association, as a public-private partnership. While we are proud of the results of the initiative so far, we acknowledge that there is still a long way to go in order to bring a majority of ASM gold mines into a formalised, socially and environmentally responsible state. In the search for higher development impacts, the relationship between ASGM and large-scale mining (LSM) must be further explored and synergies developed in order to maximize the outreach.

This report not only addresses the challenges linked with ASGM, but also the potential and untapped synergies between ASGM and LSM in a comprehensive way, providing the lessons learned from various companies and initiatives. We congratulate the World Gold Council for this study and we encourage the different actors including governments along the supply chain, to engage with legitimate ASGM and to commit to its responsible operation, to build on the lessons learned and to participate in a more collaborative effort between ASGM and LSM. On our end, we are committed to continue the dialogue with all stakeholders and to support our partner countries with policy dialogue and technical assistance.

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# 1. Introduction

Artisanal and small-scale gold mining (ASGM) has existed over many centuries. With low barriers to entry and high poverty levels, ASGM<sup>1</sup> is one of the fastest growing rural livelihoods in many developing countries. Many artisanal and small-scale miners earn significantly higher incomes than are offered by most other rural livelihoods such as fishing, farming or forestry. And yet... the sector is also a source of major environmental, social, human rights and governance concerns, since the great majority of ASGM occurs outside of legal frameworks.

This report shows that many leading gold mining companies are engaging with ASGM issues, both in and around their mines and at a policy level. Where circumstances permit, they welcome the opportunity to work with governments, industry groups, civil society organisations and responsible artisanal and small-scale miners to better understand how to reduce the negative impacts of ASGM and to improve developmental outcomes. In addition, collectively, through the World Gold Council, they are committed to protecting the integrity of the gold market from illicit flows and to reducing the marginalisation of responsible ASGM in legal gold markets.

Limited progress with formalisation<sup>2</sup> of ASGM impedes enforcement of laws and health and safety and environmental standards, diverts significant gold flows into illicit channels and makes even responsible artisanal and

small-scale miners vulnerable to exploitation and extortion. The lack of legal status of many ASGM entities not only makes it more difficult for government agencies or large-scale mining companies to work with them, but also hinders their access to banking services, as well as direct participation in mainstream gold markets.

Collectively, governments, development agencies, large-scale miners and other businesses, financial institutions, civil society and ASGM groups have fallen short of their shared ambitions to make progress in improving the working conditions and life chances of millions of poor people. Political will and effort have been invested in addressing two specific areas of concern related to ASGM – reducing mercury emissions, and preventing measures introduced to counter so-called ‘conflict minerals’<sup>3</sup> from excluding responsible small-scale miners from the market.

1. This report principally focusses on Artisanal and Small-Scale Gold Mining (ASGM). In some places there are references to ASM (i.e. artisanal and small-scale mining that involves other commodities such as gemstones, tin, tantalum, tungsten, cobalt and construction materials). See below for discussion of definitions of ASGM and ASM (chapter 3, page 10) but, in brief, it refers to mining activities that involve low capital intensity and high labour intensity and are typically carried out using basic equipment and relatively simple methods of exploration, extraction and processing. About half of total ASM activity involves gold.
2. The InterGovernmental Forum on Mining, Metals and Sustainable Development defines formalisation as ‘the process of bringing informal income-earning activities into the formal sector through legal, regulatory and policy frameworks as well as the extent to which such laws and regulations are successfully activated, implemented and enforced by the relevant authorities’.
3. ‘Conflict minerals’ are minerals and metals the mining of which may be used to fund illegal armed conflict or armed groups or contribute to serious human rights abuses. US legislation identifies ‘conflict minerals’ as applying to tin, tantalum, tungsten (the 3Ts) and gold and is focussed on the Democratic Republic of Congo and surrounding countries. The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas covers all minerals not just the 3Ts and gold.



Calibre had approximately 1,125 artisanal miners in its Borosi Exploration concession (RACCN, Nicaragua).  
Copyright: Calibre Mining Corporation.

But even in these limited areas, progress is disappointing. In relation to mercury, for example, there is a widespread view that emissions released annually to the environment through ASGM remain stubbornly high, despite the commitments made under the Minamata Treaty and the valiant work of some international agencies. Despite a drive to reverse the unintended marginalisation of 'responsible' ASGM that has resulted from measures like the Dodd-Frank Act,<sup>4</sup> only 1% of the throughput of London Bullion Market Association (LBMA) refineries comes directly from artisanal and small-scale mining, whereas ASGM output is widely estimated to account for around 20% of newly-mined gold production.

Critics may argue that large-scale miners (LSM) have too often been absent from discussions about the responsible management of ASGM. This reflects, in part, the historical difficulties that many LSM companies have faced in interacting with small-scale miners who operate outside of legal frameworks. Moreover, the behaviour of some may be disruptive or even violent. LSM operators are typically concerned about ASGM's associations with mercury use, poor safety practices and child or forced labour, and by the possibility of breaching their concession agreements or corporate codes of ethics or of opening themselves to liabilities for environmental damage they haven't caused. Many of the issues and situations involved are complex and can entail difficult choices.

4. The Dodd-Frank Wall Street Reform and Consumer Protection Act 2010, contained three provisions on mining: sections 1502, 1503 (mine safety) and 1504 (disclosure of payments to governments). Section 1502 designated four commodities mined in the Democratic Republic of Congo (DRC) and surrounding countries – tin, tantalum, tungsten and gold as 'conflict minerals' and created a disclosure requirement for companies to determine whether their products contain any of the four minerals and, if so, to conduct supply chain due diligence to determine whether they could have been tainted by funding conflict or by serious human rights abuses, and to report on this to the Securities and Exchange Commission (SEC).

The context for ASGM varies according to location. This report does not advocate a uniform response to resolving the complexities of managing the LSM/ASGM interface, nor does it seek to be prescriptive or to suggest that large-scale miners have superior insights. Rather, whilst drawing on sources of international good practice, like the UN Guiding Principles on Business and Human Rights, it sets out to share examples of what leading companies are doing to improve their interactions with ASGM. The report has three objectives:

- To share successful management and engagement practices between large-scale mining companies and other stakeholders. There is a lot to learn about how to build more sustainable models
- To raise awareness of the practical and policy dilemmas facing some large-scale miners in the absence of legal frameworks to accommodate coexistence arrangements between LSM and ASGM
- To contribute to discussion about the best ways of building a greater multi-stakeholder consensus around the responsible social and environmental management of ASGM, especially where it interacts with LSM.

National governments need to take the leading role, especially through formalisation and a focus on improving social, environmental and governance practices in the sector. International organisations like the World Bank, UN agencies, the Organisation for Economic Co-operation and Development (OECD) and the Inter-Governmental Forum on Mining, Minerals, Metals and Sustainable Development, have undertaken – or are undertaking – valuable work to support national policy making. But other actors have important roles in supporting this process. As the World Gold Council’s 2019 position statement on ASGM and the Responsible Gold Mining Principles make clear, where conditions allow, large-scale gold mining companies aim to play a constructive role in the development of good practices. A collaborative effort is likely to be needed if those artisanal miners who want to observe decent standards and operate within a legal framework are to be brought into the mainstream, and if poverty and governance challenges that inhibit their ability to contribute to sustainable development are to be addressed. Most LSM operations have the objective of leaving the communities where they work in a much better position through their presence; illegal, disruptive or ‘rush’ ASGM can undermine that objective; conversely, responsible artisanal mining, working within the rules, can be a facilitator of progress.

In relation to resolving the complexities of due diligence on ASGM suppliers, national governments, donor agencies, central banks, large-scale miners, industry associations, trade unions and supply chain actors may all have parts to play, but their efforts need to be better connected. It is also true that some ASGM groups are dominated – willingly or otherwise – by criminal or corrupt elements. National governments and international agencies need to be more effective in combatting this. The rule of law is fundamental, from the mine site, through the supply chain to the operation of gold markets.

Most ASGM does not occur around LSM sites. Thus, the LSM/ASGM interface examined in this report is just a part of the overall challenge. The focus of the report is on building bridges to responsible ASGM groups and, where geology and other factors make this possible, on

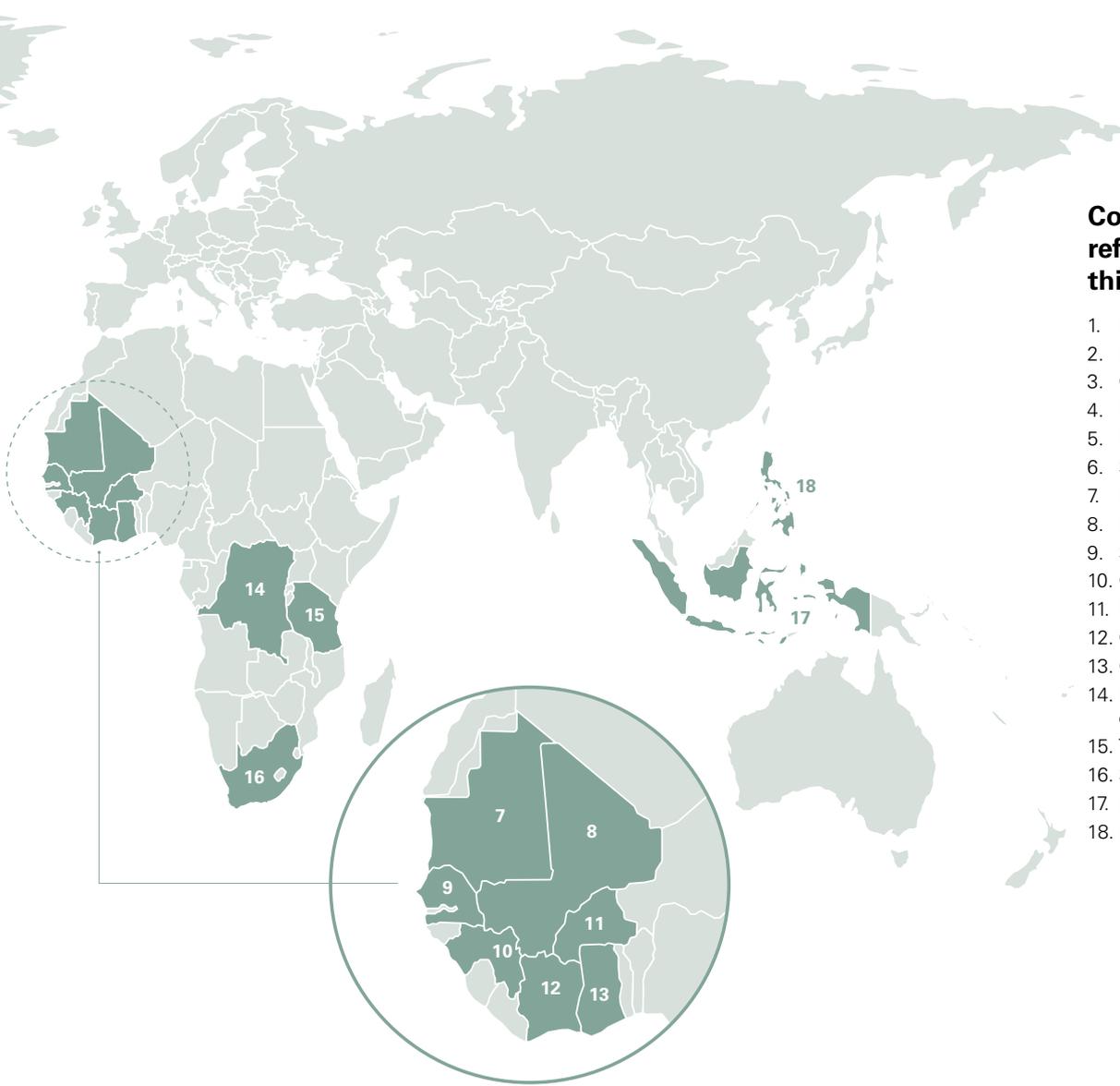


co-operation. There needs to be effective government engagement and strong governance arrangements around formalisation. And companies need an accurate understanding of local drivers of ASGM activity, who the stakeholders are and of the key technical, political, social and economic factors at work.

Over the medium term, an objective should be to move from the interface between LSM and ASGM being primarily seen as a source of risk to the rule of law, safety, security and the environment. Instead, where local circumstances make this practicable, responsibly conducted ASGM may have the potential to become a source of opportunity to improve local development outcomes. In many cases this may not be easy. But, in principle, a co-operative approach is in the interests of both large-scale mines (offering the chance of more harmonious project development, more

sustainable closure planning and better outcomes for local communities), and of small-scale miners (through improved safety, social and environmental outcomes, a reduction in their vulnerability to extortion and the prospect of better access to legitimate funding sources and improved processing technologies). We hope that this report helps to motivate a range of actors and partners to work together in resolving a key challenge for the gold sector.

We hope that stakeholders will provide us with their views and feedback. As a start to building a greater consensus around improving the interface between LSM and ASGM we welcome the Perspectives articles contributed by Carolina Rojas-Hayes, former Vice Minister for Mines in Colombia; Marcin Persiak of the Alliance for Responsible Mining and Ludovic Bernadaut of the UNEP Planet Gold mercury reduction programme.



**Countries referenced in this report**

1. Honduras
2. Nicaragua
3. Colombia
4. Ecuador
5. Peru
6. Suriname
7. Mauritania
8. Mali
9. Senegal
10. Guinea
11. Burkina Faso
12. Cote d'Ivoire
13. Ghana
14. Democratic Republic of Congo
15. Tanzania
16. South Africa
17. Indonesia
18. Philippines

## 2. Executive summary of lessons learned on the interface between large-scale and artisanal and small-scale mining

The reality that underpins this report is that the contexts for interactions between large-scale and artisanal and small-scale gold mining vary widely; lessons learned in one context are not necessarily applicable in others.



Artisanal Gold Miner in an ore packing shed in Bibiani, Ghana. Copyright: Hugh Brown.

That is one reason why this report highlights company initiatives in the management of ASGM but does not prescribe any specific set of 'solutions'. Indeed, the sustainability of even successful LSM/ASGM projects can be undermined by external factors such as regulatory changes, natural disasters, pandemics, conflict or the influx to a project area of unsustainable numbers of miners, or by internal issues such as leadership changes or resource constraints. Some schemes which seemed for a period to be successful have proved to be short-lived. Some have been victims of their own success, others have proven to be misconceived or been based on an incomplete understanding of local conditions.

But the increasing numbers engaged in ASGM, the potential for responsible ASGM to reduce poverty, the need to address negative impacts and to reduce illicit flows associated with ASGM make it important for large-scale mining companies to be more closely engaged, especially with governments, supply chain participants, civil society and responsible ASGM groups, in finding ways to improve the situation. The fragility of models for coexistence or for addressing the menace of criminal mining should make the sector clear-sighted about what works and what does not; ready to be agile and adaptable and to draw upon the strengths and perspectives of a broad range of stakeholders. The efforts of individual actors acting alone have often failed to achieve sustainable change. Where local circumstances allow, the time is ripe for more collaborative efforts, wherever possible led by governments.

This report aims to provide a platform for large-scale mining companies and other actors to share not only their challenges, but also the progress that they have achieved and what has been learned from failures as well as successes. And importantly, it focusses attention on the need to get incentives and regulatory frameworks right. In compiling this report we have had input from 15 companies and drawn experiences from 25 mines or projects in 18 countries. Primarily, we feature examples from World Gold Council member companies but we have been glad to welcome contributions from others such as Harmony Gold and Lundin Gold, as well as material contributed by the Swiss Better Gold Initiative and the Alliance for Responsible Mining. The following 20 points distil some key lessons from these experiences and from industry social practitioners.

## Company organisational models

### **1. Successful LSM/ASGM management is based on an holistic approach**

Traditionally, many mines have relied on security interventions to manage their interfaces with ASGM. Whilst site security remains crucial, successful company ASGM strategies are based on input from a combination of site functions, including social performance/community relations; government relations; health and safety; environment; operations; exploration; legal; procurement and human resources (see IAMGOLD in Suriname and **chapter 4** – Company organisation, processes and tools).

### **2. Co-operation and trust between ASGM and LSM thrives through continuity of relationships**

Personal relationships and a shared collective memory are often fundamental to the creation of ongoing collaboration and so it is important to plan carefully for significant personnel transitions or organisational changes. In some locations the risks attaching to the ASGM interface may justify a dedicated team to manage the relationship.

### **3. Move beyond a risk management mindset to consider how LSM/ASGM co-operation might generate business opportunities**

For example, this could include bringing satellite deposits to account through the creation of sub-contracting arrangements with ASGM groups (where this is technically and legally feasible and integrity can be guaranteed) as well as realising significant savings through, for example, reduced security costs.

## Building constructive LSM/ASGM relationships

### **4. Trust is fundamental**

Significant cultural differences between LSM and ASGM and underlying grievances or power imbalances, can complicate the task of building trust. Adapting community engagement approaches, using a mediator or creating multi-stakeholder forums often helps the process of building confidence (see Newcrest in Indonesia). Similarly, LSM companies will be, rightly, wary of working with ASGM actors who are associated with incursions into mining areas, smuggling or the use of direct action or violence.

## **5. Capture reliable ASGM data through impact assessments**

It is important for companies to build an accurate understanding of the presence, scale and characteristics of artisanal and small-scale mining at an early stage including through ESIA's. This makes it easier, where relevant, to negotiate compensation and/or substitute livelihood arrangements, or seek to identify viable alternative areas for ASGM mining (see Kinross in Ecuador).

## **6. Understand the context**

Large-scale miners need an accurate baseline that enables them to understand the often highly complex socio-economic and governance factors at work among local ASGM. They need to recognise factors that should be regarded as red flags or risks and develop mitigation strategies. It is crucial that the LSM company understands such risks, identifies supply chain issues and knows who ultimately benefits financially from their activities (see Resolute in Mali, Endeavour in West Africa and **chapter 13** Baseline Checklist).

## **7. Don't reward disruptive behaviour**

Vested interests may seek to disrupt the development of more constructive and formalised LSM/ASGM arrangements. For example, militant elements may see roadblocks or pit invasions as a way to wreck confidence building or as smart negotiating tactics. LSM companies may offer technical support in areas like safety and health, or in improving gold recovery rates – but such support should be conditional on constructive behaviours and not offered in response to confrontational behaviour.

## **8. Controlling in-migration**

Stable ASGM formalisation and coexistence programmes can be overwhelmed by an influx of miners from other areas, either because they trigger conflict or their numbers are simply too great for the available mineable resources. It is, therefore, important for formalisation schemes, particularly those based on the creation of ASM 'corridors', to be backed by a consensus with government agencies, community leaders and local ASGM leaders around measures to discourage unsustainable in-migration and to ensure controls over access to mine sites (see Calibre Mining in Nicaragua and IAMGOLD in Suriname).

# **The Essential Role of Governments**

## **9. Government leadership**

It is vital for national governments to be engaged and to provide leadership both in formalising responsible ASGM and in protecting the investment made by large-scale mines against predatory or disruptive behaviour from illegal miners. But it is also crucial for governments to have in mind the importance of the right incentive structures to encourage formalisation.

## **10. It may be necessary to support governments through the formalisation process**

In some countries formalisation programmes fail because of government capacity constraints or difficulties in aligning ministries, or national and regional agencies. Companies may be able to help mobilise international expertise, or attract involvement from international donors or IGOs, in order to devise workable models (see Barrick Gold in Mali and AngloGold Ashanti in Guinea).

## **11. Ensure government agencies are ready to play their role**

Before considering surrendering concession areas for ASGM corridors, companies would be wise to consider the capacity of governments to regulate and police the reallocated concession areas for use by responsible ASGM groups. Ceding concession areas without a workable formalisation plan to benefit 'legitimate' ASGM and/or limitations in the capacity of local law enforcement to protect land for allocated users, risks wasting a one-off opportunity to improve ASGM governance standards (see Golden Star in Ghana).

## **12. Large-scale miners should be willing partners and not pressured to act under duress**

As is clear from several case studies, even where gold mining companies have voluntarily surrendered concession areas for reallocation to ASGM, geological or logistical complexities may inhibit success. Moreover, the opportunity of partnership between governments and business in addressing ASGM challenges and of investor support will be diminished if host governments are perceived to be effectively seeking to expropriate concession areas.

## Formalisation and coexistence

### 13. Formalisation needs effective organisational structures

It is very difficult for government agencies or companies to interact with or formalise ASGM in the absence of effective organisational units, such as co-operatives, to exert control over mining, safety, environmental, processing and commercial activities (see Newmont in Suriname, B2Gold in Colombia, and Gold Fields in Ghana).

### 14. Companies may benefit from sharing geological data with host governments or with authorised ASGM groups

Experience shows that when companies move miners from prospective targets to land lacking viable gold resources it damages trust and creates resentment. Formalisation initiatives are likely to be undermined if surrendered concession areas contain reserves that are unsuitable – because of their depth, metallurgy or local laws or regulations – for ASGM tools and techniques. To help avoid this, companies could consider sharing relevant geological data with government authorities or with ASGM entities (see AngloGold Ashanti in Ghana).

### 15. Improving gold recovery rates can help ASGM groups absorb additional costs associated with formalisation

Environmental permit costs and requirements, implementing better safety measures and closure liabilities all involve costs that can threaten the commercial viability of some marginal ASGM entities. Such formalisation costs can be mitigated by technologies to replace mercury-based processing and improve gold recovery rates (see Lundin Gold in Ecuador).

### 16. Companies can consider supporting ASGM groups through buying ore from local ASGM, thus providing them with greater certainty on price, market access and security

LSM companies will, understandably, be cautious about allowing ASGM produced gold into their feedstock in case due diligence shortcomings taint their production. On the other hand, some companies have found that a 'buying-in' approach can offer advantages for local ASGM in guaranteeing the integrity of their production (see Calibre in Nicaragua). In other cases, LSM companies may provide free-standing processing plants for use by local ASGM (see B2Gold in Colombia).

### 17. LSM companies that promote mercury-free technologies to partner ASGM entities may need to remain engaged over the long term

The Responsible Gold Mining Principles require implementing companies not to accept gold produced using mercury into their supply chain. However, the risks of mercury use are often not well understood by ASGM since its use is widespread and familiar. Alternative technologies are likely to yield better gold recovery rates but the switch will often need ongoing mentoring and support (see IAMGOLD in Suriname and B2Gold in Colombia).

## Partnerships and external support

### 18. Companies may benefit from working with civil society partners or external specialists on sensitive issues like addressing child labour or the marginalisation of women

Increasingly, companies have a cadre of social performance professionals among their own staff but there are times when they are more likely to succeed through working with expert partners (see B2Gold with UNICEF in Mali).

### 19. Companies should consider the scope for working with mining chambers on collective advocacy around ASGM management or formalisation, and building the effectiveness of small-scale mining associations who are committed to implementing good practice

LSM engagement with government may be most effectively undertaken collectively – as is being done by the Minerals Council in South Africa around the design of a regulatory framework for ASGM (e.g. Sibanye Stillwater and Harmony Gold). Similarly, LSM companies can support effective and responsible ASGM groups to spread good practice (see AngloGold Ashanti in Tanzania).

## Closure planning

### 20. Uncontrolled ASGM can disrupt mine site rehabilitation and add significantly to closure costs

An increasing number of companies are experiencing significant delays in governments issuing closure certificates. The process of achieving formal mine closure can be further complicated if ASGM activity destroys site rehabilitation. It is, therefore, worth exploring the potential for post-closure arrangements with government and with responsible ASGM entities so as to secure livelihoods and to protect the environment (see Buenaventura in Peru).

# 3. Background

Artisanal and Small-Scale Gold Mining (ASGM) is widely estimated to account for up to 20% of annual newly mined gold supply.<sup>5</sup> However, given the informality of the sector, estimates are inevitably broad-brush. According to the Artisanal Gold Council, ASGM occurs in over 80 countries.

In some African countries, ASM is the second most significant source of rural livelihoods. Since the turn of the century the number of people involved in ASGM has grown significantly, driven by generally buoyant gold prices, high (especially youth) unemployment, lack of alternative economic opportunities in many rural areas, conflict, climate change and migration. Although the statistics may take some time to catch up, anecdotally the economic distress caused by the COVID-19 pandemic seems to have motivated more people to resort to ASGM.

The context in which ASGM takes place varies widely, making it futile to adopt a generic approach. In some places it involves mining alluvial deposits in past or present river beds; in other contexts it involves hard-rock mining in punishing underground conditions. In some instances, ASGM has been a traditional livelihood for decades or even generations. In other cases it is dominated by destructive ‘rushes’ of migrant miners who have no sense of a duty of care towards the local environment and do not remediate the land that they disturb. For some people ASGM is their sole occupation, for others, it is a seasonal supplement to farming. ASGM is generally seen as poverty-driven, but the earnings that can be realised through artisanal gold mining may represent several times what can be earned from agriculture or fishing in the same location. Thus, its roots in poverty should not lead to the assumption that all informal miners, especially those with specific skills, are necessarily poor. A lot will depend on the distribution of the ‘spoils’ and who controls the sale of key inputs, and what share of benefits flow to land-owners and to those who provide finance, such as traders and aggregators. This is generally opaque but crucial to an understanding of local dynamics.

In some situations, ASGM involves individuals or small groups undertaking basic work with unsophisticated tools but in others, experienced specialists use relatively advanced capital equipment. ASGM can be a fundamentally benign part of the informal economy or it can be closely associated with conflict and human



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rights abuses, and be central to the criminal economy. Conversely, in particularly predatory situations, the sale of mercury and explosives is controlled by criminal syndicates; the mines form part of a ‘protection economy’ where ‘security’ is provided by illegal armed groups; migrant workers are embroiled in bonded or forced labour situations; and a high proportion of profits are channelled to politicians and officials.<sup>6</sup> In some contexts, because of the quality of the orebody or lack of tax or environmental regulation, ASGM operations are highly profitable. In others, the miners are operating at a subsistence level, unable to bear the costs of proper health and safety provision, basic environmental protection or of taxation.

Most ASGM occurs away from formal sector industrial or large-scale mining (LSM); in other instances, LSM and ASGM overlap or co-exist, in some cases entirely independently and in others with a degree of competition for access to gold deposits. The presence of artisanal miners may alert company exploration geologists to the presence of gold resources, but at times the dynamic is reversed with the discovery of a gold deposit by a LSM company triggering a significant influx of artisanal miners (for example, see Kinross Gold in Mauritania, [chapter 10](#)).

5. World Bank, November 2013, Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development, January 2017 and DELVE ‘State of the Artisanal and Small-Scale Mining Sector, 2019

6. See for example ‘*Illicit Flows Financing Conflict in the Tri-Borders*’ – a report covering experiences in Chad, Libya and Sudan, RHIPTO, Norwegian Centre for Global Analysis, 2021.

### 3.1 Defining artisanal and small-scale mining

In recent years there has been a trend towards increased mechanisation in 'small-scale' mining, sometimes financed by criminal interests. The World Gold Council defines ASGM as:

*'A collective term embracing both small-scale and artisanal mining. It covers formal or informal mining, which is characterised by low capital intensity and high labour intensity and relatively simple methods for exploration, extraction and processing. ASGM can involve men and women working on an individual basis as well as those working in family groups, in partnerships or as members of co-operatives or other types of association. This does not include activities which are criminal, such as trespassing or armed incursions into active mining areas to steal mined or processed materials, or organised schemes involving employees to steal refined or processed material.'*

The Gold Supplement to the OECD Due Diligence Guidance sets out a definition of 'legitimate' ASGM as follows:

*'Legitimate' refers, amongst others, to ASM that is consistent with applicable laws. When the applicable framework is not enforced, or in the absence of such a framework, the assessment of the legitimacy of ASM will take into account the good faith efforts of artisanal and small-scale miners and enterprises to operate within the applicable legal framework (where it exists) as well as their engagement in opportunities for formalisation as they become available (bearing in mind that in most cases, artisanal and small-scale miners have very limited or no capacity, technical ability or sufficient financial resources to do so). In either case, ASM, as with all mining, cannot be considered legitimate when it contributes to conflict and serious human rights abuses associated with the extraction, transport or trade of minerals.'*

National legislative frameworks diverge significantly in how they define artisanal mining compared with small-scale mining or, indeed, medium scale mining. In some cases, artisanal mining is separate from small-scale mining and in others the two are combined. In Colombia, for example, subsistence mining is treated separately from artisanal mining. In Ghana, the government has been seeking to define a new category of 'community mining' with an emphasis on local, rather than migrant, miners.

The International Finance Corporation (2011) and UNITAR (the UN Institute for Technology and Research) (2019) have identified five types of artisanal mining:

- **Traditional:** Most often seen in areas where gold mining has occurred in a region for many years and plays a central role in local incomes. Mining skills may be passed down through families and be an important element in the cultural identity of some communities
- **Seasonal:** ASGM may play a supporting role to farming or vice versa with miners balancing the risks inherent in both the agricultural and mining sectors. In some locations the level of ASGM activity may vary significantly, not only because of harvests but also because heavy rains may make underground mining and surface pits susceptible to flooding
- **Permanent coexistence:** This can arise where, for example, ASGM activity on a mining concession takes on a symbiotic dimension because small-scale mining activity takes place in mining areas and facilities either formally closed or abandoned by legacy LSM activity
- **'Shock' or 'disaster':** ASGM occurs where people resort to artisanal mining because of the impact of events, such as drought or conflict, that adversely affect their existing source of income or because of a major economic dislocation such as the COVID 19 pandemic that leads to widespread unemployment
- **Migrant influx:** This dynamic has driven the early stages of development in many famous gold provinces, such as the Klondike gold rush in Canada when an estimated 100,000 miners moved into the Yukon between 1896 and 1899. Influx can be the most immediately destructive form of ASGM activity, both to the environment and for the stability of host communities.



Gold mining in the River Tsiribihina near Antsirabe, Western Madagascar, Africa. Copyright: Lialina, Shutterstock.

### 3.2 How many artisanal and small-scale gold miners are there?

Policy responses to ASGM are hindered by the lack of reliable data, especially around the total number of small-scale gold miners and about the proportion of annual, newly-mined production produced by ASGM. There is a consensus that the numbers engaged in ASGM have increased significantly since the turn of the Century driven, as noted, by relatively high gold prices, high youth unemployment, rural poverty, climate change and conflict-motivated migration, the social impact of COVID 19 and by investment from organised criminal groups.

There is, in particular, a paucity of reliable trend data collected on a consistent basis. The World Bank and Pact's DELVE initiative is intended to address this gap. Much of the historic data so far assembled is partial and collected at different times and for different purposes using different methodologies. The perils of 'recycling' such data are rehearsed in the initiative's 'State of the ASM Sector' Report 2019.

A key reason for the lack of information is because of the dominance of informality in the sector. It is intrinsically difficult to collect data when many actors operate outside legal frameworks and avoid scrutiny, regulation or taxation of their activities and when in some geographies (such as parts of Central and West Africa) ASGM gold is extensively smuggled. Indeed, the Extractive Industries Transparency Initiative (EITI) notes that 'the higher the value and the portability of the material the more likely it is to be traded illegally and the harder it is to quantify production.' As the experience of The Philippines demonstrates, even for a country with a well-established Central Bank ASGM purchase programme, the levels of production officially recorded is very sensitive to changes in approaches to taxation.<sup>7</sup>

In some cases national authorities may have political agendas around recognising the size of their ASGM population or acknowledging the lack of law enforcement. Highly mobile migrant small-scale mining populations and seasonality of mining activities further complicate the picture. In some countries estimates are produced of numbers of artisanal miners but not necessarily an accurate breakdown between commodities. In addition, the picture is complicated by matters of definition – countries differ in how they define artisanal, small-scale and sometimes mid-scale mining.

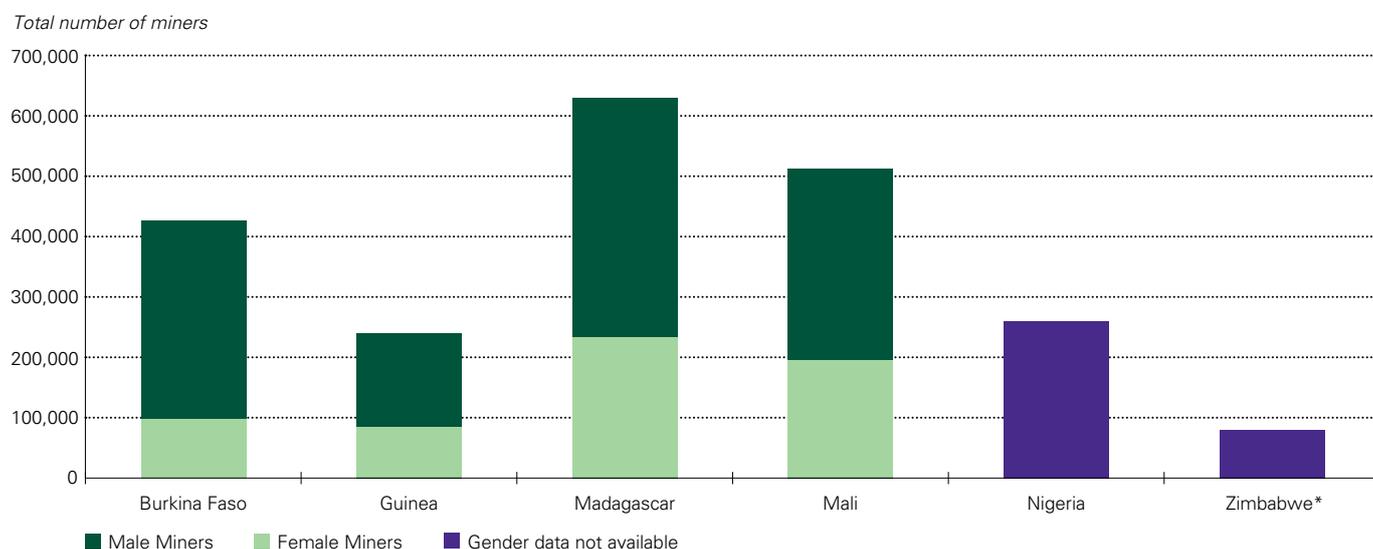
The Extractive Industries Transparency Initiative Standard requires that an estimate of informal mining sector activity and its contribution to the economy is disclosed in national reports but this has yet to produce a significant amount of internationally comparable data. But it has yielded some in-depth studies such as that commissioned by the Ethiopian EITI in 2016 which found that although some miners were also engaged in agriculture and 'petty trade' 42% had no other source of income and 94% operated without a formal license. Government estimates were quoted as being of about 350,000 artisanal miners, but the study estimated a population of 1.24 million people directly engaged in ASGM for at least part of the year.

There is no shortage of national studies into the prevalence of ASGM but they tend to be based on inconsistent methodologies and lack reliable trend data. So, for example, UNECA data, based on work originally conducted by the World Bank's CASM programme, estimates over 1.1 million ASM directly engaged in mining activities in Ghana, predominantly in gold. A Ghana EITI 2012/13 report estimated that ASGM production accounted for 34% of the country's gold output. Similarly, a report by the Institute of Security Studies estimated that in Tanzania over one million people are engaged in ASM, of which over two thirds are attributable to gold.

In Latin America, a USAID case study found that 'in 2019 the ASGM sector generated 22% of gold production in Peru (MINEM 2020). The number of miners directly involved is uncertain but government estimates suggest between 300,000 and 500,000 miners are involved in Peru's ASGM sector'. Thus, what is revealed is a patchwork of estimates which, given their different contexts and methodologies are not reliably susceptible to aggregation.

7. World Gold Council 'Central bank domestic ASGM purchase programmes' (2021), pages 7 – 11.

**Chart 1: Estimated numbers of artisanal and small-scale miners based on data generated through National Action Plans**



\*Presentation by Kenneth Davis, UNEP, Minamata Online, 21 September 2021.

The development of National Action Plans for mercury reduction under the Minamata Convention is beginning to generate a new series of national level data – albeit it is not necessarily consistently<sup>8</sup> collected. For headline estimates of numbers engaged in ASGM see **chart 1**.

The Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development in their Global Trends Report estimated that in total in 2017 ASM across commodities accounted for 40.5 million direct occupations, with a broad estimate that about half of that number are engaged in ASGM. This report cites employment numbers for a number of African countries where gold mining is a significant or dominant mineral with over one million attributed to Sudan and the DRC and between half and one million miners in each of Ghana, Ivory Coast, Mali and Tanzania.

In summary, for the reasons explained, there is a lack of certainty about the precise numbers engaged globally in ASGM and its importance in the gold market, albeit its significance has clearly grown. The most commonly cited global estimates suggest that ASGM directly involves between 15 and 20 million people and that around 20% of global newly-mined gold production can be attributed to it. We have drawn on these numbers in this report; but they should be seen as subject to a significant level of uncertainty.

8. A toolkit has been produced by the Artisanal Gold Council to aid consistency of approach: *'Methods and Tools: Estimating Mercury Use and Documenting Practices in Artisanal and Small-scale Gold Mining'* O'Neill J.D. and Telmer K (2017) UN Environment.

### 3.3 The nature of illegality

Artisanal and Small-Scale Miners are often implicated in bad environmental practices. For example, the use of mercury (which is not used in large-scale mining) can leave the environments of affected areas, such as parts of the Amazon region, devastated. ASGM is frequently linked to hazardous working conditions, a shocking number of injuries and fatalities, child labour, gender-based violence and prostitution. Moreover, because of its portability and fungibility, gold produced outside legal frameworks is highly attractive to organised crime groups since it enables them to launder the profits of other criminal enterprises. Most informal or illegal gold is ultimately smuggled and moves through illicit channels, constituting a source of instability in the gold market. Informal gold flows may amount to as much as US\$20 billion (bn) globally. At a local level, profits made by ASGM can be a source of corruption, funding pay-offs for public officials, politicians and law enforcement officers.

The proportion of ASGM that takes place informally or illegally is estimated to be between 70% and 80%. There are, however, many grey areas that can be viewed as a continuum stretching from formalised mining, through informality to different levels of illegality, through to an association with wider criminal activities.

A proportion of ASGM operations have legal status and have been formalised. In some cases, artisanal miners may seek formalisation but the national legal framework may not provide a status for them or the formalisation agency may be geographically inaccessible or the process for gaining authorisation labyrinthine – leaving the miners stranded in the ‘informal’ economy. In other situations, a small-scale mining operation may, without the right paperwork, be illegal but may not necessarily be conducted irresponsibly or disruptively and may represent a long-standing source of livelihoods for a specific community. Without any form of regulation or oversight, informal or illegal mining may be tainted by a range of problematic impacts from mercury use to child labour. Mechanised mining, based on the misuse of ASGM permits, or illegal mining associated with conflict or armed groups may, similarly, have a much more malign character.

**Table 1: ASM legality framework<sup>9</sup>**

Legal	Formal	Legitimate
No explicit prohibition in accordance with the law	In the process of fulfilling requirements	Consistent with law or making 'good faith' efforts
Informal	Illegal	Criminal/illicit
Not having obtained all permissions	Explicitly prohibited by law	ASM benefiting crime, money laundering, etc.

For a publicly-listed mining company – dependent for its existence on conformance to precise licensing conditions or with ethical commitments – it is very difficult to deal with entities that operate outside legal frameworks. Indeed, to do so may put a company in conflict with the policies of its host government, or with national laws, international standards or its own code of conduct, and create reputational or legal risks (in relation, for example, to pollution or other environmental infringements or a liability for tax or royalty payments relating to the estimated ore extracted by ASGM activities). Ultimately, as Newmont’s experience in Suriname (see **page 34**) shows, companies may simply not be able to go beyond what the law permits in order to seek coexistence arrangements and so they may need to engage with host governments in pursuit of regulatory changes.

When considering formalisation many governments are, understandably, keen to bring the artisanal or small-scale miners into the tax net. Equally, and unsurprisingly, many miners are anxious to avoid such costs, especially if tax payments do not translate into better services like health and education. ‘Formalisation’ may give small-scale miners security of tenure; an asset against which to borrow and in which to invest; and provide some protection against extortion by armed groups or even predatory government officials. It may, however, involve significant costs arising from regulatory compliance, better health and safety equipment and an acceptance of responsibility for environmental damage.

In addition, where ASGM is a subsistence activity it is unrealistic to expect miners to wait many months for permits or other approvals without any source of income or to sit out long payment periods for their gold. In many developing countries, people are used to working in the ‘informal’ economy and ‘formalisation’ will only succeed if there are clear economic incentives and a functioning governance framework to support it. If there is minimal enforcement of the law, there is little incentive for ASM miners to move towards compliance.

9. Levin Sources ‘Are they all illegal? A more nuanced view to guide LSM Engagement with ASM’.

### 3.4 Managing the LSM/ASGM interface

Large-scale mining is capital intensive and typically involves many years of investment in exploration and project development before shareholders can expect a return. As well as providing investment capital, LSM companies may need to bring sophisticated geological, engineering, metallurgical and environmental capabilities to bear. LSM involves extensive permitting processes and impact assessments that require the project sponsor to commission independent studies to identify social and environmental risks and how each will be either avoided, minimised, mitigated or compensated. It derives its right to develop mineral deposits from government permissions that rest on the (almost universally accepted) legal assumption that underground mineral resources belong to the State for the collective good and that the extraction of resources is balanced by the payment of taxes and royalties. Formal, industrial mines will generally refine their gold through one of the London Bullion Market Association's (LBMA) 'London Good Delivery List' refineries, which employ high anti-money laundering (AML) practices and know your customer (KYC) standards, and monitor the ESG standards of their suppliers. LSM generally contributes to host countries through investment; tax and royalty payments; export earnings; capacity building and skills transfers; the creation of, predominantly, skilled job opportunities; local content purchases; and the contribution that it makes to infrastructure.

Most ASGM activity rests upon traditional or customary rights, or is seen as an extension of the ownership of surface rights. Much artisanal mining involves small groups of individuals but the 'ASGM' category can also embrace co-operatives, companies and, increasingly, can involve significant mechanisation. The great majority of small-scale mining is effectively unregulated, does not contribute through direct taxation and does not manage its externalities. Its adverse impacts on local environments are frequently severe. Because of the informal (or illegal) nature of most ASGM activity, the operation of local gold markets is often opaque and, because of the fragmentation between a host of small sources of supply, is likely to be dependent on largely unregulated aggregators and traders. Many of those involved have little accumulated capital and adopt ASGM as a route to making money – albeit with relatively high risks.

On the other hand, ASGM accounts for over 90% of direct employment in the gold mining sector; it offers an alternative to migration from rural to urban areas, and artisanal and small-scale miners will typically spend a high proportion of their earnings on local goods and services. ASGM seemingly accounts for a dominant share of production in a number of significant gold producing countries, including Colombia, the Philippines and Sudan. In major gold producers like Ghana, Tanzania, Indonesia and Peru, although not dominant, it still represents a significant source of production.

There is no simple way to demarcate between types of gold deposits according to their suitability for exploitation by either large-scale industrial or smaller-scale mining techniques. There may be direct competition for access to resources at some locations and in certain points of a mining life cycle. But it is also true that many deposits worked by ASM operators would never be attractive for large-scale exploitation (it is worth recalling that some major gold mining companies suggest that only one in a thousand deposits will meet their criteria for developing a mine) and some geologically inaccessible or metallurgically complex ore bodies can only be developed through the investment of hundreds of millions or even billions of US dollars and the deployment of advanced technologies. Nor is it sensible to assume that all near-surface deposits should be allocated to artisanal miners, as access to such deposits may be fundamental to the economics of developing a long life, complex, large-scale mine. It is for national governments to determine their preferred strategy for optimising different forms of gold extraction.

As the position statement on ASGM, adopted in 2019 by the member companies of the World Gold Council noted: 'Where legitimate ASGM activities and LSM occur in the same vicinity, there can be mutual benefit from working collaboratively towards more positive and sustainable outcomes and in seeking to avoid conflict'<sup>10</sup>. Whilst the position statement emphasises the importance of government leadership, it also sets out options for companies to consider in guiding their ASGM strategies. In summary, these include:

- Advocating with host governments and other authorities for formalisation and legitimising responsible ASGM activities
- Working with governments and others to combat breaches of human rights associated with abusive ASGM activities; and to promote awareness of, and access to, technologies that reduce environmental and safety risks and improve gold recovery rates
- Recognising artisanal and small-scale miners as stakeholders, including when undertaking impact assessments, community engagement and considering social investment priorities
- Fairly compensating established artisanal and small-scale miners if they are legitimately physically or economically displaced by a large-scale mine and, as appropriate, supporting alternative livelihood initiatives
- Implementing the UN Guiding Principles on Business and Human Rights in their interactions with ASGM, including through appropriate grievance mechanisms and utilising the Voluntary Principles on Security and Human Rights
- Considering facilitating access to legal markets for legitimate ASGM production, including where environmental, social and governance due diligence requirements have been met, accepting gold-bearing material for processing
- Reviewing the potential for providing assistance with mercury replacement and the facilitation of capacity building to improve ASGM practices and incomes
- Giving consideration to relinquishing, where appropriately supported by national authorities, concession areas that are not viable for large-scale mining activities, whilst working with local authorities to pre-empt in-migration of miners who might undermine the sustainability of such schemes or the social fabric of the area.

### 3.5 International initiatives

Over the last twenty years there has been increasing interest in the developmental and income generating potential of ASM for poor communities. The problem, however, has been in reconciling these objectives with the negative environmental, social and governance practices associated with much artisanal and small-scale mining. This challenge has been compounded by the slow progress being made towards the formalisation of responsible ASGM groups or in improving the control of illegal mining. Some bilateral donor agencies, including those from the US, Canada, European Union, Germany, France, Switzerland, the United Kingdom, and Australia have supported programmes to try to address these challenges.

These include the Swiss Better Gold Initiative, which works in three of the Andean countries<sup>11</sup> of South America to promote formalisation and to support small mining companies and co-operatives in improving their social and environmental performance. Partners in the Swiss Better Gold Association, which include refineries, watchmakers, and jewellers, seek to stimulate demand for responsible small-scale gold production. In the Netherlands, a multi-stakeholder initiative, the Dutch Gold Sector Agreement, promotes observance of the OECD Due Diligence Guidance and the UN Guiding Principles on Business and Human Rights.

A recent analysis conducted by the development NGO, Pact, mapped the impacts of ASGM on the Sustainable Development Goals. The review concluded that 'even in its informal state, the ASM sector makes positive contributions to almost all of the 17 Sustainable Development Goals, but also impacts negatively on the majority of them.'<sup>12</sup> Its greatest positive contribution relates to its impact on poverty in rural areas (SDG 1) but in order to mitigate its many negative impacts, it seems appropriate to seek inspiration from SDG 17, 'mobilising global partnerships for sustainable development'. As becomes apparent from this report, the potential for ASGM to be made a more positive phenomenon requires that governments, international organisations, civil society, supply chain actors and, where possible, LSM, work together on formalisation and capacity building.

10. World Gold Council Position Statement on Artisanal and Small-Scale Mining (2019) [www.gold.org/about-gold/gold-supply/responsible-gold/artisanal-and-small-scale-gold-mining](http://www.gold.org/about-gold/gold-supply/responsible-gold/artisanal-and-small-scale-gold-mining)

11. Bolivia, Colombia and Peru.

12. 'Mapping Artisanal and Small-Scale Mining to the Sustainable Development Goals' (2020) Jorden de Haan, Kirsten Dales and James McQuilken, Pact, 2020.

In the early years of this century, the World Bank sponsored the Communities and Small-Scale Mining (CASM) programme which, with the International Council on Mining and Metals and others, produced good practice guides on collaboration between LSM and ASM<sup>13</sup>. More recently it has run the Emergency Response for Artisanal and Small-Scale Mining Communities Impacted by COVID 19,<sup>14</sup> to seek to reduce the impact of the pandemic on vulnerable populations. The Bank has also promoted ASM formalisation as part of its national mining sector reform programmes. On a regional basis, the African Mining Vision, adopted by the African Union in 2008, embraced ASM as part of an inclusive developmental model for mining. In 2017, the Intergovernmental Forum on Mining, Metals, Minerals and Sustainable Development produced an influential guidance document on the management of ASGM<sup>15</sup>.

Over the last decade, international efforts have focussed on mitigating two impacts associated with artisanal and small-scale mining: preventing the misuse of mineral revenues to fund illegal armed conflict and human rights abuses, and reducing mercury emissions to the environment.

The OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, seeks to address the potential for the misuse of minerals to fund conflict and related human rights abuses. The framework was initially focussed on Central Africa, where the Congolese civil war had resulted in the largest civilian loss of life since the Second World War. This led to a specific focus on four minerals produced in (or smuggled through) the Eastern DRC and surrounding countries: tin, tantalum and tungsten (the 3Ts) and gold. Attention has subsequently been directed at gemstones and cobalt and been broadened to other conflict affected geographies including the Andean countries and parts of West Africa.

The US was first into the field of so-called 'conflict minerals' initiatives through the passage of s.1502 of the Dodd Frank Act. The problem with this legislation, however, was that it motivated some companies in sectors like technology, automotive and jewellery to reduce their risk of being found to use such minerals by effectively boycotting material mined in Africa – so-called 'de-risking' of their supply chain.



Copyright Swiss Better Gold, Bolivia, Cooperativa Bolsa Negra.

13. 'Mining Together: Large-Scale Mining meets Artisanal Mining – A Guide for Action', 2009; and 'Working Together: How Large-Scale Miners can Engage with Artisanal and Small-Scale Mining', 2010.

14. 'Emergency Response for Artisanal and Small-Scale Mining Communities Impacted by COVID-19' (worldbank.org)

15. 'IGF Guidance for Governments: Managing Artisanal and Small-Scale Mining', January 2017.

The European Union's Conflict Minerals Regulation came into force at the start of 2021. Its implementation has been balanced by several initiatives to help users of the 3Ts and gold to identify the conflict status of various regions of the world and by financing capacity building and other projects to support the responsible supply of minerals from ASM through a multi-stakeholder group, the European Partnership for Responsible Minerals (EPRM).

Both the US legislation and, to a lesser extent, the OECD Due Diligence Guidance, have had the unintended consequence of marginalising artisanal and small-scale production and diverting it away from the London Bullion Market Association's (LBMA's) Good Delivery List refinery network. This has resulted in the channelling of more artisanal gold production into illicit or less highly regulated channels. Several initiatives have been launched by international organisations, donor and host governments, NGOs and industry groups to reduce this marginalisation, but with limited success.

Of course, large-scale mining can also be misused to generate profits for illegal groups. But it is easier to devise safeguards against alleged abuses by large-scale mines<sup>16</sup> operating in the formal sector compared with the effort that has to be invested by gold refiners in carrying out due diligence on thousands of widely distributed artisanal mining sites each producing small quantities of gold.

The second set of initiatives relates to efforts to reduce global mercury emissions. This effort was given impetus by the Minamata Convention on Mercury of 2013. ASGM accounts for about 40% of anthropogenic mercury emissions into the environment. Adhering States are expected to create National Action Plans for reducing their mercury emissions. The effort to wean artisanal miners off the use of mercury is being led by the United Nations Planet Gold programme, which has active programmes in 23 countries.<sup>17</sup> Nevertheless, despite valiant efforts by some international agencies, because of the early stage of some projects and the continuing growth in the numbers engaged in ASGM, it is widely thought that the level of mercury pollution from this source has continued to rise. ASGM leads to soil and water pollution via tailings and via mercury vapour. This leads to severe impacts on the environment, wildlife and human health.

These two international campaigns provide a substantive platform for co-operation between large-scale mining and ASGM. The Responsible Gold Mining Principles, for example, encourage implementing companies to support responsible ASGM entities in accessing formal gold markets through supporting their due diligence efforts (principle 3.3). In order to help reduce the use of mercury, a number of LSM operators are working with governmental partners to support ASGM operations in adopting alternative technologies (see **chapter 9**).

Several other multi-stakeholder initiatives aimed at improving governance standards in the mining sector are relevant, including the Voluntary Principles on Security and Human Rights and the Extractive Industries Transparency Initiative. In the case of the EITI, some national multi-stakeholder groups have commissioned work to understand the economic contribution and scale of ASM mining.<sup>18</sup>

### 3.6 Industry initiatives

The World Gold Council's Responsible Gold Mining Principles contain several provisions relevant to managing the LSM/ASGM interface. These include: a commitment in the accompanying Responsible Gold Mining Declaration by member company CEOs that 'where ASM is conducted responsibly and with respect for formal mining titles we will seek to support ASM groups in the adoption of safer working methods and more socially and environmentally responsible practices and, where relevant, will consider the potential for alternative livelihood programmes.'

Principle 3.3 on market access for ASGM, commits implementing companies to 'support access to legitimate markets for those artisanal and small-scale miners (ASM) who respect applicable legal and regulatory frameworks, who seek to address the environmental, health, human rights and safety challenges often associated with ASM activity and who, in good faith, seek formalisation.'

In addition, the Principles contain other commitments relevant to ASGM, including those addressing community consultation; understanding community dynamics; the creation of local benefits; working with local authorities to 'control or manage' migratory influxes and, where resettlement is inescapable, for mine development to aim for the 'restoration of established livelihoods and the provision of fair and timely compensation.' On mercury,

16. For example: *'The Conflict-Free Gold Standard'*, World Gold Council, 2012.

17. Bolivia, Burkina Faso, Colombia, Cote d'Ivoire, the Republic of the Congo, Ecuador, Ghana, Guinea, Guyana, Honduras, Indonesia, Kenya, Madagascar, Mali, Mongolia, Nicaragua, Nigeria, Peru, Philippines, Sierra Leone, Suriname, Uganda and Zambia.

18. See in particular *'Panning for Data'* 2018 [https://eiti.org/files/documents/panning\\_for\\_data\\_-\\_asm\\_brief\\_1.pdf](https://eiti.org/files/documents/panning_for_data_-_asm_brief_1.pdf) and national reports from Ghana, Ethiopia, DRC, Philippines, Mongolia and Zambia.

implementing companies associate themselves with government initiatives to eliminate the use of mercury among ASGM, but also commit not to accept into their supply chains gold that is produced with the use of mercury.

Similarly, member companies of the International Council on Mining and Metals (ICMM), 'commit to contribute to the social, economic and institutional development of the communities in which they operate. Artisanal and small-scale miners and their dependents often make up an integral part of these communities. Where appropriate, ICMM collaborates with governments to support improvements in the environmental and social practices of local ASMs.'

The Global Reporting Initiative sets out specific ASM indicators. It requires companies to report on the number and percentage of operating sites in their portfolios where ASM takes place, or where it occurs on adjacent terrain, and the actions taken to manage and mitigate these risks. This implies that companies need to have a site-level monitoring and reporting system and that ASGM should be included in gold company risk management systems.

### 3.7 Civil society and not for profit initiatives

Several organisations have created frameworks designed to support ASM gold in the marketplace. For example, the Alliance for Responsible Mining (ARM) and the Fairtrade Foundation have respectively developed the Fair Mined

and the Fairtrade Standards, which certify participating ASGM entities as meeting key social and environmental standards. They seek not only to provide access to markets but also to secure a price premium for this gold that can be invested in related community initiatives. The problem has been in achieving scale. ARM has also led the development of the CRAFT Code (the Code of Risk mitigation for Artisanal and small-scale miners engaging in Formal Trade), which proposes a framework for continuous improvement. It is based on widely accepted criteria designed to help a much larger global share of artisanal miners begin the process of engagement with formal markets, as well as enable them to initiate progressive improvements in their environmental and social practices.

Other initiatives to support ASGM formalisation, reduce mercury use and meet due diligence requirements include Pact's Mines to Markets programme in countries such as Ecuador, Mali, Ghana and Mauritania; Impact's Just Gold programme in the Democratic Republic of Congo and Cote d'Ivoire; Dutch NGO Solidaridad's programmes in West Africa, and the Artisanal Gold Council's work in Latin America, Africa and parts of Asia to promote an environmentally sound, socially responsible and formalised ASGM sector.



Photography of Omar Torrico, Jorge Mendo - Asociado de Cooperativa Aguilas de Oro, Bolivia.

## 4. Company organisation, policies and tools

This chapter outlines how leading gold mining companies are increasingly adapting their organisational models, both at corporate and site level, to improve their ability to manage interactions with artisanal and small-scale mining.

A summary of the risks and opportunities that companies can encounter through their interfaces with ASGM entities can be found in [Appendix C](#).



Endeavour personnel engaging with local artisanal miners near the Sabodala-Massawa site in Senegal.  
Copyright: Endeavour.

As the case studies in this report illustrate, large-scale mining companies have increasingly moved away from relying on their security function to manage the interface with ASGM in favour of a multi-disciplinary approach. It is now common practice to consider the management of the ASGM interface through the lens of a mine's ability to generate socio-economic benefits for surrounding communities. The operations team must be part of the conversation too, since they have a decisive voice on land use, mine planning or storage arrangements for gold bearing materials (which in the wrong locations may attract intruders into mining areas). In trying to design arrangements that are more collaborative, it is important for site teams to gather input from HSE,<sup>19</sup> human resources, exploration, and legal and government relations. It is essential to ensure strong alignment and consistency of approach between corporate and site level.

Many leading gold companies have developed policies, strategies, standard operating procedures, performance standards and tools for managing the ASGM interface and to encourage better co-ordination between functions. Especially at mine sites, companies have recognised the advantages of an holistic and co-ordinated approach. Left to themselves, individual departments will, understandably, have specific and sometimes competing priorities, so ensuring collective buy-in to the business case and adoption of a concerted approach is both desirable and necessary. Where the objective is to develop a constructive and trusting relationship with ASGM groups, experience suggests that it is important for there to be a visible and consistent leader within the management team. Bearing in mind the potential for volatility in such relationships, especially in the early phases, it is important that management rosters ensure that the designated relationship 'owner' (or designated deputy) is present or accessible. In situations where there is little existing expertise in the team, or where legacy issues may have influenced attitudes, it can be useful to bring in some external expertise so as to contribute fresh perspectives.

Our analysis suggests that corporate level executives are keen to set the strategy, to ensure that practices align with corporate commitments in areas like human rights and legal and regulatory requirements, and that operations seek to resolve conflicts and grievances to pre-empt the need for escalation.

Engaging with ASGM and devising coexistence strategies typically involves significant social, cultural, technical, organisational and legal complexities. Companies need to ensure that their operations have access to relevant sources of expertise. The number of short-lived LSM/

ASGM coexistence or cooperation schemes highlights the ease with which a lack of understanding of local dynamics or to adequately consider the welfare of, and incentives for, counterparties can contribute to failure. Experience suggests that successful approaches will likely need continuing attention rather than being susceptible to short-term solutions.

## 4.1 Case studies

### 4.1.1 Kinross Gold

Kinross has established a Corporate Steering Committee on Artisanal and Small-Scale Mining (CSCASM), which brings together operations, safety and sustainability, corporate communications, government relations, lands and security functions. Its charter stresses the importance of continued site-level ownership of ASGM-related risks but provides 'guidance and support' for programme implementation and facilitates knowledge sharing between sites. Recently its main focus has been ASGM in Mauritania, providing support to management at the Tasiast mine as they plan their engagement with authorities and other stakeholders (see also [chapter 10](#)).



ASGM workers in the region around the Tasiast mine. Image courtesy of Kinross.

19. Health, safety and environment.

#### 4.1.2 Endeavour Mining

Endeavour Mining is the largest gold mine operator in West Africa with sites in Burkina Faso, Cote d'Ivoire and Senegal. In 2021 the company reviewed its management of ASGM interactions through an independently facilitated workshop that brought together key management disciplines. While there are common factors – such as illegal ASGM activities on or around formal mining concessions in each of the three countries; that the artisanal miners are typically a mixture of local people and migrants; and that mechanisation is increasing – it was apparent that there was also a diversity of ASGM experiences across the company's operations, creating a need for agility and adaptability in the approach of local management.

Working groups, led by General Managers, have been established at each site. These groups include managers from exploration, security, social performance, health and safety, environment and public affairs. They have each drafted site-specific action plans, which are reviewed every two months. These plans consist of five pillars: assessment and monitoring; stakeholder engagement; community development; formalisation and security. The range of activities varies but each site has established a local baseline (with support from external consultants) to ensure that they have an accurate understanding of the social and environmental impacts of ASGM activities. Endeavour says that the key lesson learned from this approach is the importance of having a key decision maker and dynamic team leader. They believe that the absence of this galvanising force can mean actions are postponed until there is a crisis.

#### 4.1.3 Gold Fields

While there is broad agreement that the manifestations of ASGM vary widely between sites and there is no 'cookie cutter' solution for success, a number of companies have developed performance standards. For example, in its Community Relations and Stakeholder Engagement Handbook, Gold Fields sets out a performance standard on engaging with ASGM communities. This requires sites to set out short- and longer-term strategies for managing the ASGM interface, such as engagement, community investment, human rights, security and safety. The overarching aim is to 'engage respectfully and transparently with the goal of creating shared value.' The Standard notes that 'the most important reason (for the growth of ASGM) is the high pay ASM provides compared to other forms of

employment' and 'poverty is the primary driver for modern ASM worldwide, but this should not be equated with the assumption that all small-scale miners are poor. ASM takes place in rural areas of developing countries with high unemployment and where the alternative is almost always subsistence agriculture.' The Standard emphasises the importance of building ASGM strategies on the basis of a sophisticated understanding of local community dynamics and notes too that 'projects in the exploration phase have an opportunity to avoid '...legacy problems' and to proactively 'establish a consistent relationship with ASM over the life of the mine'. It also highlights the potential for mining companies to work together on ASGM issues via the National Chamber of Mines and emphasises the importance of giving local artisanal and small-scale miners access to the company's grievance mechanism to resolve disputes.

#### 4.1.4 AngloGold Ashanti

In 2016 AngloGold Ashanti (AGA) approved a corporate framework that recognised the need to 'co-exist with legitimate ASM'. The framework advocates assessing co-existence initiatives on a case-by-case basis, subject to three tests:

- That activities are not in conflict with host country laws and are led by the host government
- That implementation supports LSM-ASM co-existence
- That human rights are respected.

AGA is also clear that it will not allow ASGM activities that 'continuously erode' declared reserves or the investment value of a project/mine; will not engage with informal ASM structures or with those which don't seek to formalise; won't assume HSE liabilities (while being committed to supporting training and capacity-building initiatives), and will rely on host governments to maintain law and order and legal boundaries. However, the framework makes clear that the company will contribute to formalisation that brings legal ASGM into the mainstream of social and economic activities; will contribute to policy frameworks and practices that contribute to a viable ASGM sector; will support the strengthening of legal ASGM associations; will undertake geological research to identify deposits that can be designated as suitable for exploitation by legal ASGM; and will participate in the transfer of knowledge, skills and technologies to legal ASM actors.



Food package distribution to local Pamaka ASGM near Newmont's Merian mine in Suriname during the COVID-19 pandemic (unloading of the truck by the group volunteers). Copyright: Newmont.

#### 4.1.5 Newmont

Newmont first adopted a policy for managing ASGM interactions in 2013. That year the company's new Sustainability and Stakeholder Policy declared: 'we will work with appropriate government, community and other stakeholders in situations where ASM or related activities are taking place in our operating areas in violation of legal, safety, health and environment standards and property protection norms. We will do this with respect for human rights, in accordance with our public commitments and with an aim to respect livelihoods and promote improved conditions for legal and registered small-scale mining activities.'

The company's Strategic Framework comprises four objectives: ensuring security for its people and assets; improving the management of environmental, social and health and safety risks associated with ASGM; livelihood development, and being able to influence, learn and align with ASGM policies and practices. The company aims, thereby, to minimise conflict; to improve artisanal and small-scale miners' compliance with regulatory standards and norms; to improve local livelihoods; and to work together with other actors to address social, environmental and governance challenges.

#### 4.1.6 B2Gold

B2Gold has exposure to ASGM in Mali, the Philippines and Colombia (see **page 77**). It has developed an ASM Performance Standard that underlines the company's commitment to engagement with local ASGM entities and to work with host governments, community leaders and other stakeholders to promote improved conditions for legally registered ASGM activities. The company's strategic approach is to 'seek and maintain a peaceful co-existence with the right to a livelihood for artisanal and small-scale miners' and to implement a multi-disciplinary approach. The Performance Standard aims to empower local management to respond to the diversity of ASGM situations. As a result, initiatives being pursued at site level include:

- Engaging with local and national stakeholders to reduce risks, such as preventing significant influx onto company concession areas, and conducting regular risk assessments
- Supporting the formalisation of ASGM, following national regulations, including through training and capacity building to improve environmental, health and safety and mining performance (Colombia)
- Conducting regular monitoring and reporting of ASGM activities and related environmental impacts
- Adapting mine plans in order to facilitate access to land for ASGM (the Philippines)
- Purchasing and processing of ore extracted by small-scale miners working outside active company mining areas, with a view to diminishing mercury use and providing more stable and predictable livelihoods (the Philippines)
- Supporting alternative livelihood projects, particularly for ASM actors displaced by mine land acquisition
- Considering ASGM interests during closure planning
- Supporting the establishment of a small community processing mill (Colombia)
- Establishing and communicating security protocols to local stakeholders so as to reduce the risk of confrontations.



Water is an essential ingredient of artisanal processing, sourced from streams, circulated through the rastras (the preferred processing system used by the locals), and returned to the waterway. Copyright: Calibre Mining Corporation.

#### 4.1.7 Calibre Mining

Nicaragua-focused Calibre Mining has developed a standard to manage the company's relationships with ASGM. Its objectives include the safety of Calibre's people and assets, maintenance of its license to operate, and support for wider community benefits, such as providing artisanal and small-scale producers with access to legitimate markets. Its key aspects include:

- **Security:** Ensuring safe and secure access to Calibre's concessions or land, avoiding conflicts and achieving resolution of issues through ongoing engagement and good-faith negotiations
- **Monitoring and assessment:** Regular monitoring of ASGM activities and environmental impacts within its concessions in close coordination with regulators
- **Engagement:** Setting up local ASGM committees to represent the company, artisanal miners, local authorities and regulators

- **Partnership:** Establishing commercial agreements to purchase ore from artisanal miners, where feasible, so as to diminish mercury use and provide livelihood stability
- **Livelihood development:** Avoiding or minimising disruptive impacts from Calibre's activities on ASGM livelihoods and, where these are unavoidable, collaborating with relevant stakeholders to support alternative livelihood options for those miners associated with the local economy, particularly for those economically displaced by the company's activities.

#### 4.2 Risks and opportunities

Please refer to **Appendix C**, which shows a framework for identifying some of the risks and opportunities associated with the management of LSM/ASGM interactions.

# 5. Understanding the local stakeholder and ASGM context

Both LSM and ASGM entities share an interest in geology and mining conditions, the gold price and the accessibility of local gold resources. But their perspectives, culture and life experiences are typically very different. Large-scale mines are geared towards operations designed to last many years and where a return on investment may be more than a decade away.

Although some small-scale and artisanal miners may come from a mining tradition dating back decades, most are focussed on a shorter timescale and on a need for immediate returns. The cultures of the two entities are diverse and establishing trust and a continuing dialogue between them may be challenging. Nonetheless, it is important to recall the basic humanity of people on both sides of the divide. As a recent case study observed: 'The main concern for most people labouring in an ASM operation is to make ends meet, to put food on the table,

send their children to school and, if possible, invest in their futures'.<sup>20</sup> Much the same could be said about the motivations of employees of large-scale mines.

Self-evidently, there must also be a desire on both sides to reach an accommodation (the reasons for potential reticence among ASGM entities about such an approach are explored in **section 5.3.2** below).

As noted in the Background chapter, ASGM activity varies significantly between continents, countries and regions. For example, a recent study on Ghana observed: 'The artisanal and small-scale mining sector – commonly described as low-tech, labour-intensive mineral extraction and processing in developing countries – is increasingly associated with the use of heavy earth-moving equipment and hazardous chemicals for ore extraction, which can have negative implications on agricultural land use and the environment.'<sup>21</sup>

Since many locally engaged mine employees come from the same communities as significant numbers of artisanal miners, it is reasonable to assume that many artisanal mining groups have a better understanding of their larger neighbour than vice versa. A key challenge for a large-scale mine seeking to develop a constructive ongoing relationship with surrounding ASGM entities is to ensure that they understand their counterparties and question their own assumptions. Because ownership of exploration properties and mining projects can change over time it is crucial to understand any difficult legacies (e.g. of perceived dispossession) or expectations that have failed to materialise. A starting point would be to appoint a lead manager, to pool knowledge from within the management team and those functions that interface with external parties (as discussed in **chapter 4**), and to review lessons learned from any previous engagements. Locally-based employees may also be able to share significant insights.



A woman processing ore, Near Ouahigouya, Burkina Faso. Copyright: Hugh Brown.

20. 'Using a market-driven approach to economic returns and mine safety' Daniel Limpitlaw and James McQuilken - DELVE 'State of the ASM Sector 2020', World Bank

21. 'Governance Challenges of Small-Scale Gold Mining in Ghana: Insights for a process net-map study' Land Use Policy, vol 102, March 2021 – Ferdinand Adu-Baffour, Thomas Daum and Regina Birner.



Endeavour personnel engaging with local artisanal miners near the Sabodala-Massawa site in Senegal. Copyright: Endeavour.

## 5.1 Stakeholder engagement

Annex E of the OECD's 'Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractive Sector' contains material on 'Engaging with ASM' including the following observation: 'In terms of risks to the enterprise, poor engagement with ASM communities can lead to conflict and confrontation with ensuing human rights risks and loss of resources through continued unregulated activity. However, engagement focussed around co-operation and integration of ASM could lead to social development and poverty reduction.' It goes on to urge LSM companies to design 'appropriate and effective engagement activities and processes' and, in so doing, to 'determine whether and to what extent engagement will focus on co-operation around continued ASM activity' or, alternatively, focus on 'how ASM activity can be ceased without causing adverse impacts.'

Some ASGM groups may lack cohesion, whereas others can be tightly controlled and/or involve identifiable leaders. In seeking to identify leadership structures, companies would be wise also to understand the role of disadvantaged or marginalised groups, such as women and young people. The safety and security of LSM staff may be a matter of concern, especially if interest from the LSM mine is perceived by the artisanal miners to be hostile or if outreach occurs in the aftermath of a security force intervention. Moreover, in some situations relationships between established communities and migrant ASGMs can be tense and competitive (for example, where migrant miners pollute water, interrupt the use of land or act in an intimidating manner), although

on the other hand, where such relationships are seen to increase the prosperity of the host community (e.g. by renting rooms and consuming goods and services) they may be viewed as positive. In-migration may, however, disrupt the position of both traditional and elected municipal leaders, thereby generating greater social conflict or reducing community cohesion. Where the local population has a significantly mobile element, seasonality may not only be dictated by, for example, competing agricultural activities, but also by the vulnerability of ASGM workings to heavy rainfall and flooding.

The International Institute for Environment and Development has pioneered techniques around stimulating engagement between government, large-scale and artisanal and small-scale mining, focussed on Ghana and Tanzania.<sup>22</sup>

In the case studies below we examine techniques for effective ASGM stakeholder engagement, building on the early-stage experiences of Kinross in Ecuador. We feature the processes undertaken by Resolute Mining in Mali and by Endeavour Mining – across its West African assets – to assess local ASGM dynamics. Guidance is included on the key elements required to create an ASGM baseline (see **chapter 13**) and we focus on the role of, and the challenges faced by, many women in ASGM. We emphasise the need for both LSM and ASM actors to be interested in developing a more formal and constructive relationship if success is to be achieved. We also reflect on the potential involvement of mediators and multi-stakeholder forums in building trust and conclude with a brief examination of the roles of middlemen, aggregators and gold traders.

22. 'Government, Large- and Small-Scale Mining: Beginning a Dialogue', Buxton, Abbi, IIED, May 2014, and 'Artisanal and Small-Scale Gold Mining: Evidence to Inform Action Dialogues', McQuilken, James and Hilson, Gavin, IIED, 2016.

**Table 2: Summary of the key indicators of the relationship approach with examples of implementation**

Need	Indicator	Description
Sincerity (credibility)	Respect	Considered ASGM activity as important
	Communication	Established sustained dialogue
	Balance of power	Recognised the relative influence of each party under the law and applied this positively
Affection (intimacy)	Personalised	Held social and sporting activities together
Routine (reliability)	Frequency	Company had dedicated resources, ensuring high frequency of interactions
	Stability	Consistent and predictable interactions
	Conflict resolution	Buy-in to the formalisation process resolved historical conflicts
Clarity	Goal compatibility	All parties realised that the formalisation process was a win-win outcome
	Mutual understanding	Sustained dialogue ensured that most parties understood the process (although some ASGM persisted in illegal activity)
	Focus	Company and government supported ASGM in registration and/or formation of legal associations
Outcomes	Productivity	Delivery of contracts and/or concession waivers provided concrete results and direct economic benefits for ASGM; control of illegal ASGM provided the government with a key result from its mining policy and the ability to advance FDN work plans gave the company a stronger license to operate
	Trust	The process of ASGM formalisation was a good example of cross-sector collaboration, building trust among the parties through persistent work on the key elements of the relationship, including clarity of economic and social incentives for all parties

### 5.1.1 Kinross Gold Corporation in Ecuador

In conducting exploration work around its Fruta del Norte (FDN) project in Ecuador<sup>23</sup> (see [page 82](#)) Kinross developed a relationship-based approach to obtaining consent from local communities that, over time, allowed them to build trust. It was based on five tenets:



Training session for artisanal miners covering regulations, permits and essential health, safety and environmental practices. Copyright: Kinross.

- **Sincerity:** Showing respect, listening to the perspectives of the community and helping them to realise that all actors would have a voice as solutions were developed
- **Routine:** Planning regular engagements and working through contentious issues
- **Clarity:** Engaging in dialogue to explain how both parties could realise their goals through working together within a set of rules (the law)
- **Affection:** Developing genuine friendships over time – for example the Kinross community relations team played volleyball and organised barbecues with the ASM groups
- **Outcomes:** Creating trust, not by regarding engagement as an end in itself but as a means to producing tangible outcomes, such as advancing permitting rights and reducing illegal and disruptive activity.

23. Kinross sold its interest in Fruta del Norte to Lundin Gold in 2014 (see [page 50](#) for case study of work conducted by Lundin).

Trust was built through sustained engagement and the provision of a stable license to operate. Productive outcomes were realised too, for example in formalisation and training.

Building a constructive LSM/ASGM relationship is more likely to be achieved through engagement in advance of a crisis, or even before there is an immediate objective in mind. The success of the engagement depends on three factors: the willingness of the parties to adopt a constructive approach; their starting point along the continuum from formality to informality to illegality to criminality; and the attitude of the host government and local authorities towards them.

### 5.1.2 Constructing a baseline

Constructing a baseline of information about the dynamics of local ASGM has delivered significant value for companies who have undertaken this work. It helps to explain the drivers of local ASGM; the relationships between mining groups and other community members; the role of local landowners and traditional leaders; cultural associations with ASGM; the fundamental economics of the operations; and significant vested interests. For example, such studies have helped companies to understand supply chains for sensitive commodities like explosives or mercury, or the involvement of senior politicians and army officers in sheltering illegal activities from law enforcement. In one study, a group controlling local illegal ASGM activities was found to be running the equivalent of a sophisticated LSM company community relations and social investment operation, and a study at a mine in Ghana in 2013 found that incomes for some artisanal miners exceeded those for equivalent semi-skilled operatives in local formal mining operations. Importantly, such studies may also include the identification of the overlap between the mine workforce and family members and relatives who are involved in ASGM.

A checklist of items to be included in constructing an ASGM baseline can be found in **chapter 13**. Much of the required information may be discoverable from recent ESIA's and from information held by externally-facing departments (such as community relations/social performance, health and safety, and security). It is likely, however, that to gain a full picture an external resource will be valuable (for example, a consultant or civil society organisation) with, in some locations, additional intelligence-based analysis.



Artisanal miners working outside the perimeter fence of Tabakoroni site. Copyright: Resolute Mining.

Typically, an ASGM miner or group of miners sell to a local gold buyer. The gold then makes its way through the hands of regionally-based traders before being exported, with the possibility of it undergoing a level of refining before or after this occurs. It is then likely to find its way via more formal refineries into the international market. Although it varies significantly by geography, miners might expect to receive around 70% of the spot price for what they produce but, the more links there are in the supply chain, the lower the value that ASGM miners are likely to receive. A leading international refiner estimates that the 30% discount that attaches to informality and the inability to satisfy due diligence expectations may, in aggregate, be depriving ASGM miners in developing countries of up to US\$6bn in income annually. Sadly, host governments may also be foregoing significant tax revenues from such endemic illegality.

### 5.1.3 Resolute Mining in Mali

Resolute operates the Syama Complex, located in the Sikasso region of Mali. Following a significant escalation of ASGM activity in the area, Resolute commissioned an in-depth study of the structure and activities of local mining groups. The area has a long history of ASM, which is an important source of income for local communities and has motivated a significant influx to the area. There are 12 ASM sites in the Syama license area comprising an estimated 17,000 pits, none within a formal ASM corridor. Although there is an awareness of ASM legislation among the artisanal miners, these legal requirements are generally not respected.

ASM activities are organised: sites have clear governance structures, with defined roles and responsibilities supported by a participatory decision-making process. A site manager or “Tomboloma” ensures the safety of people and their property on the ASM sites. He manages disputes, mediates between the miners and the village, and safeguards the interests of the village. It is common for the chief of the Tomboloma committee to consult with all other miners before making a decision.

Artisanal miners operate in skilled groups and pay the customary landowner for permission to exploit the pits. 27% of miners report that they are supported by third-party funders and 10% by pit owners; the rest are self-funded. Traditional leaders conduct propitiatory rites to ensure profitability and the safety of ASM sites. Site rehabilitation is regarded as the responsibility of site managers, but it is seldom done. 80% of the miners are Malian nationals, 17% Burkinabes, 2% Ivorians and 1% Guineans.

For most, ASGM is their main livelihood, contributing between 20% and 75% of household income and around 80% of the income of local villages. Anecdotally, some artisanal miners discontinue mining due to ill health or through disappointment with their income. In a survey, 89% of respondents indicated that they would be willing to leave ASGM if they could pursue alternative

opportunities in areas such as agriculture, trade, livestock breeding, fishing or working at the Syama mine. However, the viability of most of these livelihoods depends on factors such as access to suitable land and water sources for farming. Overcoming such obstacles is particularly challenging for women.

Most miners sell processed gold powder to buyers at site (59%) or in the village (35%). Buyers use mercury to collect the gold powder and sell gold to wholesale buyers in Bamako, from where it is exported – reportedly to Dubai. The profits are split three ways with the village, the pit owner and the miners each receiving an equal share. The methods of payment depend on roles, with crusher operators paid in cash according to the amount of ore they grind, and women "yirinitigi" paid in ore and through reselling the residues resulting from the washing of ore dust.

Resolute believe that they now have a much more sophisticated understanding of the complexities of the local ASGM landscape, including issues that are beyond the jurisdiction and capacity of a company. This has led them to increase their outreach to external partners, such as local authorities, with the aim of building greater local trust and dialogue and to increase their internal co-ordination between key functions.

**Table 3: Roles and responsibilities within ASGM groups near Syama**

Role	Description
Site owner "dougokolo tigui"	The landowner, who gives permission to the Tomboloma to use his land for ASM activities
Pit owner "dama tigui"	The pit owner provides financing, food, housing, equipment, etc. for the exploitation of ASM pits, which are open to anyone (whether of Malian nationality or not) who has the financial resources to pay the requisite fees
Manager/security "tomboloma"/"donso"	The site manager ensures the safety of people and their property on the ASM site; this person is also responsible for managing and mediating disputes and safeguarding the interests of the village
Metal detector	Responsible for the detection of gold deposits
Digger	Digging of pits
Crusher	Responsible for ore grinding and first washing
Mineral processor	Responsible for further washing and processing of ore
Transporter	Transports miners and their minerals
Construction manager	Responsible for pit stability
Buyer/seller	Charged with purchase/processing and sale of gold
Lode cutters	Specialist lode cutters in the pit
Rope puller	Those who pull the rope to haul minerals from the pit
Yirinitigi	Those who install carpets on wood to capture the gold - a role usually performed by women

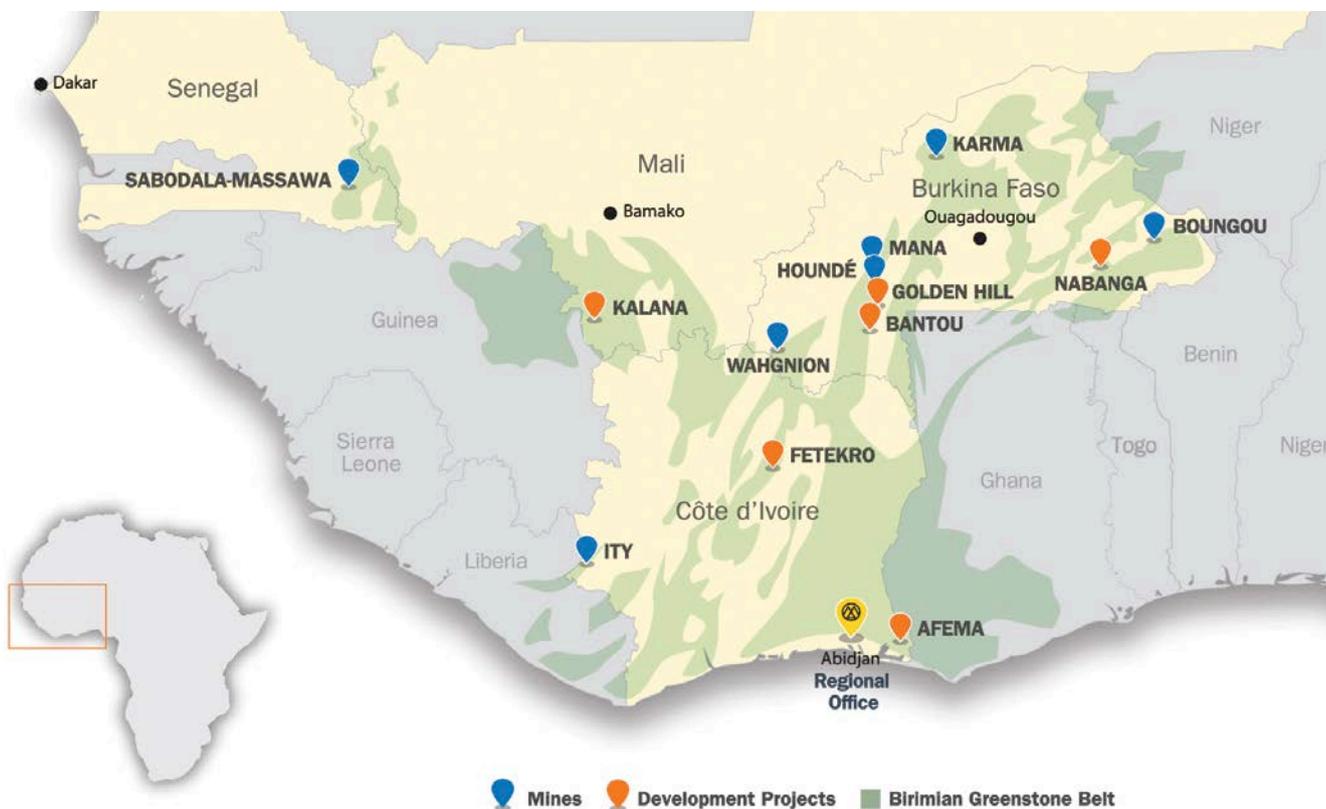
### 5.1.4 Endeavour Mining

Endeavour is focussed on West Africa. In 2018 the company recognised that ASGM was becoming a social, security and environmental risk across nearly all its permits. However, to gain a good overview and enable the development of an ASGM management plan, they needed in-depth information on issues ranging from production practices through to an analysis of environmental and social impacts. Data regarding ASGM activity was provided by geologists on exploration sites, and the operating mines undertook ASGM site visits to glean more information about local miners and their practices. An internal workshop was held to discuss possible strategies, including factors such as national legislation, the location of ASM sites, levels of risk and life of mine.

The company team soon realised that they needed additional information about ASGM site governance, funding, production, revenue flows and any suspected links with criminal groups, as these aspects represented critical components in determining management actions. They therefore commissioned a more detailed study from external specialists, which involved the mapping of ASGM villages, interviews with host communities

and an analysis of the socio-economic activities of those communities. The process raised internal awareness and enabled engagement with multiple stakeholders in the ASGM space, and the studies have been used as an essential first step towards understanding the ASGM context, albeit that expert estimates remain approximate in areas such as funding, revenues and supply chains, given the illicit nature of some activity. For Endeavour, the process of information gathering resulted in a deeper understanding of the nature, breadth and complexity of ASGM operations and gave them the ability to progress towards development of site-level management plans.

**Chapter 13** shows a check list of key information and desired data points in constructing a baseline assessment. In some cases, much of the required information may be discoverable from relatively recent ESIA's and from information held by externally-facing departments (such as community relations/social performance, health and safety, and security). It is likely, however, that to gain a full picture an external resource will be valuable with, in some locations, additional intelligence-based analysis.



Map of Endeavour mines and development projects across West Africa. Copyright: Endeavor.

## 5.2 Gender

The extent of female participation in ASGM varies widely across locations. It tends to be lower, for example, in the case of 'rush' or 'influx' mining. Women also tend to be concentrated in processing work and in roles that receive lower rewards than tasks conducted by male miners. Authoritative data on female participation is difficult to access but the World Bank's DELVE platform<sup>24</sup> estimates that women make up approximately 30% of the overall ASM workforce. In some countries their ability to participate is constrained by the fact that women are not allowed to own mining licences. They may also be victims of gender-based violence or sexual exploitation. The 2020 DELVE Report on the state of the ASM sector noted that: 'Adverse side effects of mercury use, unequal pay for similar work, sexual harassment and an inability to own land or mining titles without permissions are but some of the ways in which women's decent work outcomes are hampered.' Thus, in their engagement or co-operative initiatives with artisanal mining groups, LSM companies should consider how they might most effectively address the issues surrounding the disadvantaged situation of women in ASGM, including through alternative livelihood schemes, public advocacy, stakeholder engagement, and social investment.<sup>25</sup>

Within local communities women can suffer greater disadvantage than men from the negative impacts of unregulated/uncontrolled ASGM, especially on the local environment. For example, 'migrant-based' or 'rush' mining can result in women having to walk further to collect firewood or water. In addition, women's ability to carry out subsistence activities may be disrupted by migrant-based influxes or by local men moving from farming to ASGM; traditional roles may be valued less as the local economy moves towards a cash-based system. And in turn, this can affect food security and family stability.<sup>26</sup>



A female artisanal miner wearing full protective personal equipment further to a human rights-led formalisation interventions by the Sustainable Artisanal Mining project of Swiss Development and Cooperation and Government of Mongolia. Photo taken during Levin Sources-led expedition to train a gold refiner in responsible ASGM, 2016. Copyright: Magnus Photos.

24. <https://delvedatabase.org/> 'State of the Artisanal and Small-Scale Mining Sector', 2019.

25. In seeking to understand gender issues, LSM companies can refer to: '*Gender dimensions of Artisanal and Small-Scale Mining: A rapid assessment Toolkit*' Adriana Eftimie, Katherine Heller, John Strongman, Jennifer Hinton, Kuntala Lahiri-Dutt, Nellie Mutemeri' (2012) World Bank.

26. InterGovernmental Forum on Mining, Metals, Minerals and Sustainable Development: '*Women in Artisanal and Small-Scale Mining: Challenges and Opportunities for Greater Participation*' (2018) Winnipeg, IISD

## 5.3 It takes two

### 5.3.1 LSM perspectives

When LSM companies discuss internally the sort of relationship they would like, or are able, to negotiate with local ASGM groups, they are likely to be influenced by several factors including:

- the legal status of the miners; the attitude of national authorities
- the demeanour of small-scale miners
- geological factors (for example, are the local gold deposits susceptible to artisanal exploitation without disrupting the mine plan?)
- the nature of ASGM social and environmental practices including whether they use mercury
- suspected associations with criminal elements or armed groups
- whether they are rooted in local communities and established traditions or are dominated by migrant groups.

It will, almost certainly, be more difficult to establish relationships of trust with 'influx' miners (who may be more short-term and transactional in their approach) than with those who have strong roots in settled communities. Companies may also be fearful that new arrangements could attract an influx of migrant miners, bringing with them lawlessness or overwhelming local services and the limited gold deposits available. After all, few ASGM coexistence programmes have enjoyed sustained success. But even if the company decides to explore co-operative models, artisanal mining groups may be unable to agree collective governance arrangements or be unwilling to accept the constraints of working in the formal sector.

### 5.3.2 Potential drivers for ASGM reticence

There are several reasons why artisanal or small-scale miners may be reluctant to enter into a more formal or co-operative relationship with an LSM operation or to pursue formalisation; these include:

- A lack of trust of the company or a sense of grievance about the presence of the mine
- The ubiquity of 'informality' in most economic sectors and, therefore, little desire in some countries to change the status quo
- Fears of becoming liable to pay taxes, royalties and/or permit fees
- Concerns about increased environmental and safety costs or apprehension about other forms of regulation
- Hostility to LSM/ASGM collaboration on the part of significant vested interests (e.g. providers of finance for ASGM; traditional leaders; corrupt officials or politicians; criminal groups, etc.) who might view such a relationship as a threat or who see polarisation as in their interests
- Suspicion of a process that brings them into closer association with government authorities – which may be perceived as predatory rather than providing good services in areas like education and healthcare
- Concerns that their freedom will be reduced and that the mining company will exert control over their activities and cheat them
- A failure to identify clear 'win-win' outcomes
- A reluctance to test new, mercury-free technologies or to change their way of operating, and viewing offers of help from large-scale miners as 'interference' in an occupation where many miners are highly individualistic and suspicious of authority
- Suspicion of arrangements that require them to sell their gold-bearing material to the LSM operation or concern about getting a fair deal from institutions like independent, licensed processing centres
- The cost of acquiring new equipment
- Poor communication or engagement approaches
- Reluctance to embark upon formalisation processes that involve bureaucracy or travel to distant government offices
- An unwillingness to participate in any form of umbrella ASM miners' organisation because of a mutual lack of trust.

## 5.4 Mediation or facilitation of LSM/ASM discussions

A recent study of models for LSM/ASGM co-operation conducted by the University of the Pacific,<sup>27</sup> which analysed the experiences of nine medium size and LSM companies in the Andean countries observed: 'The main point for improvement for collaboration is the building of a relationship of trust and the transparency of processes.... To do this, the willingness to collaborate must come from both sides through the generation of economic incentives (e.g. better incomes for ASM and the possibility to operate without interruptions for LSM) and social incentives (social peace and co-existence).... The important role of external actors such as NGOs and universities, and of international co-operation, is important as technical support to the actors in their negotiation and learning processes.' (See also **chapter 6** on working with governments and mobilising partnerships.) Other sources of facilitation or mediation can involve religious leaders, traditional leaders, trusted municipal leaders, civil society, respected government officials or experienced consultants.

## 5.5 Middlemen, aggregators and traders

A central factor in seeking to understand the dynamics of local ASGM is the generally opaque role of 'middlemen'. In much of the commentary on the sector they are assumed to fulfil a malign role, responsible for facilitating ASGM's presence in the illicit economy – including acting as a link between ASGM and smuggling networks – and for allegedly absorbing an unfair proportion of the revenues generated by ASGM, leaving too many of the miners themselves in poverty. In many situations such characterisation is true. However, as the Intergovernmental Forum on Mining's ASM review<sup>28</sup> observed: 'A growing body of literature is showing the complex relationship between miners, traders and middlemen.... Middlemen provide loans to sponsor mining activities, offer access to markets and can form a long-term mutually beneficial relationship in complex supply chains of production and labour hierarchies... This is particularly beneficial in the absence of formal financial institutions and microcredit schemes willing

to lend to both informal and formal small-scale miners. Often middlemen are legitimate market players also making a livelihood in challenging economic circumstances... Extending schemes to work with middlemen rather than cutting them completely out of supply chains could be a more productive bottom-up approach.'

Similarly, a recent report commissioned by the Responsible Minerals Initiative on the role of aggregators in the gold market,<sup>29</sup> noted: 'Aggregators can be associated with the very negative aspects of the industry, which have triggered the need for voluntary and regulated due diligence processes to identify and eliminate corruption, conflict and human rights abuses.' However, the report also concludes that: 'Aggregators play a pivotal role in the supply chain, particularly for artisanal mines that are remotely located. Small and medium-sized mines benefit from an arrangement with aggregators that allows them to mill and process gold-bearing material – potentially within a more controlled and environmentally friendly context – and facilitates a route to international markets.' Whichever analysis is applicable to a specific mine, in order to understand local ASGM dynamics it is essential that large-scale mines that are seeking to establish new, legitimate and co-operative arrangements take account of scenarios in which powerful actors, whose interests may be disrupted by such outcomes, seek to sabotage their plans.

27. Centre for Mining and Sustainability Studies of the Universidad del Pacifico, Aaron Quinon 'Analysis and systematisation of innovative co-operation programmes between large-scale mining projects and artisanal and small-scale mining', 2021.

28. Inter-Governmental Forum on Mining, Metals and Sustainable Development 'Global Trends and Small-Scale Mining (ASM): A Review of Key Numbers and Issues', 2017.

29. Responsible Minerals Initiative: 'Researching the role of aggregators and crude refiners in the gold supply chain', 2021.

## 6. Working with governments and mobilising partnerships

This chapter outlines some of the difficulties many governments have encountered in formalising substantial numbers of artisanal and small-scale miners and the approaches that some companies have taken in order to support them in this objective. It considers the key roles that governments can play in relation to ASGM and goes on to note the power of multi-stakeholder partnerships, especially in implementing programmes that aim to improve the integrity, safety and environmental practices of formalised ASGM operations.



Handing over of copies of all documents of the request for the Pamaka Mining Reserve to the Minister of Natural Resources, David Abiamofo. In the picture, Winston Wielson (ASM Chief), Erwin Kamiel (Chairman ASM Cooperative) Shirley Sowma-Sumter (External Relations Director), David Abiamofo (Minister of Natural Resources).

Governments are the ultimate owners of mineral resources on behalf of their people. Thus, they set the framework for the development of those resources and levy taxes and royalties to fund public services and to balance the depletion of natural capital by the enhancement of social, human and manufactured capital. During the 1960s and 1970s many developing countries, like Peru, Chile, the DRC and Zambia, favoured State-led approaches to mining. One problem with this approach, however, was that it led to competition between investment in mining and other government priorities such as education and health. As a result, many State-owned mining companies were inefficient and under-capitalised. In more recent decades, governments have, instead, sought to attract investment from international mining companies and have balanced this access to their minerals through levying taxes and royalties, coupled with other measures to promote economic development, such as beneficiation, infrastructure investment or the promotion of SME<sup>30</sup> development through local procurement.

Over the last decade a growing number of governments in gold-producing countries have expressed an intention to formalise their ASM sectors, although few have managed to pursue a consistent or successful approach. With the increase in people participating in ASGM, the rise in output from groups operating outside of the law, and the growing problem of illicit financial flows, the need for governments to progress a formalisation agenda is becoming urgent.

For a country like Colombia, formalisation is key if funding of organised crime and other armed groups is to be reduced and the development of a more significant industrial mining sector is to be facilitated. In Ghana, having clamped down on 'galamsey'<sup>31</sup> mining through Operation Vanguard (2017/18), the government is now seeking to focus formalisation on 'community mining' in part to protect water sources from mercury pollution and to stem the loss of forests and agricultural land. In Nigeria, the Deputy Minister of Mines<sup>32</sup> recently advocated the death penalty for illicit gold traders because he alleged illegal gold mining is costing the national economy US\$9bn a year. Economic losses, smuggling, money laundering and lost tax revenue all help to concentrate the minds of both national governments and international

organisations like the OECD, IMF and UN agencies. It is a matter for debate when or whether it is realistic to impose taxes on those artisanal miners who operate at a subsistence level, but this should be less of an issue with small-scale mines. National governments should, arguably, be motivated to act on formalisation by rule of law considerations (including anti-corruption objectives), protecting their environments, addressing social issues, attracting inward investment and controlling what is effectively the looting of their national mineral endowment.

In **chapter 4** we discussed the evolution of company ASGM strategies from a security-focussed model to a more holistic approach. A similar transition may be needed in government policy-making machinery. In many situations formalisation can represent a major administrative, and sometimes political, challenge. Mines' Ministries are often under-resourced or lack political heft with the other ministries and agencies that need to be involved, such as Finance, Security, Environment, Trade, Agriculture and Labour. In South Africa, where the government is seeking to identify a workable model for legal ASGM but also has to respond robustly to infiltration by criminal groups into underground mines, the government has created the NCSMT (National Co-ordinating Strategic Management Committee). The committee consists of the Department of Justice and Constitutional Development, the Department of Mineral Resources and Energy, the National Prosecuting Authority, the South African Police Service, the Directorate for Priority Crimes and Investigation, the National Intelligence Co-ordinating Committee, and the State Security Agency, among others. The NCSMT reports to the Justice, Crime Prevention and Security Committee of the Cabinet on how matters of illegal mining are addressed.

Regional tiers of government can have a decisive role. In countries like Indonesia, however, overlapping jurisdictions can lead to an inconsistent approach. In some countries, such as Colombia, host governments are actively looking to large-scale mining companies to help them create sustainable formalisation models as a way of preserving their 'social license' to operate.

30. Small and Medium Sized Enterprises – many resource-dependent governments seek to balance the danger of mining becoming an 'enclave' economy through enforcing 'local content' sourcing requirements.

31. The term 'galamsey' is derived from the phrase 'gather them and sell'; it is a local Ghanaian term which means illegal small-scale gold mining in Ghana. Amongst other impacts, it is widely associated with mercury pollution of water courses.

32. Mr Uche Ogah, Minister of State for Mining and Steel, Bloomberg News, 15 September 2021. [www.mining.com/web/nigerian-minister-wants-death-penalty-for-gold-smuggling/?utm\\_source=H%26P+Master+Contact+List+%28Sements+and+Tags%29&utm\\_campaign=0aa609756b-EMAIL\\_CAMPAIGN\\_2018\\_10\\_05\\_07\\_47\\_COPY\\_01&utm\\_medium=email&utm\\_term=0\\_d44f91613c-0aa609756b-577601650](https://www.mining.com/web/nigerian-minister-wants-death-penalty-for-gold-smuggling/?utm_source=H%26P+Master+Contact+List+%28Sements+and+Tags%29&utm_campaign=0aa609756b-EMAIL_CAMPAIGN_2018_10_05_07_47_COPY_01&utm_medium=email&utm_term=0_d44f91613c-0aa609756b-577601650)

Some LSM companies face significant disruption from ASGM intrusions, including violence against staff. Few, if any, relish the prospect of asking the host government to send in the police or army to clear illegal miners from their concession. But such interventions become inevitable if they cannot conduct their operations safely and, thereby, are unable to pay taxes to the national exchequer, wages to their workers or dividends to their investors. Although entitled to such support, companies will, typically, regard interventions from police or army as a last resort and will seek an accommodative stance, especially with community-based miners, in order to keep their staff and assets and local people safe and secure. Increasingly, gold mining companies are seeking to motivate host governments to work in partnership with them on challenges around formalisation, ASGM capacity-building, and models that allow LSM and ASM entities to coexist without conflict.

Company engagement with their host government on ASGM management will likely include the following issues:

- The provision of a legal framework for the LSM/ASGM interface that protects the company's investment and, where feasible or relevant, allows the parties to establish constructive models for co-existence
- The provision of support against violent or disruptive illegal miners
- Support for companies and communities to help them resist the influx of unsustainable numbers of migrant miners who could overwhelm agreed formalisation or co-operation models
- Championing the involvement of companies, communities and responsible ASGM groups in order to resolve disputes
- The creation of cross-departmental government structures that reward or facilitate co-existence arrangements such as providing better health, education and training programmes to relevant communities, as well as support in relation to market access, mercury-free technologies and micro-credit.

An interesting approach, albeit one predominantly focussed on copper, is Chile's ENAMI model.<sup>33</sup> This operates for gold too, albeit at a relatively small level of about US\$70 million (mn) in annual revenue, and is based on supporting formalised artisanal and small-scale mining.

It does this through establishing trust-based relationships with individual mining groups; providing centralised processing facilities that yield over 60% gold recovery rates (compared with 30% from mercury amalgamation); the provision of credit for the purchase of equipment; and the payment of international benchmark prices.

Below, we provide examples of companies who are seeking to support their host government through offering international expertise on formalisation models. Anglo Gold Ashanti, for example, is working to help the Guinean government develop a formalisation strategy around the Siguiri mine as a national pilot. In Suriname, Newmont has successfully engaged the government, convincing them of the benefits of building a representative organisation for local community-based ASGM and of registering their activity.

Despite these successes, in two other instances similar initiatives have met with mixed results. In the case of Barrick Gold's Loulo mine in Mali the government has been unable, through a period of political turmoil, to provide a policy context that will allow the company to surrender concession areas for reallocation to responsible ASGM. In the case of Golden Star in Ghana, albeit back in 2012/13, whilst key stakeholders were aligned on objectives and government modalities were in place to support formalisation, limitations in capacity to police surrendered concession areas, derailed the Government's plan for reallocating the ground to legitimate ASGM units. This highlights the peril that, despite engagement with willing partners, the intentions of third parties remain a source of risk.

This chapter concludes with a reminder of the importance of building trust and of bringing institutions like NGOs, think tanks and universities, as well as local or regional government and police and environmental agencies, into the picture. Newcrest in Indonesia faced a complex set of interactions with national, regional and local government institutions, whilst having to deal with growing problems from incursions by illegal miners. The central issues in this case were clear: addressing the health and environmental impacts of illegal mining and encouraging formalisation and the use of mercury-free technologies. This they achieved by working through a multi-stakeholder forum, which endures five years on. The final case study features a gender-focussed partnership between B2Gold and UNICEF in Mali, which aims to steer young women and girls away from involvement in potentially abusive ASGM.

33. UN Economic Commission for Latin America, BGR: 'ENAMI – Model and good practices to promote the sustainability of small-scale and artisanal mining in the Andean region', 2021.

## 6.1 Case studies

### 6.1.1 AngloGold Ashanti in Guinea

In February 2017 a national forum on ASM was organised by the Guinean Ministry of Mines and chaired by the then President of the Republic. The discussions concluded that a framework to formalise the ASM sector was essential. AngloGold Ashanti's Siguri Gold Mine (SAG) has shown its commitment to AGSM formalisation by providing an expert consultant who is supporting the government in the formulation and implementation of an innovative multi-stakeholder collaborative initiative.

ASGM is widespread in the rural areas of Guinea and provides the main source of income for over a million people. During the dry season people converge on gold producing areas. ASGM is legally authorised by the Guinean mining code (Act 51 – 63, 2013), but there is a need for reorganisation in a way that prevents ASGM actors from mining in LSM concession areas. SAG has hired an international expert to assist the government. The consultant has produced a situational analysis report, a baseline of ASGM around SAG, a stakeholder analysis report, and a draft collaboration framework.

When the formalisation process is complete, AngloGold Ashanti expects a significant decrease in invasions and in illegal mining in LSM permit areas. The objective is to create a better organised ASGM sector with a safer and more environmentally benign working environment.

As the project is in its early stages, ongoing support to and engagement with the government is key in order to ensure that ASGM formalisation is successful through a collective effort between the public and private sector.

### 6.1.2 Newmont in Suriname (see also page 47)

ASGM is probably the second biggest source of jobs in Suriname. Newmont's Merian mine started commercial gold production in 2016 following many years of exploration work. The Republic of Suriname owns a 25% stake in the venture and has been closely involved in the evolution of the company's strategy towards ASGM. The mine is located in an area dominated by two indigenous groups, the Pamak and Kawina communities, many of whom have traditionally practiced artisanal gold mining. Newmont had recognised the land rights of these groups as 'indigenous' – although this is contrary to the position of the Suriname government – for the purpose of seeking free, prior and informed consent (FPIC).

Although government policy favours formalisation, the country does not yet have a framework to enable this. Apart from a desire to control illegal mining, the government is keen to reduce the health impact of mercury pollution – especially on children.

Newmont's Merian Minerals Agreement prohibits the company from any activity that would amount to 'actively promoting' ASM within its mining concession area. This inhibited the company's ability to seek coexistence with the artisanal miners. If a new, less conflictual basis was to be created for interactions between large-scale and artisanal and small-scale mining, a change in government policy was needed. Newmont engaged with the government, making the case for change and explaining the company's plans for registering and tracking the activities of local miners. After sustained engagement, the government confirmed that the proposed activities would not breach the Minerals Agreement.



ASM workers vacating the inactive pit at Siguri Mine Seguelen following a fall of ground in 2019. Image courtesy of AngloGold Ashanti.

### 6.1.3 Barrick Gold in Mali

Exploration target areas of Barrick's Loulo-Gounkoto mine have faced occupation by illegal miners. In 2020 alone one area was invaded by 300 small-scale miners and another by a Chinese group with heavy equipment. For several years, the mine's management at Loulo has been trying to move away from the need to periodically clear illegal miners from its concession, and has considered military intervention as a backstop option. Barrick tried to address this through implementing ambitious economic development projects, including local procurement and the creation of an agri-business college. It also provided support to local artisanal miners to form co-operatives and the company investigated how it might assign land for small-scale mining, although almost all of the available land was already allocated under formal mining permits.

Barrick therefore invited the Malian government to work with them in piloting a more ambitious approach, including the delineation of mining corridors, with geologically assured prospectivity for ASM use. The plan involves five elements: to formalise miners working in the designated areas; to construct infrastructure to support responsible ASGM; to help organise existing miners into co-operatives; to establish robust accounting procedures for production and sales; and to free Barrick's permit area from illegal ASGM activities. The company also created a knowledge-sharing forum with other mining companies in Mali.

The Malian government was supportive of the concept but translating this into the necessary legal framework has proved challenging – a problem exacerbated by coups and successive changes of government. In 2019 the World Bank announced a US\$25mn grant to support a mining reform framework programme in Mali which was intended to include progress with the Loulo project. While Barrick continues to be committed to the project, progress has been slow in the absence of strong leadership from the World Bank and the government team. The stasis amounts to a squandered opportunity for a company, a government (with international support) and local communities to work together to improve the situation of small-scale miners and to clear a permit site of illegal miners. Barrick has persisted in its work to resolve these issues; the mine continues proactively to engage with its stakeholders and to work with local youths to protect its exploration targets.

### 6.1.4 Golden Star in Ghana

Golden Star recognises the strong cultural roots that artisanal mining has in Ghana. Through extensive engagement with host communities it was able to identify those who were reliant on ASGM to supplement their livelihoods. Many of these groups were, however, critical of Golden Star's formalisation work; they argued that many large-scale miners were not fully utilising their concessions; that small-scale miners were unable to compete for access to prospective areas; and that many deposits were uneconomic for large-scale mining but potentially viable for ASGM.

Golden Star subsequently ceded 3.4 km<sup>2</sup> of its (now former) Prestea concession in order that the government could establish 200 formalised concessions for small-scale miners. This approach was intended to support legal small-scale miners with enhanced livelihood opportunities and a reduction in illegal mining activities. Golden Star, with input from a multi-stakeholder forum, requested that the Minerals Commission divide its Prestea surface concession into two sections, allowing for the ceding of a portion for legal small-scale mining.

Concluding in early 2012, the parties agreed on the area of interest. It was envisaged that the government, after reacquiring ownership of the mineral resources, would allocate this land for application by legal small-scale miners. The Minerals Commission established the small-scale miners' concessions. However, only a handful of formal applications were received and the area was rapidly overrun by illegal miners, frustrating the company and regulators alike and straining relationships. This experience highlights the risk that, despite extensive engagement, not all stakeholder motivations will be clear and that plans to enhance policing capacity during a transition may improve the likelihood of success of such genuine attempts as coexistence.

The Barrick and Golden Star case studies show that even when there seems to be agreement between companies and host governments on formalisation of 'ASM corridors' in areas vacated for that purpose by LSM companies, the company itself must remain closely engaged to ensure follow through. Moreover, formalisation without further support for ASM miners, such as better safety standards and the use of mercury-free technologies, can represent a wasted opportunity for the company. As part of any agreement for a company to surrender concession areas for conversion into responsible 'ASGM corridors', companies would be wise to negotiate a process of follow through and technical support with the host government before relinquishment takes place.



Illegal miners sluicing in and diverting a stream on the Hwini Butre Benso concession. Copyright: Golden Star.

## 6.2 Mobilising multi-stakeholder partnerships

Sustainable Development Goal 17 (Global Partnerships) reminds us of the importance of working across sectors to design solutions to complex problems. Improving the impact of ASGM operations on local people will often depend on building trust – including among small-scale mining groups – as well as on mobilising a wide range of skills, connections, networks and perspectives. While national governments need to take a lead in setting the rules, the roles of local government, the police and environmental agencies and civil society groups are fundamental too. The experiences of Newcrest in Indonesia and of Calibre in Nicaragua, in particular, provide evidence of the value of multi-stakeholder processes in identifying and resolving issues raised by ASGM activities and their interface with large-scale mining operations.

### 6.2.1 Newcrest in Indonesia

Newcrest operated the Gosowong Gold Mine in the North Halmahera Regency in North Maluku Province. Its Contract of Works (CoW), or mining permit, was signed in 1997 and was valid for thirty years. Illegal mining, including artisanal small-scale mining, was being undertaken in the CoW area. This negatively impacted both operations and the adjacent communities. Periodically, local authorities and law enforcement agencies undertook ad hoc and reactive operations to evict illegal miners and ore processing facilities from the CoW area. In 2018, Newcrest agreed amendments with the government of Indonesia to amend the CoW. One of the amendments required Newcrest to divest at least another 26% interest in Gosowong. This coincided with a surge in ASGM activity. The company, therefore, concluded that illegal mining control required a more strategic and integrated approach as between the mine’s security, environmental, social, and health and safety functions.

The Regency government was responsible for the control of ASGM. In addition, central government had recently adhered to the Minamata Convention and was requiring regional governments to develop action plans to tackle mercury. In parallel, regulations from the national Ministry of Energy and Mineral Resources obliged mining companies to develop a five-year Master Plan for Community Development and Empowerment (CDE) based on consultations with community and governmental stakeholders.

To optimise national and regional dialogue on addressing mercury use by artisanal miners and the parallel conversations on community development, Newcrest supported the creation of a multi-stakeholder forum

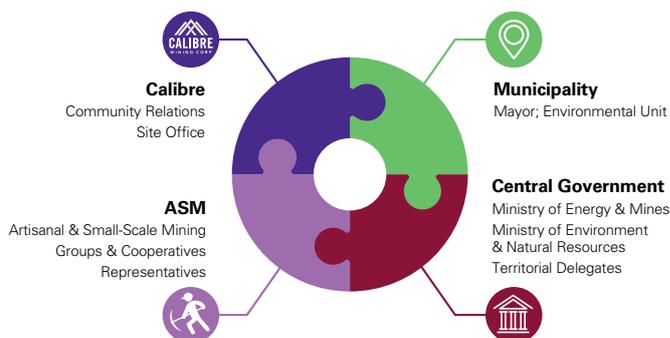
sitting at the Regency level. It recognised that it needed to consult regularly with governmental and community stakeholders to identify and manage all significant social, health and environmental impacts associated with the mine’s activities together with the health and ecological issues associated with the illegal mining.

The Forum became a crucial platform for cooperation between local government and the mine and for encouraging leadership by the Regency government to meet their obligations to provide law and order and to identify and reduce harm to community health and the natural environment. To this end, a Letter of Agreement formalised the Forum, which subsequently oversaw the execution of several strategic actions.

Newcrest shared information with the multi-stakeholder forum on its security policies and practices, the outcomes of community consultations, and on its ASGM grievance process. It also shared information derived from ASGM surveys and consultations; undertook joint public awareness campaigns on mercury and cyanide amongst illegal mining groups and at community health centres; and provided sessions on health and environmental issues for women’s illegal mining groups. Newcrest also worked with local government on a review of regulations to support Indonesia’s ASGM formalisation drive. This included a review of low-mercury and non-mercury processing techniques. Newcrest divested its majority share in the Gosowong mine in March 2020. Newcrest understands that the multi-stakeholder forum still exists with ASGM management as a central element of the new owner’s five-year CDE Plan.

### 6.2.2 Calibre Mining in Nicaragua (see also page 77)

As Calibre moved forward with the development of its Pavon project in Rancho Grande, it sought to increase its engagement with the Ministry of Mines and local stakeholders through participation in the Territorial ASM Commission.



Copyright: Calibre.

Chaired by the Ministry of Mines, the Commission includes the municipal mayor, representatives from the Ministry of the Environment and the National Forestry Institute, artisanal miners and company representatives. It has ensured a good information exchange, facilitated management of any sources of discontent and helped the company to monitor and report on the environmental and health and safety impacts of ASM work on the Calibre concession.

### 6.2.3 B2Gold in Mali

Gold has been mined by artisanal methods for generations in the Kéniéba District of Mali. Regrettably, however, the presence of children at these mine sites is commonplace. Children in the area have limited access to health and schooling, and many girls become victims of violence, abuse and exploitation.

In 2019, B2Gold partnered with UNICEF with the aim of minimising these risks in collaboration with the government and local NGOs. Over a period of three years and in two villages the initiative aims to implement three key activities to ensure:

- i) Children under the age of five are protected and have access to day care

- ii) Young girls have access to education and training opportunities

- iii) Adolescent girls are protected and empowered.

Now children attend mobile nurseries and parents can leave them in recreational spaces, knowing they are in safe hands while they are working.

The project is funded by B2Gold and UNICEF and implementation is carried out by UNICEF and Enda Mali (a national NGO). Activities are implemented through a two-pronged approach. First, access to basic social services, such as education and child protection, is improved by setting up mobile interventions adapted to the specific needs of these vulnerable children. Second, government service capacity is strengthened, and systems are built to improve the well-being of children.

In 2020 there were some obvious challenges arising from the pandemic and the strategy had to be revised, partly due to school closures. In addition, political instability impacted the project. But despite these delays and challenges, eight spaces were set up including support spaces, listening points and nurseries. Since inception the project has benefited over 290 children from infants up to 18-year-olds.



Although relocation of the village of Fadougou was not a requirement of the mine permit, B2Gold decided after extensive engagement with stakeholders, to proceed with a resettlement plan for the original village to improve wellbeing of the community. Pictured here are traders in the New Fadougou community market area. Copyright: B2Gold.

## Perspectives 1: Formalizing ASGM in Colombia through multi-stakeholder collaboration

**By Carolina Rojas-Hayes**  
**Former Vice Minister of**  
**Mines of Colombia**



Formalising ASGM is an opportunity for Colombia to create decent jobs and reduce poverty while contributing to the responsible gold supply chain. For two decades, progress has been made by government, civil society, and the private sector to support ASGM formalisation. However, there are still many challenges ahead that require collaboration amongst different stakeholders.

ASGM in Colombia has existed since colonial times and explains a large part of the employment generated by the mining sector. According to different estimates, artisanal and small-scale mining can employ up to 300,000 people country-wide, of which at least half are ASGM miners. Compliance with legal requirements and best practices, however, is not high: four out of ten miners are legal, and of those legal miners, only 50% comply with health and safety regulations.<sup>34</sup>

Mining regulation and policy has evolved during the last 20 years to adapt to the needs of ASGM and address these issues. The Colombian 2001 Mining Code created several legalisation incentives, including Special Reserve Areas. These incentives, however, proved to be insufficient to address the different complexities surrounding formalisation. As a result, several legislative and regulatory reforms have been set in place. Size codification in mining was introduced to organise the sector.<sup>35</sup> Instruments such as sub-contracts and operation contracts were introduced to enable the co-existence of ASGM and LSM. More recently procedures have been simplified by differentiating requirements depending on the type of mining activity.

There has been progress in legalising informal mining, but there is still a lot of work to do. In 2019, President Duque's administration pledged to formalise 27,000 miners, out of which 8,000 have already obtained mining and environmental permits, 15,000 are in 'transit'<sup>36</sup> and an additional 15,000 have indicated their intention to formalise. Going forward, public institutions, both mining and environmental authorities, should revamp their efforts to provide timely responses of ASGM legalisation requests. This is key to accelerate progress and to maintain confidence of ASGM miners in options provided.

LSM has played a key role in the path to formalisation in Colombia. Through sub-contracts and operations contracts, LSM is attributable to at least 60% of fully formalised miners to date. Co-existence between ASGM and LSM has brought benefits for both sides. ASGM miners have benefited from working in titled areas, and have received technical assistance in geology, mine design, health and safety, as well as receiving seed capital to invest in their projects. On the other hand, LSM has benefited by having better relations with communities, improving local support for larger projects and a stronger license to operate. Co-existence options are far from perfect. There is still work to be done to improve concurrence agreements so that all parties are satisfied and confidence between ASGM and LSM strengthens. Yet, LSM will continue to play a significant role in formalisation in the future.

The role of buyers and refiners also plays an important role in formalisation efforts. They can provide appropriate incentives to comply with standards and thus contribute to create stable markets. Due diligence throughout the gold supply value chain can guarantee that consumers are purchasing Colombian gold that has complied with all social, environmental, regulatory, and fiscal requirements. In doing so, consumers will also help diminish illegal mining that damages ecosystems and funds criminal activity. Due diligence by refiners and buyers also helps to generate confidence from key stakeholders such as the financial sector whose worldwide compliance requirements often contradict ASGM financial inclusion efforts in developing countries.

One of my most cherished memories as Colombia's Vice Minister was participating in a ceremony in which cash prizes were granted to more than 100 ASGM miners for having achieved best practice in their panning activity. The event convened not only the miners but representatives of government, civil society, international donors, producers, refiners and buyers. It is a perfect example of how collaboration between different stakeholders is key to formalising ASGM and strengthening responsible gold supply chains while creating decent jobs and reducing poverty.

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34. Data from different studies undertaken by the Ministry of Mines and Energy between 2013 and 2018.

35. Large-scale, medium-scale, small-scale, and subsistence mining

36. 'In transit' refers to ASGM miners who are in the process of complying with mining and environmental requirements.

# 7. Formalisation and coexistence

There is a high degree of consensus that formalisation is a key element in any strategy to address the poor position of artisanal and small-scale miners. There is not, however, the same degree of consensus around what the term ‘formalisation’ means or over what timescale it can realistically be introduced.

Formalisation can reduce the vulnerability of ASGMs to extortion by powerful vested interests and criminal groups; can assist their access to credit and capital; and can reduce their marginalisation from government services and from legitimate gold markets. It certainly makes it easier for large-scale miners to develop co-operative relations with ASGM groups who work within legal frameworks and paves the way for ASGM to be integrated into the mainstream economy over the medium term. But formalisation should not be overloaded with expectations. It is not a panacea. It needs to be supported by other actions to address issues such as mercury use and related health and environmental impacts. It doesn't change geology and create gold resources where they do not otherwise exist. But in many situations it can be an important first step to regularising the position of ASGM miners and, with suitable support from others, can help towards the resolution of the issues highlighted here. It is a ‘necessary but not sufficient’ element in improving the situation.

The slow progress made towards formalisation, even in many countries whose governments favour the objective, suggests that devising a workable and accessible process is far from easy. This can be because of governmental capacity constraints; a dysfunctional legal framework or poorly designed administrative procedures; obstruction by vested interests; or because the economic incentives deter ASGM miners from participating.

Aligning incentives with public policy objectives is a way of making formalisation more attractive. This can include the use of domestic purchase programmes operated by State institutions, including central banks; paying predictable and fair prices; easing access to credit and banking services; or the use of technologies that deliver better gold recovery rates (see **chapter 9** on ‘Capacity building and technical support’). It is difficult to achieve widespread formalisation if the miners themselves do not see or experience benefits – so both penalties and incentives need to be effective and compelling.



Advice on anchor points for working at heights to mining production units at La Maria SAS, Colombia. Copyright: B2Gold.



Safety inspection and tour by the Gramalote miners of La Maria SAS, Colombia. Copyright: B2Gold.

In **chapter 6**, we noted the work that companies have been doing to support government formalisation processes (e.g. AngloGold Ashanti in Guinea) or to provide geologically prospective concession areas for redistribution to responsible ASGM (such as Barrick in Mali). In this chapter, we focus on interactions between large-scale mines and local ASGM. We consider the actions that companies can take to make it more likely that formalisation will work. Two examples of this can be found at Newmont in Suriname and AGA in Ghana, both of which have found that the transfer of geological data with relinquished concession areas is more likely to translate into success and build trust with both government and ASGM groups – but local circumstances may not always support this approach. The Suriname experience also shows that it is essential to build the organisational capacities of ASGM groups to encourage or enable them, for example, to form co-operatives. In Ecuador, Lundin Gold has developed a process that actively manages the interactions between artisanal miners and its Fruta del Norte mine. It supports environmental compliance and conducts regular inspections and is bringing on board a university partner to provide technical support. B2Gold’s Gramalote project in Colombia has worked

with local miners to help them navigate the complexities of the formalisation process and is providing them with an independent processing plant using mercury-free technologies. However, one of the challenges for many such projects is building them to scale so that they are competitive and are sufficiently inclusive.

In looking for models that support coexistence (what is relevant or likely to work will almost certainly depend on local regulatory frameworks), companies can pursue a variety of strategies:

- Build the technical capacities of ASGM groups (see **chapter 9**) in order to improve the management of issues like safety and environmental performance
- Support local ASGM miners to negotiate the formalisation process in areas near to – but outside of – their concession (e.g. Newmont in Suriname)
- Advocate the relinquishment and reallocation of areas of their concession that are not prospective for industrial mining and the reallocation of the ground by State authorities to responsible artisanal and small-scale groups (e.g. AngloGold Ashanti and Gold Fields in Ghana and Newmont in Suriname)

- Take a multi-stakeholder approach to ensure control over responsible ASGM access to relinquished areas and priority for local people (see IAMGOLD in Suriname)
- Grant time-limited contracts to artisanal miners within an LSM concession, subject to the ASGM group obtaining an environmental permit (e.g. Lundin Gold in Ecuador)
- Let sub-contracts to ASGM groups to mine satellite pits or specific deposits with the LSM company taking a degree of responsibility for the environmental, technical and social practices of the ASGM group and purchasing their output (see **chapter 11** on 'Access to markets and due diligence', especially Calibre Mining in Nicaragua)
- Let sub-contracts within a large-scale company's concession area, subject to continuing inspections by, and technical support from, the concession holder (e.g. B2Gold in Colombia)
- Work with ASGM on mercury-free technologies not only to improve gold recovery rates and reduce environmental risks but also to ensure that the LSM concession holder is released from environmental liability for injurious actions taken by the small-scale miners (e.g. IAMGOLD in Suriname).

Traditionally, LSM companies have been reluctant to relinquish concession areas and many will continue to be so if they believe that pressure, equivalent to de facto expropriation, is being applied by a host government. The best outcomes in the case studies included in this chapter, have been achieved where companies were able to realise mutual benefits for LSM and ASGM and the welfare of local communities. Moreover, LSM concession holders may not have good geological information on all parts of their concessions because some areas have not been exploration priorities and they do not want, understandably, to surrender areas which may have high material value. In some countries 'use it or lose it' provisions may, however, have the effect of requiring companies to prioritise certain exploration activities before they might otherwise do so.

Some of the models discussed above envisage a continuing and, in some senses, symbiotic, relationship between a large-scale miner and local ASGM entities. Models where the LSM company also agrees to buy gold-bearing material from the artisanal miners are explored in the chapter on facilitating market access and due diligence (**chapter 11**). A study published by the University of the Pacific in Peru<sup>37</sup> analysed co-existence between nine LSM

and medium-scale mines and ASGM miners in the Andean countries and the nature of their co-operation. The study recommended that LSM companies report publicly on their ASM interactions in their sustainability reports (which is increasingly done by leading gold companies and is envisaged by the Global Reporting Initiative framework). It found that 'the role of the state is fundamental as a manager of coherent public policies for the formalisation and promotion of ASM with technical capacities'. It also recommended that LSM companies should be prepared to adapt their 'culture and structure to manage community relations with artisanal miners' and to recognise the role of external actors such as NGOs, universities and international co-operation' in providing technical support in their 'negotiation and learning processes'.

Formalisation can make sound economic sense for host governments. Hence an evaluation of USAID's Oro Legal programme in Colombia found that in return for a US\$20 mn investment by USAID, 'over US\$155mn in legal gold sales and US\$10mn in taxes, royalties and social security payments' were generated'.<sup>38</sup>

The World Bank/IFC/CASM etc. landmark publication *'Mining Together: A Guide for Action'* sets out five steps that an engaged LSM company might consider in developing its ASGM strategies:

- Promote a better regulatory/legal framework: regularisation of the position of ASGM can provide a framework for dealing with ASGM or for negotiating compensation
- Help ASGM to get organised: organisation is essential since it is very difficult for LSM (or government) to deal with a multiplicity of individuals who lack collective capacity to accept the responsibilities associated with taking on a legal personality; companies contemplating such a route might seek to impose conditionality in areas such as preventing child labour or ensuring equitable gender roles
- Help ASGM groups to navigate the legal and organisational requirements related to achieving formalisation
- Provide technical assistance to ASGM in areas like safety and environmental performance
- Employ small-scale miners or issue sub-contracts so that they can work on the ASGM's concession.

37. Centre for Mining and Sustainability Studies, University del Pacifico and Solidaridad: *'Analysis and systematisation and innovative co-operation between large-scale mining projects and artisanal and small-scale mining'*, Aaron Quinon – CEMS, 2021. The study looked at mining enterprises in Bolivia, Chile, Colombia, Ecuador and Peru.

38. *'Reaping the Economic Benefits of Formalisation in Colombia'*, Peter Doyle, Chief of Party, Oro Legal, USAID.

## 7.1 The risks associated with interacting with ASGM from the perspective of a large-scale miner

The following risk management factors will be significant when LSM companies develop a coexistence or formalisation-based relationship:

- Reaching agreement with **some** ASM miners around formalisation does not necessarily mean that **all** miners will coalesce or comply with what has been agreed
- There may continue to be incursions or trespass into concession mining or processing areas
- If successful, the scheme may be overrun through in-migration by other miners
- The approved scheme may be infiltrated by individuals linked to criminal groups
- Without adequate governance support the formalised group may fail or become ineffective
- Individual miners may resist attempts to impose organisation
- The government may impose taxes or regulations that cause a backlash amongst the miners
- Organisational and resourcing challenges for the company, including challenges around management continuity
- The Company may proceed on the basis of an incomplete or erroneous understanding of local dynamics
- Vested interests may seek to disrupt a smooth transition to more settled arrangements.

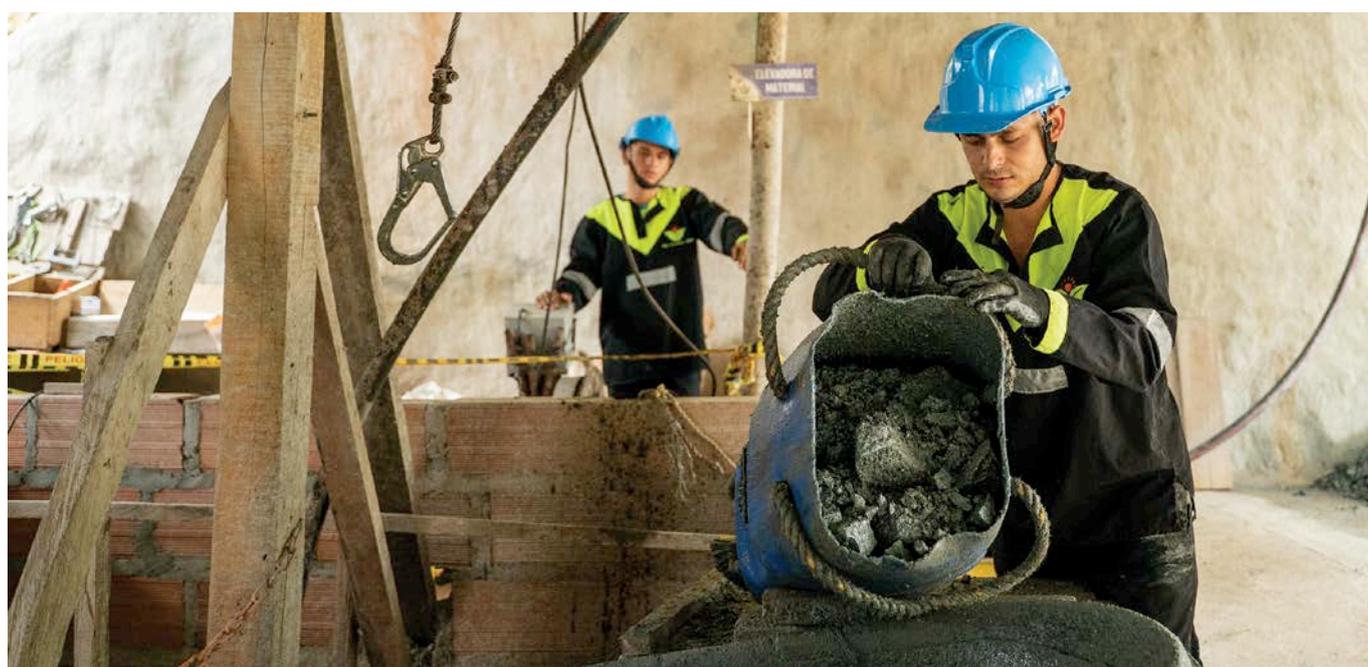
## 7.2 Case studies

### 7.2.1 B2Gold in Colombia

Gramalote is a potential open-pit mining project located in the municipality of San Roque in the Antioquia Province of Colombia. The project has an environmental license and is a 50:50 joint venture between B2Gold and AngloGold Ashanti.

The company, working with national mining authorities, has collaborated with artisanal miners to promote the implementation of mining formalisation processes within its mining lease. In 2018 the company commenced a formalisation process with the support of relevant government bodies, covering 18 traditional informal miners. They followed up in 2019 with a project involving 60 additional miners from the municipality of San Roque. Gramalote has registered eight mining formalisation sub-contracts with 78 ASGMs located in 24 Mining Production Units (MPU) that benefit close to 400 families. Benefits of the formalisation process include skills training, improved health and safety practices, and the implementation of entrepreneurship, gender equity and child labour reduction initiatives. Several government institutions have also committed to the formalisation processes.

The first pilot group of ASM miners to complete the formalisation process is Mineros La María SAS, incorporated as a joint stock company consisting of 18 traditional miners. The La María SAS has received all required regulatory environmental and mining permits and is now operating as a formal mine. As of mid-2021



Extraction of ground material produced at La Maria SAS, Colombia. Copyright: B2Gold.

it had 17 production units, generating some 200 direct and indirect jobs, and had produced approximately 1,300 tonnes of legal ore and made royalty payments of approximately COP536mn to the State.

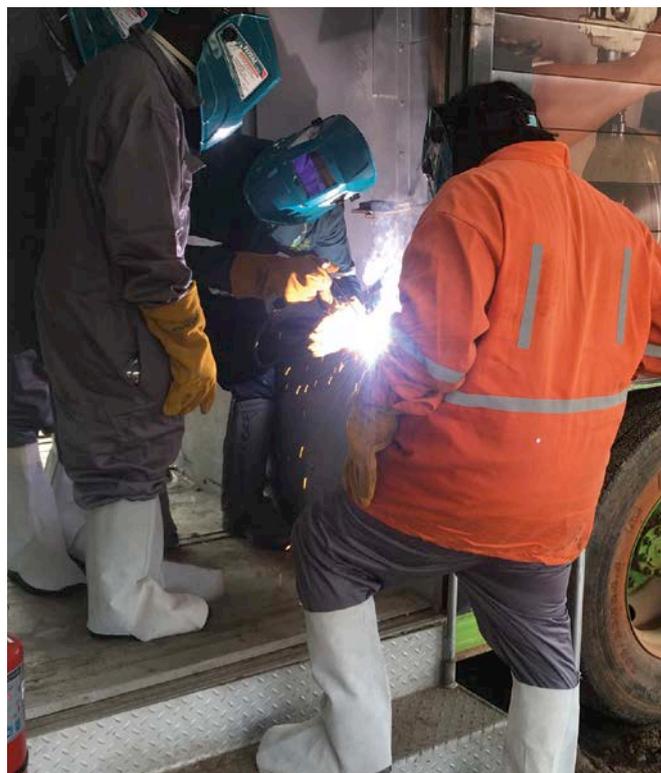
A gold processing plant will be built using modern technologies, excluding the use of mercury and intended to achieve a 95% recovery rate. The La Maria formalisation process has been recognised as representing a national benchmark. In summary, the process has achieved the formalisation of 400 mining families and 24 mining production units; an annual reduction in mercury use of 350Kg; improved environmental, health and safety practices; and it has strengthened the presence of the State and of NGOs in the territory.

### 7.2.2 Newmont in Suriname (see also page 37)

Newmont's Merian mine is located in an area of traditional artisanal gold mining, which, among others, is carried out by two indigenous groups – the Pamaka and Kawina communities. For safety and security reasons Newmont does not permit them to work in Merian's industrial areas but allows them to continue to mine areas of its concession where the company is not mining and has no immediate plans to mine.

Newmont has supported the development of a representative body for artisanal miners from among the Pamaka. This has led to the creation of a mining co-operative and to the enrolment of 83 members. Newmont has helped to build the association's management capacity so that it can achieve the legal status needed to reach a formalisation agreement with the company. The co-operation agreement between Newmont and the Pamaka includes facilitating their access to alternative artisanal mining areas outside the concession. It was clear, however, that these areas would be less attractive than some of the deposits the miners had previously worked. Newmont planned to compensate for this by technology transfer to improve gold recovery rates. The company evolved its strategy through engagement with local miners, presented the proposed approach to them and received their feedback and support.

A key learning is that although the company was willing to make land available to the Pamaka for artisanal mining there was initially insufficient geological information about its prospectivity and so the initiative was largely ignored by local people. In 2021, the company applied on the association's behalf for an exploration license. Newmont has committed to undertake this exploration work on behalf of the community and will support the community in exploiting any discoveries.



Welding training provided to local small-scale miners in December 2019 in Snesie Kondre. Copyright: Newmont.

Newmont intends the scheme to support inclusive and legitimate ASGM activity and has identified the following factors as relevant to its success:

- The key actors – company, community, mining groups, government and civil society – all need to work together, albeit with clear responsibilities
- It is important that more formal arrangements for ASGM are accompanied by rewarding communities with access to better government services like health care, education and security
- It is possible (but challenging) to encourage local ASM groups to move away from mercury use and formalise their working arrangements if access to more environmentally benign and efficient gold recovery technologies is provided
- Companies need to be flexible and to learn and adapt strategies in the light of experience.

### 7.2.3 IAMGOLD in Suriname

Engagement with small-scale mining (SSM) has evolved since the start of operations at IAMGOLD's Rosebel Gold Mine (RGM) in Suriname in 2004. A village on the mining concession was displaced to its present location by the government in the 1960s to accommodate a hydro-electric dam. For decades the villagers have been conducting small-scale mining in areas where they claim traditional rights. The company's approach to managing SSM on the concession has gone through four phases.

- **Alternative livelihoods (2002-2004):** During the construction phase, small-scale miners were hired by the mine and encouraged to participate in alternative livelihoods, such as farming and factory work. When construction was complete many villagers returned to SSM and the factory closed
- **Co-existence (2004-2008):** The local village conducted protests to gain access to more areas in the exploitation concession. Following negotiations with the government RGM established a code of conduct and allocated land for SSM in a future mining area. SSM workers and equipment were registered, and training was provided on environmental practices. The number of small-scale miners and the scope of their operations increased
- **Clearance and conflict (2008-2016):** As the number of small-scale miners grew, the area allocated to them ran out of ore feasible for SSM. Encroachments into current and future mining areas led to significant safety risks both to the LSM and to the small-scale miners themselves. A decision was reached with the government to clear all SSM from the concession. The clearance of RGM's concession was concluded peacefully through a formal consultation process that promised the miners their own concession elsewhere. Unfortunately, such a concession was not created and in 2013 the small-scale miners invaded an active mining area on RGM's concession. At the government's request, RGM allowed the SSM to remain for a period of six months, which was prolonged to 18 months. In 2015 formal negotiations began for the accommodation of SSM on some other areas of the mining concession
- **Accommodation (2015-present):** Negotiations with SSM and the government eventually led to the signing of multi-stakeholder protocols in 2017.

Two initial protocols were signed by the government, RGM, SSM co-operatives and the leader of the village, allowing SSM to operate in designated areas of RGM's exploitation concession. One SSM co-operative oversees each protocol area but due to various reasons the first two protocols were not activated. A third protocol was signed in 2017 for the open pit area invaded in 2013, Roma East.

The protocols include controls over the nature of permitted small-scale mining. The miners are registered in the local village; limits are placed on the depth of allowable mining, the nature of processing (no mercury) and the type of equipment. A designated tailings area has been established, and environmental requirements have been put in place. The protocol removes legal liability from RGM for any environmental or other adverse impacts. Monitoring committees have been set up and a public security task force controls access to the mining area.

In 2021, RGM agreed to support a pilot project to establish a mercury-free mobile processing unit (see **chapter 9** on capacity building and technical support). The mine maintains regular engagement with the small-scale mining co-operatives, conducts monitoring of the small-scale operations, and provides guidance on the management of environmental impacts.

IAMGOLD has identified the following lessons from the Rosebel mine's experiences:

- Formalised small-scale mining can help prevent conflict with local stakeholders over access to land. SSM will, however, likely continue to push for greater access to land, particularly as resources are depleted
- A security-based approach can be effective, but likely only in the short term, and carries high conflict risks
- While government is a critical partner, relying heavily on its involvement may not always be realistic
- Implementing mercury-free processing requires careful consideration of several factors and widespread adoption will require significant visible successes.

#### 7.2.4 AngloGold Ashanti in Ghana (AGAG)

Gold has been mined in an organised manner at Obuasi since 1890 and ASGM remains a source of livelihood for potentially tens of thousands of local people. The mine will not tolerate illegal ASGM but supports the legal ASGM sector and the provision of alternative livelihoods for its host communities.

Gold is mined in the Obuasi area by illegal ASGM and there is some theft of gold from waste rock dumps and tailings storage facilities. Through dredging or stream diversions, mechanised miners take alluvial materials from riverbanks or streambeds but although explosives are occasionally employed, all illegal underground mining is done on an artisanal scale. Recently, Chinese groups and well-resourced Ghanaians have been involved in the financing of illegal mining. Some traditional leaders and landowners grant land access to the illegal miners and take money in exchange or become shareholders in the illegal mining ventures.

In 2016 AGAG released 60% of its Obuasi concession to the government in order for it to establish formal ASGM activities. A committee was formed to ensure the removal of illegal miners from the retained concession and to regularise ASGM activities in the relinquished area. Obuasi mine assisted in the geological surveys and in identifying suitable land in the relinquished areas. The Minerals Commission awarded land to many ASGM miners through a permitting process. A further 30% of the retained concession was released in early 2021 to advance ASGM formalisation.

A security agreement has also been signed between the mine and the government. As a result of this and the relinquishment, incursions by illegal miners into AGAG operational areas have reduced notably. Proactive measures to manage the ASGM interface in Obuasi continue to yield positive results and regular engagement with government, community leaders, civil society and others is being maintained to continue the formalisation work.



Reservoirs in the town of Obuasi in Ghana. Copyright: jbdodane / Alamy Stock Photo.



Inspection of an area covered by an artisanal mining contract. Copyright: Lundin Gold Inc.



Illegal mining using excavators in river valleys in south-east Ecuador. Copyright: Kinross.

### 7.2.5 Lundin Gold

Lundin Gold's Fruta del Norte underground mine in Ecuador achieved commercial production in February 2020. The project was previously owned by Kinross (see **pages 27 & 82**), who laid the foundations for an ASGM strategy.

Lundin Gold aims to formalise ASGM activity undertaken by community members and works with government to realise this objective. Given the legal framework in Ecuador Lundin Gold is able to formalise the activities of artisanal miners who seek to operate on its exploration concessions, but not those of small-scale miners. The company grants contracts for mining within its concessions, subject to the miners obtaining consent from the owners of surface rights and an environmental permit from the government. Each group involves between four and seven miners. Lundin Gold seeks to ensure that the miners conform to a strong set of requirements including a ban on mercury; compliance with environmental, water, safety and social security regulations; consent to regular inspections; and prohibit child labour. The miners must not impede Lundin Gold's activities; must send their ore to an independent processing plant, approved by the State; and must undertake environmental remediation. The company carries out regular inspections and environmental audits.

Where these processes reveal non-conformances Lundin Gold helps the miners to implement remedies and provides training on safety, water, mining legislation, human rights and environmental management. If the miners comply with their contract conditions they can apply for a renewal after an initial three years. If they have exhausted the gold resources, Lundin Gold works with them to find alternative ground. At the end of 2020, the

company had 16 contracts in place across its concessions, albeit not all of these were active due to financing, legal or logistical issues.

The programme has been constrained by two factors. First, the miners often lack technical expertise. Lundin Gold is, therefore, looking to commission the Escuela Superior Politécnica del Litoral (ESPOL) in Guayaquil to provide technical support, especially on geology and the identification of viable deposits. Second, at the end of 2020 the government raised environmental performance standards for artisanal miners operating on a large-scale mining concession to the same level as those that apply to the large-scale mine. Lundin Gold believes that this threatens to make some artisanal mining units non-viable and is raising the issue with the authorities.

### 7.2.6 Gold Fields in Ghana

Gold Fields operates the Tarkwa and Damang mines in Ghana. Its ASGM management strategy (see **chapter 4** on Company organisational approaches) includes three pillars: proactive and consistent engagement with neighbouring communities; job creation and community development (see **chapter 8** on Socio-economic development and alternative livelihoods); and protection services aligned to the Voluntary Principles on Security and Human Rights. In 2020, as part of its commitment to community development and job creation, the company chose to surrender areas of its concession to the Ghanaian government in line with mining legislation. The area was subsequently reallocated by the Minerals Commission for community mining. This area had previously suffered encroachments by illegal miners. At the time of the relinquishment, the company also provided geological information and has subsequently submitted digital cadastral maps based on the block system for the area concerned.

## Perspectives 2

### Marcin Piersiak, Executive Director, Europe, the Alliance for Responsible Mining



As an ASGM advocate, I believe that interactions between small-scale mining and the LSM sector must be based on a recognition of ASGM's importance as a social, cultural and economic function, as well as a traditional livelihood, tied to ancestral lands. It follows therefore that even though their activities are informal, small-scale miners should receive an equitable treatment and have a fair chance to access mining rights as independent operators, rather than depend on the goodwill of LSM.

ASGM and LSM meet because they are part of the same sector and, as they are more or less after the same resource, competitors. Nevertheless, to share mining as a profession opens interesting collaborative opportunities. Industrial mines have transferable skills and technology, while ASGM has empirical experience; small-scale miners are often the first to find deposits, even though they rarely receive royalties for this. A collaboration can be mutually beneficial but to succeed it requires trust, an enabling environment and real commitment to formalisation and improvement.

Even when a conventional LSM company has all the required legal permits, the legitimacy – understood as a perception of what is just and rightful – is often on the side of the ASGM in its role as a traditional community actor. To address the imbalance of power between ASGM and LSM and a mutual prejudice, any possibility of collaboration must be based on a genuine and continuous communication effort, aiming at the understanding of each side's expectations and limitations. Importantly, this should take place at the exploration stage. Experience shows that successful collaborations require permanent governance and space for dialogue between diverse stakeholders, including traditional rights' holders, in order to facilitate the relationship. Transparent and fair agreements (especially where mineral ore from ASGM is purchased by LSM) are a foundation for good collaboration. Resentment caused by an agreement perceived as unjust can damage the relationship.

In order for collaboration to thrive, governments must ensure a backdrop of support through the policy and regulatory environment. Clear and efficient legal mechanisms that promote diverse forms of co-operation, incentives and recognition for companies who engage with ASGM, alongside comprehensive and progressive formalisation frameworks, can set the scene for ASGM-LSM accord, especially if the government also plays the role of a guarantor.

Another important factor is commitment to formalisation whereby ASGM can become sustainable as small businesses. The will of small-scale miners to improve and play by the rules must be matched by corporate commitment from LSM to support formalisation and professionalisation. Standards tailor-made for the ASGM sector are useful to help guide the compliance and improvement process: use of the Craft Code for due diligence and high-risk mitigation gives additional assurance; while the Fairmined standard outlines a road map towards best practice, provides market incentives for outstanding performance, and adds reputational value.

Today, there are few who question the legitimacy and socio-economic importance of ASGM. The industry sustainability standards promote engagement with ASGM, and while still considered a risk, the sector is transitioning towards mainstream... at least in terms of discourse, although the pace is often slow when it comes to the reality of concrete supply chains.

It is time for the narrative to evolve from a perception of ASGM as 'invaders' to a recognition that these traditional users of the resource are legitimate community members and potential partners. This narrative should be constructed through a dialogue where both sides are present at the table on equal terms, rather than where the LSM comes with the preconception that it needs to solve 'a problem'. Words shape imaginaries, so instead of contrasting informal versus legal, let us look at industrial versus artisanal, or capital versus labour intensive, all of which more fairly describe the respective contributions in terms of tax, income and employment creation. A genuine respect is a prerequisite for constructive win-win solutions, and at ARM we believe the time is ripe for exactly that.

*The **Alliance for Responsible Mining (ARM)** was established in 2004. It is a leading global advocacy group and expert on Artisanal and Small-Scale Mining (ASM). It works to transform the ASM sector into a socially and environmentally responsible activity, while improving the quality of life of artisanal miners, their families and communities.*

## 8. Socio-economic development and alternative livelihoods

This chapter reviews the options available for large-scale mining companies that want to support the delivery of sustainable benefits to local communities in which ASGM is a factor, especially where the arrival (albeit after due permitting processes, impact assessments and with government permissions) of an industrial mine may have reduced their access to land or other resources. Some of the case studies also apply to circumstances where a formal sector mine seeks to divert people from involvement in illegal mining including through direct employment at the mine or through supply chain opportunities. The chapter concludes with a brief review of the challenges associated with ASGM-related in-migration.



Trader in the New Fadougou community market area, Mali. Copyright: B2Gold.

Alternative livelihood programmes designed to replace or compensate local people for the loss of artisanal mining opportunities have a mixed track record. They typically labour under the disadvantage that most farming-based options are less remunerative than the incomes that can be realised by artisanal mining, at least when ASM miners are working in reasonably prospective areas. Nonetheless, if sustainable ASGM coexistence options are not available, then companies generally seek to identify alternative sources of income, including through small business development, supply chain initiatives, moving people from subsistence to cash crops (if there is a viable market nearby) or by improving farming incomes.

Alternative livelihood programmes are more likely to succeed where miners have resorted to ASGM through necessity rather than preference. They are less likely to be attractive to workers where there is a strong established tradition of small-scale mining. In these circumstances, experience suggests that for many traditional artisanal miners there is a strong cultural connection that reinforces the idea of themselves as miners.

The World Bank's 'Working Together'<sup>39</sup> ASM guidance document suggests that alternative livelihood projects can be used to incentivise migrant miners to return to their place of origin, perhaps through addressing the event or circumstance that originally motivated them to move. Otherwise, LSM companies, understandably, give priority to local people over in-comers.

In considering the potential for alternative livelihood programmes, LSM companies will want to understand the incomes achieved by ASGM; the likely time-lag involved before alternative livelihood schemes generate incomes; whether ASGM miners are burdened with debt that makes it impossible to try alternative livelihoods; and the availability of land or markets for alternative occupations. The design of alternative livelihood programmes will benefit from alignment with government-led local development programmes and from input from local people, so that they feel ownership of the approaches being adopted. Companies should also be cautious in their use of land so that they do not inadvertently reduce the availability of land for cultivation or livestock and, thereby, reduce alternatives to ASGM for the general population.

Experience also suggests that some women are more receptive to the offer of an alternative income source away from the hazards of mining or of processing using mercury and without the risk of periodic interventions by security forces. Their willingness to consider alternatives may also be indicative of the fact that they are often under-remunerated compared to male miners (**see chapter 5, 5.2**).

It is important to understand the factors that attract people to ASGM in the first place. A report by the Inter-Governmental Forum on Mining<sup>40</sup> drew on work by the Ghanaian NGO, Friends of the Nation, to identify the following key elements, including:

- Financial constraints, including other family members having an inadequate income to support children or elderly people
- High levels of unemployment in the community
- Lack of start-up capital for creating a small business in other sectors (e.g. computing or motor repairs) or inadequate finance to learn a skill/trade
- Family tragedies such as the demise of the main bread-winner
- Poor educational background coupled with lack of skills.

Earlier chapters have focussed on situations in which it may be possible for LSM companies to work with artisanal or small-scale mining through formalisation or coexistence strategies. Often, however, for geological, operational, technical or legal reasons, this may not be possible. Alternative livelihood approaches to ASGM may be addressed through approaches such as:

- Offering direct employment for people with suitable skills to work for the LSM mine
- Business development or supply chain initiatives
- Livelihood replacement programmes for situations in which the creation of a large-scale mine disrupts access to ASGM mining opportunities
- Social investment in capacity-building/training initiatives (e.g. to support transferable business skills in helping people to start SMEs) or to improve incomes from existing livelihoods (e.g. through improving the quality of livestock, through the provision of microcredit or through enabling access to more lucrative markets).

39. CASM, ICMM, IFC and World Bank: 'Working Together: How large-scale mining can engage with artisanal and small-scale miners', 2009.

40. Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development: 'Global Trends in Artisanal and Small-Scale Mining: A Review of Key Numbers and Issues', 2017.

The following case studies are primarily focussed on the experiences of gold mining companies in West and Central Africa. Gold Fields, Golden Star and Newmont in Ghana have focussed on high value agricultural produce, built on best farm management practices to enhance yields. Golden Star's oil palm plantation initiative has also been designed to secure the crucial ongoing support of traditional leaders and land-owners. Newcrest's experience in Cote d'Ivoire illustrates the importance of understanding the dependence that communities may acquire on local spending by migrant small-scale miners. They may not always be popular with host communities but when they relocate as a result of legitimate pressure from a large-scale mine, it can create a significant shortfall in local incomes. Barrick in the DRC and Endeavour and Golden Star's experiences show the importance of supply chain programmes that support local entrepreneurs. Gold Fields and Newmont both support alternative livelihoods, but their programmes include a significant focus on raising educational attainment and the provision of training. Similarly, B2Gold in the Philippines supported the creation of a vocational training centre that offers alternatives to ASGM or farming.

A number of the successful case studies have benefitted from partnership approaches with development agencies (Gold Fields and Newmont with GIZ and Newcrest with UNDP) or national government agencies (B2Gold in the Philippines).



Picture of Isiah Logo (right), now running a 65-person company, in front of the house he lived in as an artisanal miner. Copyright: Barrick Gold Corporation.

## 8.1 Case studies

### 8.1.1 Barrick Gold in the Democratic Republic of Congo

Barrick Gold's overarching approach to the management of illegal ASGM within and near the company's permits and host communities is two-fold. First, it aligns with IFC guidelines and follows the principle of 'no conflicts and no invasions'. Second, and more importantly, it works with local communities, NGOs and regional and national governments either to develop and provide alternative livelihoods or to help ASGM communities to legitimise their activities and to make them safer, healthier and more sustainable.

Fundamental to this approach, Barrick has a philosophy of pursuing partnerships with host communities, respected NGOs and government authorities. An example of this approach in action is the establishment of ASGM corridors near the company's Kibali mine in the DRC. The corridors, which were established in 2016 in collaboration with the Congolese Government, cover two areas. The first is located towards the south of Kalimva and comprises six plots of land adjacent to the Kibali mine's permit where the local ASGM community is able to operate. The second is located towards the east and comprises nine permits. The corridors are owned and mined by ASGM collectives and are administered by local youth associations. To assist the collectives, geologists from Kibali have provided information on the gold profile of the land.

Kibali also works to provide alternative livelihood options for the local community. These include regular training to prepare local people for work in the mine or in other local businesses, and by prioritising the purchase of goods and services from the local community. A prime example is Isiah Logo, the owner of Le Coq. Mr Logo is a former illegal miner and a long-time contractor for Kibali. In 2010 when Kibali was still a project, Mr Logo, with encouragement from the then Randgold team, formed and registered Le Coq as a business with the Congolese government. His first job for Kibali was stone pitching and assisting with the maintenance of two local bridges. From small beginnings Mr Logo proved himself to be an efficient and reliable contractor and Le Coq now employs more than 65 people, all from the local community, many of them former artisanal miners.

### 8.1.2 Gold Fields in Ghana

Gold Fields has two mines in Ghana: Tarkwa and Damang. Tarkwa-Nsuaem and Prestea-Huni Valley municipalities, which host the mines, are major centres for both legal and illegal mining. The company has developed a balanced approach to ASGM challenges involving proactive engagement with communities, socio-economic development, and firm enforcement action against illegal mining undertaken in conformance with the Voluntary Principles on Security and Human Rights.

The lack of economic opportunity (as noted above) is a driver of young people's involvement in illegal mining. Recognising this, Gold Fields has focussed on widening access to jobs and community development. In relation to employment within their mines, the company has created a community employment committee, chaired by a local leader and made up of representatives from each host community, including chiefs, youth associations, queen mothers and local government. Mine vacancies are advertised in the communities, applicants are screened by the committee and then jointly interviewed by the company, the relevant contractor and the committee. Over 60% of Gold Fields Ghana's workforce is, as a result, locally recruited.

The company has undertaken several partnerships to maximise employment and training in local communities, including from the cultivation of oil palm and vegetables together with a micro-enterprises module. Since 2018 Gold Fields has been working with German development agency, GIZ, to implement a Youth in Organic Horticultural Production (YouHoP) programme. YouHoP is a commercial vegetable farming initiative, growing cabbages, carrots, peppers, beetroots and mushrooms, all of which are high value crops, widely consumed in Ghana. The programme has generated jobs for over 3,500 community members. The company has also facilitated the creation of a rock quarry that uses the mine's waste rock facilities to produce construction aggregates. The quarries are operated by entrepreneurs from the host communities, who provide direct jobs for 35 community members. The company provided the initial capital, the rock and a site within its concession.

Gold Fields Ghana has invested over US\$74mn in community development initiatives since 2004, about one-third of which has been directed at education, skills and scholarships. This substantial investment has focussed on scholarships and bursaries at secondary and tertiary levels; providing textbooks and computers to support the curriculum; funding incentives to attract and retain good teachers; apprenticeships; and recruitment of graduate trainees for a two-year period in order to improve their employability in other industries. Gold Fields has provided a 30% top-up for teacher salaries in selected community schools, and this has helped deliver an improvement in educational attainments.

### 8.1.3 Golden Star in Ghana

The Golden Star Oil Palm Plantation (GSOPP) was established in 2006 to promote sustainable agri-business as an alternative livelihood to ASGM. In rural host communities high value agri-business not only alleviates poverty but also reduces the uptake of illegal activities. The initiative promotes the development of sustainable oil palm plantations amongst host communities and is operated on subsistence farms and former mined lands with no forest land take or forest destruction. Designed to support participation by host community members, participants are 28% female and 36% youth. Through the application of best farm management practices, the smallholder farms generate yields three times higher than the Ghanaian smallholder average.

GSOPP is funded by Golden Star through a contribution of US\$1 per ounce of gold produced. As of 2021, \$6.6mn has been directed to the initiative. As a partnership between GSOPP, traditional landowners/authorities and affected farmers, the revenue sharing model provides 5% of profit to traditional authorities, 20% to loan repayment and 5% to GSOPP for plantation smallholder administration. All remaining profits directly benefit the farmers. Collaboration and partnership with NGOs, aid agencies and others has brought additional sustainability to the initiative. In 2021, GSOPP and Royal Gold Inc signed a contribution agreement directing additional funds to this valuable social enterprise and GSOPP, in collaboration with financial services partners, have established a micro-credit scheme to assist participants with loans and to provide a structure to save towards the costs of replanting.



Participants in the GSOPP programme. Image courtesy of Goldenstar.

Some key measures include the programme's impact on poverty, with beneficiaries earning well above the Ghanaian living wage, and farmers' and their dependants social and health security improving. Where illegal mining was previously considered the only high value earning option for many local people, GSOPP provides a viable alternative. Moreover, GSOPP has expanded into former mined lands (two former tailings facilities as well as waste dumps) showing that one high value land use (mining) does not have to displace other high value uses where sequential land use principles are used. With in excess of 1,728 hectares of plantation developed by GSOPP to date and some 6,000 hectares of land are committed to GSOPP.

#### **8.1.4 Endeavour Mining in Senegal**

At Endeavour's Sabodala mine a neighbouring permit was acquired and transformed into a satellite pit. Some 4,000 artisanal miners were already established in the area, albeit operating illegally. Previous owners of the property had promised local people over one thousand jobs and so there was tension when the project changed. Endeavour sought ways to rebuild trust, knowing that engagement with the miners showed that they were interested in alternative livelihoods. The company pursued two approaches: direct employment and business development.

In respect of jobs, Endeavour recruited community guards from among the artisanal miners to secure the new pits and a range of additional posts were filled from the ASM village. During the installation of mine infrastructure, casual labourers and some skilled trades were also employed from the village. Among the business development initiatives, Endeavour issued specifications for a water truck and provided operator training. A company created by one of the ASM families was able to secure a bank loan, supported by a letter of intent from the mine, to purchase a water truck. The truck was then used by Endeavour for dust suppression. This contractor was awarded construction roles and his firm went on to win a tender to build classrooms for the commune.

In the 18 months to June 2021, the contractor and his team earned nearly US\$1mn, which has boosted the local economy and in turn facilitated peaceful cohabitation. Endeavour identified three learnings from their project:

- The quality of locally procured services does not always reach expectations, and therefore requires more active supervision
- It is important to reinforce performance requirements in areas like local recruitment and safety through formal written contracts
- It is crucial to target these initiatives during construction in order to maximise impact.

#### **8.1.5 Newcrest in Cote d'Ivoire**

In 2015, via a survey of women in the field, Newcrest discovered that an unexpected consequence of successfully moving a group of migrant miners from the area around their Hiré operation had had a major adverse impact on the incomes of around 100 local women. Their primary businesses had involved catering for the miners and they had been left abruptly without an income. Newcrest worked with the United Nations Development Programme (UNDP) to restore business opportunities for the women. From those initially surveyed, 90 were identified as qualifying for the scheme. Within broad categories each woman was allowed to select her own project to receive support. A significant proportion of the projects focussed on agriculture so as to utilise the land earmarked by Newcrest within its tenement footprint and support the local economy. Commercial and handicraft projects were also identified for support.

#### **8.1.6 Golden Star in Ghana**

In the context of high and rising unemployment, and to avoid conflict over land, Golden Star set out to bring former illegal miners into the mainstream formal sector and to devise procurement approaches that retain greater value in local communities.

Through a programme of partnership, a new company, LOCOMs, was born involving 18 SMEs. In the collaboration, LOCOMs provided decent work for over 250 former illegal miners and through this partnership, Golden Star was able to support the formalisation of local mining interests. In addition to direct mining and haulage services, LOCOMs undertook equipment hire as well as catering and cleaning services for Golden Star. A further benefit of the partnership was the agreement by LOCOMs companies to contribute 1% of their proceeds from Golden Star contracts to endow a host community development fund.

LOCOMs benefitted through company contracts, which over a three-year period resulted in US\$27mn being retained by these host community firms; revenues that previously would have been spent with large national or international companies. Individual LOCOMs companies have subsequently leveraged their positions to expand both within the industry (nationally and internationally) and outside the sector.



Group of women beneficiaries of the UNDP and Newcrest business development programme. Copyright: Newcrest.

### 8.1.7 Newmont in Ghana

Newmont operates a training institute that provides training in entrepreneurship, agricultural technologies and technical training, aimed particularly at women. In partnership with GIZ, it has supported the creation of a ginger and chilli processing plant that provides livelihoods for 900 out-growers.

### 8.1.8 B2Gold in the Philippines

B2Gold's Masbate mine has worked with local community leaders in establishing a vocational training centre. Its board is chaired by a former artisanal miner and the centre offers competency-based education programmes through

the national Technical Education and Skills Development Authority. Among the courses offered are welding, plumbing, carpentry, masonry, driving and food and beverage services – offering a clear route for economic diversification and for local people to start their own businesses. In addition, the Masbate mine runs a micro-enterprise programme that supports diverse businesses such as integrated farming and chicken egg production, mud crabs, yam flour processing, duck egg and salted egg production, fish processing, soap production and garment and accessories tailoring.

## 8.2 Managing in-migration

In-migration<sup>41</sup> may be a 'push' or 'pull' phenomenon. In terms of 'push', ASGM may, because of its low barriers to entry, be a relatively attractive option for populations displaced by climate change, conflict, crop failures, or even formal sector mine closures. Each of these phenomena have been observable in parts of the Sahel in Africa in recent years. In terms of 'pull', the high price of gold can be a strong motivating factor for people to try their hand at ASGM. Issues of human rights (both of the host community and of incomers) also need to be considered.

In-migration is a familiar phenomenon when a mine is established in a developing country or a region with relatively limited alternative economic opportunities. Formal sector gold mines tend to attract incomers who are in search of direct jobs or opportunities to service the needs of the mine employees, their contractors and their families. Such in-migration can reflect increasing prosperity and be a broadly positive development. Conversely, if unmanaged, the influx of people in search of jobs at the mine or servicing the needs of those with such jobs, can overwhelm local infrastructure, healthcare, schools and sanitation. Some may, in turn, become artisanal miners.

Rush migration can undermine measures intended to ensure that local communities benefit from the presence of a formal sector mine via improved standards of living and quality of life. It may similarly transform ASM from being a well-established seasonal source of livelihoods to one that shows no respect for the environment, imports criminal elements and overwhelms formalisation or coexistence schemes agreed between large-scale mining companies and ASGM groups.

While it is probable that members of extended family groups will be welcome and be successfully assimilated, new arrivals are likely initially to be mainly young men who may fundamentally change the demographic balance of the community and lead to specific concerns about alcohol abuse, crime and prostitution, or increase the risk of gender-based violence. Over a period, if local communities fail to integrate them, they may create a distinct and potentially disruptive 'underclass'. Such an influx can also lead to the rapid exhaustion of mineral resources that have been earmarked for artisanal use and, thereby, create the likelihood of social conflict and reduce the incomes for original residents.

A study of the impact of project-induced in-migration conducted by the University of Queensland<sup>42</sup> noted that: 'Some mines are developed in areas with pre-existing ASM activities that may have already experienced in-migration. The advent of a large-scale mine can open up new possibilities for ASM as ore bodies are exposed or 'waste material' is created that can be economically processed. Environments with rich ore bodies where the productive material is readily observable, where the mine is located in an area of weak governance, or where the ore can be readily extracted and processed by ASM methods, are likely to attract larger numbers of opportunistic in-migrants.'

The potential for significant in-migration should be considered during the ESIA and the formulation of environmental and social management plans. However, circumstances can, of course, change. Experience suggests that if a large-scale mining company notices the potential for a sudden influx of miners it should carry out a risk assessment and engage with local leaders and authorities to gauge attitudes and seek a unified approach. This is not to suggest that the community should become a hermetically sealed bubble, but rather that there needs to be a mature assessment of the absorptive capacity of the community and its vulnerabilities, including the extent to which any agreed ASGM formalisation or coexistence schemes can, or should, flex to accommodate new arrivals and how any controls can be enforced.

It may be prudent to conduct a census/survey baseline and agree a monitoring framework to identify early signs of migratory trends. It is likely to be appropriate to allow local authorities to take the lead in a multi-stakeholder framework to manage potential challenges (stakeholders would include traditional leaders, potentially affected communities, NGOs, police, utility providers and relevant businesses). It is possible that the local authority may need capacity-building support.

Companies should seek to ensure that their own staff recruitment processes do not become a catalyst for encouraging in-migration. For example, if hiring goes ahead without explicit and verified preference being given to local people, this may encourage new arrivals. The company may also wish to establish a buffer zone to prevent accommodation springing up close to its fence line. On the community's side, they may, inter alia, choose to review the availability of land or accommodation for significant numbers of in-comers and put in place controls to prevent a ballooning of the population. A fuller exposition of issues raised by in-migration is provided by the IFC Guide.<sup>43</sup>

41. 'Migration' is not intended to imply that all such movements are cross-border. They may equally involve people from a different part of the same country. Nonetheless, the case studies from Resolute in Mali (chapter 5) and Kinross in Mauritania (chapter 10) indicate the extent of cross-border movements in part of the Sahel. Similar movements are being experienced in some areas of the Andean countries.

42. University of Queensland Sustainable Minerals Institute, Centre for Social Responsibility in Mining: 'Project-Induced In-Migration and Large-Scale Mining: A Scoping Study', 2017.

43. International Finance Corporation: 'Projects and People: A Handbook for Addressing Project-Induced In-Migration', 2009.

# 9. Capacity building and providing technical support

## 9.1 Overview

As noted earlier, there is a wide spectrum of options available to large-scale mining companies to help develop more positive relationships with responsible ASGMs. Whether such initiatives are appropriate will depend on the extent to which constructive relations have been established and the confidence that LSM companies feel about the outcome of their due diligence. In the absence of government-led programmes, the provision of (or arms-length funding of) technical support can be one way of improving safety practices, empowering women and of addressing environmentally damaging aspects of ASGM (thereby benefitting local communities and public health) and of building trust. Where local ASGM actors are legitimate and receptive, LSM companies can encourage the adoption of mercury-free gold processing and the use of technologies that increase gold recovery rates. Multi-stakeholder approaches are more likely to build confidence and to lessen cultural resistance to new technologies and approaches.

At the time of the launch of the Responsible Gold Mining Principles, the Chief Executives of World Gold Council member companies issued a declaration in which they pledged: 'Where ASM is conducted responsibly and with respect for formal mining titles, we will seek to support ASM groups in the adoption of safer working methods and

more socially and environmentally responsible practices and, where relevant, will consider the potential for alternative livelihood programmes.' As the World Bank and Pact's data-driven DELVE programme has also pointed out, strengthening the health and safety performance of ASGM is fundamental to the realisation of Sustainable Development Goal 8, which relates to decent work.<sup>44</sup>

This chapter covers the provision of technical support around mine safety, the promotion of mercury-free technology and advice around the growing – and concerning – use of cyanide. It includes case studies from IAMGOLD in Suriname on approaches to achieving mercury reduction, and lessons from a World Bank/Government of Tanzania/AngloGold Ashanti partnership in Tanzania, especially on strengthening ASGM organisational structures.

A study by Conservation International in 2019 identified five reasons that – despite the objective environmental and health risks associated with mercury use and its relatively poor gold recovery rates – many ASGM miners are reluctant to embrace alternatives:

- the cost of new equipment
- the power of traditional and familiar preferences
- reluctance to embrace unfamiliar technologies
- lack of sustained training
- low awareness of alternatives.



A shaker table using mercury-free gravimetric concentration at one of Mongolia's only centralised gold processing plants in Bayanhongkor Soum. Photo taken during Levin Sources-led expedition to train a gold refiner in responsible ASM, 2016. Copyright: Magnus Arrevad.

44. DELVE report: 'State of the Artisanal and Small-Scale Mining Sector', 2020.

There are a wide variety of options through which large-scale miners can offer technical support and capacity building to ASGM groups who show a commitment to responsible mining. The following table gives an overview:

**Table 4:**

Components	Positive influence
Geological	Compile/share studies and information
	Undertake additional exploration to identify potentially viable deposits for ASGM development (or to eliminate potential LSM interest)
	Consider sharing information on deposits and exploration results
	Identify deposits appropriate for ASGM
Environmental	Compile or share environmental audits and/or systems of environmental management
	Share environmental data
	Provide training in environmental issues
	Facilitate access to laboratory data
	Progressive introduction of mitigation measures
Health and safety	Improve occupational health and safety
	Delivery and training in use of Personal Protective Equipment (PPE)
	Sensitisation and information on risks and on broader health issues
Capacity building	Increase the educational level by formation and/or training
	Transfer of know-how
	Practical training programmes (training on the job)
	Agreements with universities or technical institutions to provide support
Organisational	Support for the development of cooperatives, associations, miners' federations, etc.
	Administrative support to formalisation and legalisation of informal mining activities
Technical	Technology transfer to improve recovery rates and environmental impacts
	Technical improvement
	Support research and technology development
	Build local capabilities for the production and maintenance of mining and processing equipment
Financial	Support for financial inclusion of ASGM (e.g. access to banking services)
	Support financing instruments (credit, leasing, equipment leasing, etc.)
	Increase sustainability of ASGM through advice on organisation and management.

Support interventions can be handled directly by an LSM company or indirectly through the facilitation of finance or co-finance to external governmental, academic or non-governmental organisations (see also **Lundin Gold in Ecuador**). The type of intervention which the LSM company selects may depend on several factors, including:

- The local, regional and/or national legal and regulatory framework for ASGM
- Existing relationship between the LSM operation and the ASGM entities; is it a harmonious, conflictive, or even a crisis situation?
- Distance/area of influence between LSM operations and ASGM activities
- Organisational capacity of the ASGM to absorb training and/or technical assistance
- Openness to, and willingness of, the ASGM sector to collaborate with the LSM operation
- Prioritisation of resources and risk management strategies within the LSM operation
- The potential for legal liabilities to arise
- The outcome of due diligence enquiries around potential involvement of politically connected individuals or of criminal groups.

In general, it makes sense for LSM operations to focus on support that directly relates to mining aspects. These include **geological, mining technical, occupational health and safety and mineral processing** related aspects. These are core competencies of every LSM operation and thus can be covered, if desired, by the mine's own specialists (who will also have detailed knowledge of local operating conditions). Normally these aspects are likely to accord with the principal areas of interest for the ASM operators, and so may command the greatest level of acceptance and thus have the most positive impact on development, and on improving relations. Conversely, if there are concerns about legal liabilities, then the LSM company may prefer to deliver support at arms-length, through an intermediary organisation.

The lack of **geological knowledge** of the deposit and a weak grasp of the scale of reserves are frequent realities in ASGM operations. In contrast, the LSM company may have a more developed understanding of the geological situation (albeit this may not always be true in under-explored concession areas). In suitable contexts, some of this knowledge can be transferred to the surrounding ASGM groups and will help guide exploration activities,

mine development and the selection of appropriate exploitation methods by the ASM.

Poor **occupational health and safety** practices are widespread in the ASGM sector. Normally, any support that LSM operators can offer in these critical areas is highly appreciated. This might include:

- Training and the advice on and provision of appropriate PPE (helmets, gloves, boots, lightning protection cloths, etc.)
- Guidance on the safer use of explosives
- Increasing understanding of interior mine and ground stability
- Improving ventilation
- First aid and emergency response
- Appropriate training for managing work hazards
- Improving access to water and energy for hot or heavy labour
- Physical barriers to prevent contact with hazardous items or areas.

As the DELVE State of the ASM Sector 2020 Report noted: 'The impacts of poor safety measures at ASM sites not only directly affect workers but also have negative spillover effects on local communities.' These not only apply, for example, to families who may lose breadwinners, but also mercury pollution brought into the community or the creation of unremediated voids in the surrounding countryside into which people and livestock may fall.

Another very important aspect is support and advice on **mineral processing**. This can include processing plant design, equipment and training with the aim of improving recovery rates, environmental and health protection – including the mitigation of mercury emissions or substitution of amalgamation – and, if applicable, improvements in health and safety and environmental measures of cyanidation process.

In particular, the **mitigation of mercury** related problems in the ASGM sector is of common interest (LSM, miners, surrounding communities, government). During the last 30 years, many projects, mainly donor funded, have been implemented in ASGM. These projects include all aspects from information about mercury-related health and environmental problems, implementation and dissemination of technical measures, to legal/administrative measures. There are many publications about project successes and lessons learned. Some of those include Swiss Development Co-operation



Photography of Christian Rinke, Minera SOTRAMI, Ayacucho, Perú.

projects, GEF Planet Gold programmes and other projects funded by UN agencies. Many publications and practical guidelines are available on the web.<sup>45</sup>

The selection of a specific technology/equipment as an alternative to the use of mercury depends on many factors, including geology and the mineralisation of the deposit; the miners' organisational model; climate/water sources; the availability of electricity; access to capital; local equipment availability; the technical proficiency of the miners; the impact of weather on the ore; etc. In many cases gravimetric equipment is used that enriches a concentrate up to 40% (minimum gold content for direct smelting). Special gold concentration tables, like the Gemini table or other locally produced similar tables, have been frequently reported as appropriate for successful application in ASGM. More sophisticated ASGM operations have substituted the amalgamation process through cyanidation. However, this kind of technology change has to be very carefully assessed, as health and environmental risks are very high and the presence of accompanying permanent trained technical staff needs to be assured.

Problems around the **cyanidation process** in ASGM are an increasing and emerging issue. Up to now, very little experience has been reported via publications and research. The Swiss Better Gold Initiative has recently

published a manual about the responsible use of cyanide in the ASGM sector.

<https://ororesponsable.org/wp-content/uploads/2021/06/Manual-uso-responsable-del-cianuro-BGI.pdf>

Similarly, Planet Gold produced guidance on 'Best Management Practices for Cyanide Use in the Small-Scale Gold Mining Sector'.<sup>46</sup>

Extensive experience of applying technical innovations as part of ASGM development projects provides evidence of factors and criteria that are likely to determine the acceptance of specific initiatives. This knowledge suggests that the techniques to be applied should not be selected only for their technical merits. The socio-economic and socio-cultural backgrounds of the miners and the local and regional infrastructure are also relevant factors. Special attention should be paid to understanding the organisation of miners' groups and relationships between miners, mine owners, processing plants and equipment owners, gold buyers, equipment and consumables sellers, and socio-cultural considerations (such as religion, customs, superstitions, role of women, etc.). In many cases, these aspects and conditions have an important influence on the likelihood of achieving acceptance of some technical measures. These socio-cultural aspects are much more difficult to address.

45. [www.projekt-consult.de/newsletter/downloads/638031/Small-Scale\\_Gold-Mining.pdf](http://www.projekt-consult.de/newsletter/downloads/638031/Small-Scale_Gold-Mining.pdf)  
[www.projekt-consult.de/newsletter/downloads/635559/Projekt-Consult\\_Mineral-Governance\\_2019.pdf](http://www.projekt-consult.de/newsletter/downloads/635559/Projekt-Consult_Mineral-Governance_2019.pdf)  
[www.projekt-consult.de/newsletter/downloads/638038/ASM\\_environmental\\_management\\_engl\\_compl\\_w\\_ph.pdf](http://www.projekt-consult.de/newsletter/downloads/638038/ASM_environmental_management_engl_compl_w_ph.pdf)  
[https://cwm.unitar.org/cwmplatformscms/site/assets/files/1299/artisanal\\_and\\_small-scale\\_gold\\_mining\\_and\\_health.pdf](https://cwm.unitar.org/cwmplatformscms/site/assets/files/1299/artisanal_and_small-scale_gold_mining_and_health.pdf)  
[http://archive.iwlearn.net/globalmercuryproject.org/documents/non\\_country%20specific/HginLA-book.pdf](http://archive.iwlearn.net/globalmercuryproject.org/documents/non_country%20specific/HginLA-book.pdf)

46. D Stapper, K Dales, P Velasquez, S Keane 'Best Management Practices for Cyanide Use in the Small-Scale Gold Mining Sector', published by Planet Gold, 2021.

Although experience suggests that in the majority of cases the miners accept external technical assistance, if a project intends to change their customs, beliefs or established structures, they will often regard this as interference and as indicative of a lack of respect.

Before selecting a specific option, the traditional techniques used by the ASGM should be carefully examined. Small-scale miners in general are reticent about unfamiliar technologies. An optimal technical solution can fail because the miners reject it. A prior analysis of acceptance should be included in any technical project plan. Experience has shown that improvement on known existing technologies has a better chance of being accepted and disseminated than wholly new techniques.

It is important to consider the possibility of local equipment manufacture. The majority of the equipment required for techniques employed in ASGM should and can be produced in national, regional or local factories.

## 9.2 Case studies

### 9.2.1 IAMGOLD in Suriname

In 2021, IAMGOLD agreed to work with the US Department of State and the Artisanal Gold Council (AGC) to establish a mercury-free mobile processing unit for use around their Rosebel mine in Suriname. This is intended to replace existing facilities where sapolite ore is extracted by excavators and then crushed and processed in hammer mills with mercury. A Surinamese team of consultants, overseen by the AGC, has worked with the owner of the operation (with whom Rosebel had an established relationship) to install a shaker table. The team is also exploring the potential for installing a spiral concentrator for use prior to the shaker table. Challenges include a reliable electricity supply to operate the shaker table; the nature of the gold, which is rather fine and, therefore, less conducive for use with a shaker table; and the lower processing capacity of the shaker table due to its relatively small size and the high level of manual intervention required. Piloting and training will take place over several months and, if the project is a success, a decision will be made on ownership of the plant. Depending on the wider adoption of the technology, Rosebel will explore opportunities to support deployment at other small-scale mining sites.

### 9.2.2 AngloGold Ashanti (GGML) in Tanzania

The Lwamgasa ASM formalisation project was launched in 2014 as a partnership between the government of Tanzania, AGA's Geita Gold Mining Limited (GGML) and the World Bank. Lwamgasa is a village approximately

60kms from the Geita gold mine. The mining area is operated by a co-operative using very basic and unsafe methods. The formalisation project aims to raise output and ensure operator safety.

Up to 1.5 million people are estimated to be engaged in ASGM in Tanzania. As of 2021 there were 31,571 Primary License Holders (PMLs). Most miners are unorganised and itinerant, using crude methods and tools. ASGM also attracts people from neighbouring, conflict-affected countries including the Democratic Republic of Congo.

ASGM is a significant source of environmental damage and child labour is common. In some cases, voids are left open, posing a threat to people and animals. Lawful small-scale miners are formed into Regional Miners Associations (REMAS) and the Federation of Miners Associations of Tanzania (FEMATA). There is also a Tanzania Women Miners Association (TAWOMA). The Ministry of Minerals provides extension services through its Resident Mines Offices (RMO), which conducts training and ASM site inspections. The government recently established gold markets in all producing areas, and these are open for anyone to sell their minerals. The markets provide miners with good prices and security for their money. The new system has weakened the black market and is expected to encourage more ASGM dealers to formalise their business in order to be eligible for loans and capacity building.

GGML supports responsible ASGM in three main ways:

- i) **Infrastructure:** The company has facilitated construction of the Lwamgasa project tailings storage facility (TSF) and, prior to that, donated funds for initial infrastructure development
- ii) **Partnership:** GGML is working with the Foundation for ASM Development, an NGO that provides technical support to aid the growth of lawful ASGM activities
- iii) **Capacity building:** GGML is sponsoring FEMATA and TAWOMA's administrative costs so as to support their ASGM capacity building.

Illegal ASGM activities continue to be a threat with sporadic conflicts occurring. This can only be alleviated by continuous engagement and formalisation. GGML treats ASGM support as an important element in its CSR strategy since many miners are immediate neighbours to its operations. The company also believes it is vital to have a clear strategy for involving political leaders and maintaining their support.

### Perspectives 3

#### Ludovic Bernadaut, Co-lead UNEP Mercury Partnership, ASGM area



While both large-scale gold mining (LSM) and artisanal and small-scale gold mining (ASGM) seek the same element, they differ in many aspects. This has often led to misunderstanding and sometimes outright conflict. However, fostering a better relationship between the two would be largely beneficial to all.

LSM is the domain of large mining corporations. It is present on all continents and while it produces 80% of the world's gold output, it is a largely mechanised activity with a lean workforce structure.<sup>47</sup> It can access deep, complex and/or lower-grade deposits, which are unreachable or unfeasible to its ASGM counterparts. In recent years, LSM has had to comply with a number of due diligence criteria in order to sell its gold to international markets (e.g. Dodd Frank, EU Conflict Minerals Regulation).

On the other hand, ASGM is a widespread activity. It employs 15-20 million miners and is the source of livelihood for 100 million people, often in rural and remote areas where few economic alternatives exist. Because of the high price of gold and the minimal transformation steps to the final bullion, ASGM should be an ideal vehicle for poverty reduction. However, complex legal systems; lack of institutional support; lack of awareness on appropriate technologies; and long value chains – often on the margin of legality – mean that mining communities are not getting out of poverty and the sector is the largest user and emitter of mercury globally. Due to the low level of mechanisation, ASGM often extracts gold from surface or shallow deposits (up to 20 meters). Therefore, there should be little overlap with LSM. However, both often occur in the same location leading to social conflict and increased perceived corporate risks for the LSM operators.

International efforts to formalise the ASGM sector and transfer more efficient, cleaner technologies have been the focus of many efforts by international development institutions, bilateral donor agencies and non-government organisations. The Minamata Convention on Mercury focuses on the sector in its Article 7,

requiring parties to take action for reducing and, where feasible, eliminating the use of mercury in the sector. Addressing the main barriers to improving ASGM is the goal of the GEF-funded planetGOLD programme ([www.planetgold.org](http://www.planetgold.org)): formalising the activity; improving access to finance and international markets; and increasing knowledge on alternative methodologies. This cannot be achieved without active collaboration with the large players. The planetGOLD programme works with investors (local and international) and with international refiners and gold consumers, but active collaboration with LSM has thus far been limited, probably due to the perceived reputational risks posed by a sector that has suffered from a very negative narrative in the media and the difficulty of persuading governments to come on board.<sup>48</sup>

By fostering better collaboration, LSM would reduce the risk of conflict and strengthen its social license to operate, while ASGM would gain access to formalisation, cleaner and more effective technologies, and geological data. On **formalisation**, social conflicts could be greatly appeased if support was given to formalise the ASGM sector. It would also lower the perceived risks for LSM if it was to associate with a formalised ASGM sector. In fact, AngloGold Ashanti has reached out to develop joint activities in the context of the planetGOLD-Guinea project currently in development. Their existing activities with the Ministry of Mines on formalising the ASGM communities surrounding their operation will be replicated nationally by planetGOLD. The collaboration between LSM and ASGM could also cover **capacity building** with the industrial operator; provide technical training to the ASGM communities on prospection and ore processing; and, potentially, agree to process their ore, thereby ensuring the highest recovery rate. Finally the collaboration could cover aspects of the **value chain**. ASGM operators often sell their gold through long and complex value chains where due diligence is impossible to guarantee, resulting in lower gold prices for them. Working together with local LSM operators the due diligence could be streamlined and ASGM would benefit from more direct access to international markets.

We hope that more LSM operators will join hands with planetGOLD to demonstrate such collaboration. The UNEP Global Mercury Partnership will continue to work closely with the World Gold Council to identify partners and geographies to implement these ideas.

*Ludovic Bernadaut, co-lead of the UNEP Global Mercury Partnership ASGM area.*

47. [www.planetgold.org/sustainable-development-goals-through-lens-responsible-artisanal-and-small-scale-gold-mining](http://www.planetgold.org/sustainable-development-goals-through-lens-responsible-artisanal-and-small-scale-gold-mining)

48. [www.planetgold.org/tackling-challenges-interface-between-large-scale-and-artisanal-and-small-scale-mining](http://www.planetgold.org/tackling-challenges-interface-between-large-scale-and-artisanal-and-small-scale-mining)

# 10. Security, conflict, human rights and child labour

This chapter reviews issues raised by LSM/ASGM interactions in relation to the management of security; it reflects on potential conflict situations and relevant human rights issues; and considers steps that companies can take in seeking to identify or work with others to eliminate child and forced labour among local ASGM groups.

This report has, elsewhere, referenced the dominant role that security has often played in mining companies' management of the interface between LSM and ASGM. Security continues to be a key element in ensuring the safety and protection of employees, contractors and company assets – and the safety of intruders into active mining areas. The deployment of the police or army (public security) to maintain order is frequently a key issue for host governments and gold mining investors. Most leading investors engage with ASGM on the basis of seeking to avoid confrontation and the avoidance of the use of force. The Responsible Gold Mining Principles (5.3) require that companies: 'manage security-related human rights risk through implementation of the Voluntary Principles on Security and Human Rights' (VPSHRs).

The Voluntary Principles are based on international instruments relating to the use of force.<sup>49</sup> They provide a framework for companies to manage risks more effectively through:

- Conducting a comprehensive assessment of human rights risks associated with their security needs
- Engaging appropriately with public and private security service providers and surrounding communities in complex environments
- Instituting human rights screening of, and training for, public and private security forces
- Developing systems for reporting and investigating allegations of human rights abuses.



Artisanal gold miner in Yako, Burkina Faso. Copyright Hugh Brown.

49. UN Code of Conduct for Law Enforcement Officials and UN Basic Principles on the Use of Force and Firearms by Law Enforcement Officials.

Extensive guidance material already exists on the Voluntary Principles.<sup>50</sup> Rather than repeat this, our report focusses on the specific relevance of the VPSHRs to ASGM.

The presence of significant illegal ASGM and a history of incursions is a material factor when mining companies conduct their security risk assessments and consider systems for the control of both public and private security providers. Where local ASGM is associated (voluntarily or not) with armed groups or broader criminal enterprises, this too creates a broader context to site and regional security assessments. Such armed groups may seek to capitalise on resentment among itinerant or displaced small-scale miners to build support and recruit adherents – in such situations, corporate programmes for community engagement and social upliftment become even more important.

Stakeholder engagement is fundamental to security risk assessments. When managing potential ASGM conflicts, it is important to gain an understanding of the competing agendas of key interest groups and engage in dialogue with host governments, local government, security forces, human rights institutions, civil society groups, ASGM leaders, tribal structures, anti-mining groups, community leaders, industry associations and trade unions/employee organisations. Such engagement can form the foundation for due diligence, through which the risk of complicity in human rights abuses is avoided either through the company's own activities or its business relationships.<sup>51</sup>

Host governments bear the primary responsibility for protecting human rights, but companies also have a responsibility to avoid harming people, directly or indirectly, through their actions or their business relationships. Dialogue with the host government and public security is likely to include the following dimensions:

- The protection of human rights, including the provision of judicial and non-judicial grievance mechanisms
- Enforcement of the rule of law, including protection against disruptive activity by illegal miners
- Co-operation to ensure that the VPSHRs are applied by public security forces
- Gleaning information about wider security challenges in the region.

Heightened risk factors may include:

- A lack of competence or training on the part of public security forces assigned to the protection of the mining operation
- Examples of local police or army personnel behaving collusively with illegal miners or broader criminal groups, or of broader corruption involving public security and government officials at all levels
- The risk of intimidation, extortion and bribery of locally employed members of the mine workforce (contractors and employees, as well as security personnel) by illegal mining groups in an attempt to pressure them into complicity in the theft of gold-bearing material
- The need to address complex issues of significant population influx from other countries
- Ethnic tensions between groups within the public security forces and the local population
- Evidence, or credible rumours, of gender-based violence
- Widespread ownership of firearms or other lethal weaponry among the local population
- Poor appreciation of international humanitarian law on the part of State security forces
- A legacy of conflict in the region that may have involved human rights abuses, including by individuals who may now be involved in either private security or public security forces.

Initiatives recommended by industry practitioners for managing the security dimension of the LSM/ASGM interface include:

- Ensure that operational areas are clearly delineated, ideally through fencing but certainly through clear (and locally comprehensible) signage
- Be clear in communication with local community leaders about 'no go' areas
- Be alert to health and safety risks including from the misuse of explosives and from ventilation hazards in confined underground spaces arising from attacks on mine or security personnel or, in error, by security forces against illegal miners
- Have the ability to deploy a well-trained and suitably equipped rapid reaction team
- Use only private security companies who have rigorous training and screening processes of their personnel

50. The International Council on Mining and Metals, the International Finance Corporation, the International Council of the Red Cross and IPIECA (the global oil and gas industry association for advancing environmental and social performance): 'Voluntary Principles on Security and Human Rights Implementation Guidance Tools' [www.icmm.com/website/publications/pdfs/social-performance/2011/guidance\\_voluntary-principles-on-security-and-human-rights.pdf](http://www.icmm.com/website/publications/pdfs/social-performance/2011/guidance_voluntary-principles-on-security-and-human-rights.pdf)

51. Responsible Gold Mining Principle 5.2 Avoiding Complicity: 'We will seek to ensure that we do not cause, and are not complicit in, human rights abuses either directly or through our business relationships.'

- Use technology (e.g. drones, satellite imagery and CCTV) so as to remove people from risk and risk from people
  - Seek to work with local communities in complementing security initiatives such as, for example, through developing a community policing initiative – while avoiding any risk of vigilantism
  - Ensure that there is a clear delineation of tasks and responsibilities between public security and private security/mine personnel
  - Create forums or working groups with mine security management, public security and civil society – which should aim to meet quarterly
  - Ensure that senior managers have access to relevant language skills to enable them to oversee the collection of intelligence and to communicate effectively with local security force commanders so that intentions are not misunderstood
  - Understand factors that may drive opportunistic intrusions (e.g. blasting exposing ore just before nightfall or poor recovery rates that make tailings discharges particularly attractive targets for intruders)
  - Companies should, where possible, work with prosecutorial authorities to ensure that offenders are pursued through the courts, helping to ensure that illegal mining offences are clearly defined in law, and that cases are not abandoned as a result of pay-offs or opaque manoeuvres.
- Be clear about the channels of communication to be used in the event of an incident, or series of incidents, that raise concerns about indiscipline, poor leadership or potentially abusive behaviour towards local people, including ASGM
  - Seek to entrench adherence to the VPSHRs and related international conventions (and other key texts such as UNICEF Child Rights material) in any contract or MoU with the host government/ministry for the provision of public order support
  - Undertake appropriate screening of security contractors and relevant employees, including any allegations of past involvement in human rights violations
  - Ensure that any use of company assets or equipment by security forces is well governed/controlled and that there are agreed procedures for resources or equipment
  - Put in place an agreement for training on the VPSHRs for police or army units who may be called upon to counter illegal mining activity or incursions by ASGM. It is not always appropriate or possible for the company to administer such training, in which case this might need to be commissioned from a civil society partner
  - Be alert to the impact on the mental health and wellbeing of security contractors and employees arising from acts of violence against mine personnel or of potential pressure exerted on their families if they are accommodated in local communities
  - Ensure that the company grievance mechanism is set up in such a way as to capture complaints about the conduct of local security forces (as well, of course, as private security personnel).

A particular point of concern for many mining companies is whether public security forces allocated to ensuring the safety and security of a mine can be relied upon to exercise restraint and to conduct themselves in line with human rights and international humanitarian law. In seeking to navigate this risk, companies may wish to compare experiences with peer companies operating in the country, home country government representatives, and civil society groups interested in providing practical support. Companies might consider the following options:

- Where relevant, seek to enshrine implementation of the VPSHRs in operations' MoUs or investment agreements
- At an early stage and at senior level, engage with relevant government officials and army/police (as relevant) concerning the company's policies and expectations around the VPSHRs – including dealings with communities, ASGM or illegal miners

In relation to private security, the level of professionalism within specific countries varies significantly. In some countries the licensing of private security companies is closely regulated, whereas in others their capacities and level of training may need significant remediation. Other factors, such as human rights policies, should be reviewed as part of any tender process. Commercial contracts should be executed with human rights language (similar to a public security MoU, referencing VPSHRs, UNICEF Child Rights, etc.). If possible, private security companies should be members, or be on the way to becoming a member, of ICoCA or a similar professional association.

## 10.1 Case studies

### 10.1.1 AngloGold Ashanti in Tanzania

AGA's Geita mine has sought to reduce the potential for conflict and incursions by community members or illegal miners. The creation of a policing team made up of community members is intended to deliver against several sustainability objectives – improving health, safety and security; involving local people in addressing security challenges; and in generating more job opportunities for local people. The concept for the team was produced as far back as 2015 but is still widely accepted. The Community Policing Team was designed in collaboration with the Tanzanian police force and local communities. An MoU between the mine, the police and the communities, which is renegotiated annually, provided the basis for the team's creation.

A steering committee oversees the team but the Tanzanian police exercise ultimate control of their work. Geita is a member of the committee and provides the funding. The community provided the land for the construction of the training centre. The members of the community policing team are rotated annually to broaden opportunities for local people to gain experience and earn an income. Several of the trained officers have gone on to work for private security firms and some are engaged by local government.



Pass out Parade for community policing members following training program at GGM. Copyright: AngloGold Ashanti.



Community Policing Centre at Nyakabale village sponsored by Geita Gold Mine (GGM) – manned by police and community police. Copyright: AngloGold Ashanti.

### 10.1.2 Kinross Gold in Mauritania

Kinross operates the Tasiast open pit mine in North West Mauritania. ASGM was unknown in the area until 2016 when chance finds caused a rapid influx. The sector initially rose to a peak of about 20,000 people in 2016, albeit it has since diminished to around 10,000. ASGM workers live between temporary desert dwellings and established towns that contain both Mauritians and citizens of other countries. Road access to major cities allows small-scale miners to move around easily. Tens of thousands now depend on the ASM sector, directly and indirectly, for their livelihoods.

ASGM activity occurs (illegally) on Tasiast's mineral concessions outside the mine site perimeter. However, there are regular intrusions through the perimeter fence too. These are jointly addressed by public security forces and site security and on several occasions the government has taken action to remove miners. A proportion of ASGM production is purchased by the country's central bank and the rest by informal buyers. In 2020 the government established a State entity, Maaden, to organise and manage the ASM sector.

Kinross's approach included close and continuing stakeholder engagement; controlling and tightening access to the industrial site; ensuring adequate resources for security contractors and close co-ordination with the gendarmes; and providing health and safety support to ASGM in the event of emergencies.

Key lessons learned from the company's experience at Tasiast include:

- The need for persistent engagement with and reporting to government to build awareness of the impacts of ASGM
- A robust and transparent MoU as a basis for the working relationship with public security
- An acceptance of the reality of 'solutions' which, though attractive, don't work
- The prioritisation of a non-conflictive approach through being a responsive neighbour and avoiding confrontations
- Maintaining precedents such as continuing to arrest intruders even where the follow through may be uncertain.



ASGM camp in the desert region around the Tasiast mine, Mauritania. Copyright: Kinross.

### 10.1.3 B2Gold in the Philippines

B2Gold's Masbate mine in the Philippines had a significant problem with intrusions into mining areas by community members, including children, looking to collect ore. This posed significant safety concerns and risks of accidents and physical harm. In 2018 Masbate assembled a group of stakeholders, including government, police and social services, to focus interventions on at-risk youth and their parents. As part of the agreed steps, a targeted programme of education, skills development and micro-credit initiatives were set up to provide income or employment to divert young people from gold panning and ore scavenging.

In the previous year (2017), B2Gold carried out a human rights impact assessment at Masbate. Separate sessions were held with managers, male and female employees (separately), and contractors. The process also engaged

external actors such as local government officials, ASGM miners, women's groups, young people, and various livelihood associations. Mitigation initiatives around the interface with ASGM include regular engagement, monitoring of ASM sites, and support for improved environmental and health and safety practices. As a result of its involvement with the Voluntary Principles on Security and Human Rights risk assessment at the mine, the company's private security provider engaged with the national regulatory body for security providers to develop a VPSHRs-based training module, which has since been made mandatory for all private mine security groups in the Philippines.

## 10.2 Human rights and conflict resolution<sup>52</sup>

Increasingly, leading companies view their interactions with artisanal and small-scale mining through a human rights lens. Depending on the circumstances, some have found it useful to conduct a human rights impact assessment, including benchmarking the company's approach to ASGM against the Voluntary Principles on Security and Human Rights as well as the UN Guiding Principles on Business and Human Rights. Human rights vulnerabilities, which are frequently encountered in non-formalised ASGM situations, are poor working conditions; modern slavery;<sup>53</sup> a lack of health and safety in the workplace; unregulated labour conditions; no redress or insurance relating to injuries sustained in the workplace; exposure to hazardous chemicals; harassment, discrimination and intimidation; lack of security as a result of the presence of large numbers of displaced people; and environmental degradation such that it damages the ability of people even to pursue subsistence farming. It is

essential that when a company undertakes engagement and due diligence it is aware of major developments that affect local communities, such as a significant decline in income from agricultural or fishing activities (for example, crop failure or a poor harvest), as this may drive more community members into ASGM.

It may be useful for large-scale mining companies to identify and monitor certain indicators in their interactions with local communities in general, or with ASGM groups in particular, that may be used as proxies for increases in tension or conflict. These include increasing acts of vandalism against infrastructure; the defacing of signs and the appearance of graffiti; assaults on staff or intimidation of employees, contractors or suppliers; increasing numbers of incursions; a growing number of grievances (or, in some circumstances, a cessation in the use of the grievance mechanism, indicating a loss of confidence); allegations of abuse against security personnel; or the mine becoming the centre of hostile campaigns by local politicians or media.

### **Newmont in Suriname's approach to ASGM and human rights:**

Newmont's human rights strategy is based on the UN Guiding Principles on Business and Human Rights. Its human rights standard requires ongoing integration of human rights into broader impact assessments and standalone human rights assessments in certain circumstances. Newmont conducted a human rights impact assessment in 2016 in Suriname, which examined potential impacts of the Merian mine on the right to property, adequate standards of living, and freedom from discrimination of ASGM workers around the concession. Key risks and opportunities around security and livelihood restoration were also assessed and mitigation measures implemented.

In 2019 Newmont provided training to ASGM representatives from the Pamaka community, highlighting the company's commitments to human rights, the government's duty to protect human rights, and Newmont's own complaints and grievance process. The company's human rights strategy also recognises that it must go beyond 'doing no harm' to engage, support and promote the human rights of people affected by its activities. This aligns with the livelihood pillar of Newmont's ASM strategy, which underlines the need to collaborate with other actors to empower and improve livelihood options for artisanal and small-scale miners.

52. Discussion of issues relating to conflict-free gold and implementation of the OECD Due Diligence Guidance on Responsible Sourcing is to be found in chapter 11 on market access and due diligence.

53. The definition of modern slavery used in the pioneering legislation pursued by the United Kingdom government is: '*the recruitment, movement, harbouring or receiving of children, women or men through the use of force, coercion, abuse of vulnerability, deception or other means for the purpose of exploitation.*'

Conflict may be driven by the aggressive actions of artisanal mining groups or vested interests that seek to manipulate them. However, in regard to conflict resolution, companies will benefit from a clear-sighted understanding of any sources of conflict, tension or resentment with local communities, including artisanal mining groups. These may include, for example:

- Legacy issues relating to displacement of traditional ASGM without (or with perceptions of a failure to provide) compensation or realistic alternative livelihood programmes
- Elevated community expectations of jobs or other material benefits, which may be impossible to deliver
- Perceptions that the company has effectively sterilised tracts of land of interest to artisanal miners but are seemingly not being utilised by the LSM operation
- Other areas of mineralisation, on which local ASGM groups have relied, may be approaching exhaustion or 'corridors' allocated for ASGM activity may prove to have disappointing gold deposits
- A perception that other ethnic groups or foreign workers are benefitting from the mine's presence in preference to local people
- The arrival of influx artisanal miners attracted by the presence of the mine and who compete with local mining groups for economic opportunities and for land
- An increase in crime, pressure on local infrastructure or health problems
- Dust, noise, water pollution or other environmental damage
- Water and cultivatable land shortages (or fears about the possibility of shortages)
- Culturally insensitive or disrespectful behaviour, including in relation to cultural heritage sites.

It may be possible to address the source of potential conflict with ASGM through several routes, including a company grievance mechanism; direct negotiation; mediation (through a respected third party who is invited to help the company and the community to define their issues and potential means of resolving them); or arbitration (in which case a third party may be invited to reach a determination of the issue in dispute). Government agencies or authorities may have a constructive role to play either in reaching a mutually acceptable outcome or in facilitating its implementation. In seeking to resolve conflicts, companies might consider the following issues:

- **Power imbalances:** Companies are typically better resourced in areas such as technical, legal, geological and broader expert advice. Where the objective is to build trust and confidence and to establish a common fact base with local ASGM entities, some companies choose to finance expert or other technical advice for their negotiating counterparties. Agreements based on mutual confidence are more likely to endure.
- **Representativeness:** It is important to be confident that the supposed item in dispute is indeed the catalyst for conflict and wider discontent, i.e. is it a symptom rather than the cause of discontent or a distraction, only important to a minority within the community? Equally, in attempting to resolve the issue, companies should try not to give an impression of adopting 'divide and rule' tactics or of listening to, or rewarding, those who shout loudest or are most disruptive.
- **Mediation and arbitration require trust:** If the company and ASGM groups have failed to resolve underlying causes of conflict over a protracted period and are considering the involvement of a mediator or arbitrator then it is important that both parties should have confidence in the individual or institution asked to take on the conciliation role. This may only be a realistic option after the adoption of confidence-building measures.

### 10.3 Child and forced labour<sup>54, 55</sup>

Child labour is frequently identified as a negative dimension of ASGM. It is defined by the International Labour Organisation (ILO) as ‘work that deprives children of their childhood, their potential and their dignity and that is harmful to their physical and mental development.’ According to an ILO study, in many cases, children working in ASGM broadly perform the same work as adults, and thereby become exposed to the risk of explosions and falls of ground. They dig and crush ores, carry heavy stones and bags of mud on their backs and heads, and process the gold ore with mercury. Long-term adverse working environments and high exposure to toxic chemicals, such as mercury, are likely to damage their health and to provoke chronic diseases in the respiratory, nervous and digestive systems.<sup>56</sup> As a result, mining is classed as one of the worst forms of child labour.<sup>57</sup>

Forced or bonded labour is most likely to emerge as a factor where ASGM is dominated by organised crime or armed groups, or in the case of a largely lawless influx of migrant miners. They may be made vulnerable by taking on debts during their journey to the mine-site or because they may have to pay upfront for a pass to work at that site. They may then – especially if they come from a vulnerable group – be paid at wage rates insufficient to pay back any debt that they have incurred.

Between 2015 and 2019 the ILO implemented a study, financed by the US Department of Labor, and involving the NGO Ban Toxics! and the Coalition for Small-Scale Mines, in the Camarines Norte Province in the Philippines.<sup>58</sup> Its summary of lessons learned about the most effective measures to be taken against child labour in the sector included:

- It is essential for governments to take responsibility for formalising the sector and for implementing the law and the role of local government in combatting child labour is crucial
- It is very difficult to remove children who have already become involved in mining and to block the participation of those who are below 18 but above the national minimum legal working age
- Providing mercury-free equipment without ongoing engagement around the ill-effects of mercury is generally ineffective over the longer term

- Setting up local stakeholder committees can help raise the profile of this issue and facilitate the reintegration of ex-child workers back into the education system
- Addressing underlying poverty levels is paramount if the removal of child workers is to be effective
- Support for the formalisation of ASGM and the provision of social services (e.g. health, education and clean drinking water) is most likely to help integrate child miners into the wider community and to improve their livelihood opportunities.

Other factors which LSM mining companies should consider when developing a strategy to combat child labour include:<sup>59</sup>

- Local schools may be inaccessible, inadequate or non-existent, have low enrolment rates and low literacy and be unlikely to be sufficiently engaging to pupils over 15
- In situations of poverty-driven ASGM, it is well-nigh impossible to stop older children from becoming involved with ASGM in the absence of alternative sources of income – and many families may lack the wherewithal to start a different livelihood
- Often, concerns around health and safety are just not seen as a priority for people living in entrenched poverty
- Young girls either forced to live near - or who are attracted to living near - an influx ASGM site are particularly vulnerable to abuse or exploitation
- Regrettably, in areas where there has been significant displacement of people due to conflict or natural disasters, children may have specifically headed to an ASGM mine site in search of opportunity or income and may have no parental support.

Companies should be particularly vigilant for evidence of modern slavery or of bonded labour at local ASGM sites where the influence of exploitative actors is suspected, or, in the case of migrants, their identity papers have been withheld. In particular, some ASGM groups may find themselves effectively unable to extract themselves from highly disadvantageous business terms where, for example, a trader or ‘middleman’ has advanced a loan the terms of which are all but impossible to clear. The involvement of government authorities or CSOs is likely to be essential in addressing such issues.

54. According to the International Labour Organisation child labour is likely to be encountered in ASGM in the following countries: Bolivia, Burkina Faso, Colombia, Democratic Republic of Congo, Ecuador, Ethiopia, Ghana, Guinea, Indonesia, Kenya, Mali, Mongolia, Nicaragua, Niger, Nigeria, Peru, Senegal, Sudan, Suriname, Tanzania and Uganda.

55. According to the US Department of Labor, gold is produced by ASM using forced labour in several countries including: Burkina Faso, Democratic Republic of Congo, North Korea, Peru and Venezuela.

56. International Labour Organisation ‘*Child labour in gold mining*’, 2006.

57. The most relevant ILO Conventions include 138 – The Minimum Age Convention (1973); 182 – The Worst Forms of Child Labour Convention (1999); and 176 – The Safety and Health in Mines Convention (1995).

58. ILO CARING Gold Mining Project and the report: ‘*Mapping Interventions Addressing Child Labour and Working Conditions in Artisanal Supply Chains*’, May 2020.

59. ‘*Practical actions for companies to identify and address the worst forms of child labour in mineral supply chains*’ OECD, 2017

# 11. Market access and due diligence

This chapter considers the barriers that may be encountered by legitimate ASGM miners when they seek access to mainstream gold markets, and potential models for sharing the due diligence burden. It describes models through which large-scale mining companies, if desired, can provide support to legitimate ASGM entities and safeguards that can be implemented in the process. It notes routes through which governments, central banks, donor agencies, supply chain actors or civil society groups may provide due diligence support. It concludes with a brief description of issues related to ASGM access to credit or banking facilities.

As noted in earlier chapters, ASGM actors, especially those operating in the informal sector or without access to formal supply chains, typically sell their gold at a significant discount to global spot prices (generally reckoned to be an average of c. 30%), or are substantially disadvantaged by dependence on often opaque 'middlemen'. This situation can arise from remoteness and, consequently, a lack of physical access to mainstream gold markets; a lack of access to reputable processing facilities; or an inability to provide due diligence information to formal market participants such as LBMA accredited refineries. Ultimately, virtually all gold makes its way to national, regional or international markets either through legitimate routes or illicit channels. It is in the interests of society and good governance that the growth in illicit flows is blocked and gold flows are directed through mechanisms designed to guarantee their integrity.

The initiatives taken to prevent the misuse of certain minerals, including gold, to fund unlawful armed conflict (including the US Dodd-Frank Act, the EU Conflict Mineral Regulation and the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas) have provided reassurance about aspects of the gold supply chain but have also caused some refiners and gold users to avoid sourcing from high-risk areas (e.g. weak governance zones) and higher-risk sources (especially ASGM). The OECD's guidance on 'due diligence' states that: 'Due diligence is



Copyright Swiss Better Gold Peru, photo by Yirka Roldán.

not intended to provide 100% certainty on the conflict-free status of minerals, but rather to focus on the processes to identify, prevent and mitigate risk based on available information, and making improvements over time.<sup>60</sup> Nevertheless, attempts by some actors to 'de-risk' their supply chains have had the effect of marginalising even legitimate ASGM actors because refiners, in particular, find it difficult to be confident in due diligence that needs to cover thousands of small or micro-producers of gold. If they fail to identify a problem, despite operating in good faith, they may fear sanctions or suffering a serious loss of reputation. Ironically, this may lead to more ASM gold being channelled into illicit markets than would otherwise have been the case – and opposite to the desired outcomes of 'conflict-related' initiatives.

Several international donors, such as the Swiss Better Gold Initiative, the German agencies GIZ and BGR, and USAID, as well as civil society groups, have created 'closed pipe' supply chains for gold from Central Africa, Cote d'Ivoire and parts of the Andean countries. Similarly, some refiners, including through the Swiss Better Gold Association and the European Partnership for Responsible Minerals (EPRM) have sought to find innovative models to spread the costs of due diligence. But it has proved difficult for these schemes to achieve scale or to create financially sustainable models. If increased formalisation of ASGM is to be incentivised through improved access to legitimate international gold markets, then it is important for a wider range of stakeholders to play an active role in underpinning the market's due diligence expectations. This could include roles for host country governments, international donors, central banks, IGOs, certification schemes aimed at supporting ASGM like Fair Trade, Fair Mined and CRAFT, industry associations, NGOs, bullion banks, large-scale miners, ASGM federations, and end users in the jewellery, technology or financial sectors.

When the original work was conducted into the phenomenon of 'conflict minerals' the concept was dominated by the discourse around the misuse of minerals to fund armed groups in and around the Democratic Republic of Congo. Hence the focus on tin, tantalum, tungsten and gold. The significant differences between the '3Ts' and gold was reflected, however, in 2012 when the OECD oversaw a multi-stakeholder process to draft a 'Gold Supplement' to its Due Diligence Guidance on Responsible Sourcing. Regrettably, it has proved far more challenging to design and implement industry supply chain schemes for ensuring the integrity of gold from Central Africa than for the 3Ts. These difficulties include gold's high value (even in small quantities); its easy portability; its fungability (which makes the reliable tracking of provenance – outside of closed loop schemes – near impossible); the use of gold to 'launder' other criminal earnings; and the wide dispersion of gold production.

### 11.1 Central banks

In April 2021 the World Gold Council produced a report<sup>61</sup> on the potential of central bank ASGM domestic purchase programmes to promote formalisation, lessen smuggling, improve access to credit for ASGM, reduce mercury-use and support due diligence. It was based on four case studies featuring the central banks of Ecuador, Ethiopia, Mongolia and the Philippines. Each case showed how developing country central banks could benefit through building their gold reserves by acquiring domestically produced artisanal gold in local currency rather than diminishing their international currency reserves. In parallel, however, these countries could address the common negative dimensions of ASGM and use their purchasing power to support more positive, developmental aspects of the sector. They can provide benefits to the miners in respect of predictable prices and less risk of extortion and, in the process, insist that they will only buy from those who have a registered right to mine. A number of central banks have also been involved in their government's development of national action plans for reducing mercury use in ASGM.

60. OECD: 'FAQs Responsible Supply Chains in Artisanal and Small-Scale Gold Mining – Implementing the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas', 2016.

61. World Gold Council: 'Central Bank domestic ASGM purchase programmes', 2021.

## 11.2 LSM/ASGM purchase

At the time of the initial controversies around conflict minerals it was widely assumed within civil society that large-scale miners routinely purchased gold from surrounding artisanal and small-scale miners. If it had ever been the case, it certainly wasn't by 2010. Moreover, the importance of ensuring that the gold which each LSM mine supplies to its refiners is demonstrably responsibly produced and not tainted by conflict, criminality or serious human rights abuses, acts as a major disincentive for publicly-listed companies to buy external gold even where it is seemingly produced from within their own concession. This is because it is very difficult to exercise a 24/7 oversight of ASGM operations.

The OECD Due Diligence Guidance and Part D of the Conflict-Free Gold Standard<sup>62</sup> sets out the steps that a large-scale mine needs to take if sourcing gold from external sources and then passing it through its refiner. Part D states that: 'Companies sourcing gold or gold-bearing material from external suppliers are required to undertake due diligence to identify and prevent or mitigate any risks of causing, supporting or benefitting unlawful armed conflict, or contributing to serious human rights abuses or breaches of international humanitarian law.... Companies sourcing from artisanal or small-scale miners are encouraged to note Appendix One of the OECD Gold Supplement, which suggests that these companies should 'assist and enable ASM producers from whom they source to build secure, transparent and verifiable gold supply chains. Companies who do not source from ASM are encouraged to note the suggested measures to encourage the formalisation of ASM operations, including participating in collaborative initiatives with governments, international organisations, donors and civil society organisations for formalisation, the improvement of social and environmental performance and to support responsibly produced, legitimate ASM gold to find routes to market.'

The Responsible Gold Mining Principles 3.3 encourages large-scale miners to consider taking steps to facilitate access to legitimate gold markets for responsible ASGM. It states: 'We support access to legitimate markets for those artisanal and small-scale miners who respect applicable legal and regulatory frameworks, who seek to address the environmental, health, human rights and safety challenges often associated with ASM activity and who, in good faith, seek formalisation. We will consider supporting government initiatives to reduce and eliminate the use of mercury by ASM.'

Large-scale miners can choose to address the market access provisions (which are only applicable in defined circumstances) in a number of ways. Purchase of ore is one route; supporting ASGM miners to use reputable independent processing plants is another (see below); providing a plant for mercury-free processing is a further option (see the B2Gold Gramalote case study, in **chapter 7**); and companies supporting the implementation of due diligence – possibly in partnership with CSOs – is an additional route. Where responsible ASGM gold has been produced to appropriate due diligence standards, a large-scale miner could consider working with their gold refiner to facilitate the secure transport of such material, whilst still segregating it.

A recent study by the University of the Pacific (and others<sup>63</sup>) into the LSM/ASGM interface found that although the nine companies and gold mining sites in the Andean countries studied undertook different forms of co-operation and collaboration, international gold miners (AngloGold and B2Gold in Colombia and Lundin Gold in Ecuador) were unlikely to mix their gold with locally procured ASGM material but were prepared to provide a processing plant (see B2Gold in Colombia) or to direct the material for processing at an independent, State-accredited plant. Some smaller, less international companies were not so constrained.

62. World Gold Council, 'Conflict-Free Gold Standard', 2012.

63. Centro de Estudios Minera y Sostenibilidad, Co-operacion Alemana, GIZ and Solidaridad: 'Analysis and systematisation of innovative co-operation programmes between large-scale mining projects and artisanal and small-scale mining', Quinon, Aaron, 2021.

The World Bank/IFC/ICMM 'Working Together' manual observed that 'the purchasing of minerals from ASM miners can provide a more secure market for these individuals (the ASM miners) and, in some cases, a higher price. However, it can also bring complicated liabilities to the door of the LSM company. All forms of ASM may present unacceptable working conditions, including the risk of child, forced or bonded labour... Consideration must also be given to the legal status of the ASM activity before companies seek to purchase minerals produced by ASM miners.' 'Working Together' suggests that the sponsoring LSM company should conduct site visits and due diligence on the use of mercury and working conditions. It suggests that a baseline should establish the basic business

model to determine who would benefit and who would be adversely affected by the initiation of a purchasing programme.

It is also important, of course, to understand the perspectives of the artisanal and small-scale miners and their leaders. Despite the advantages deriving from greater predictability and security, they may, for example, be resistant to the notion of a sole obligation to sell to the concession owner because of concerns that they will not receive a fair price. Proactively addressing the issue of fair dealing (and agreeing a mechanism to resolve disputes) may reduce the potential for friction going forward.

### **What should a LSM company wishing to support ASGM through buying-in locally produced ore do by way of due diligence?**

To either accept ASGM into their own processing facilities or to provide assurance to a refiner about the provenance of gold material from local ASGM sources, LSM companies should familiarise themselves not only with the requirements of the Conflict-Free Gold Standard (especially Part D – External Gold Assessment), where the gold is produced in, or where it has to be transported through, a Conflict-Affected and High-Risk Area (CAHRA), but also with the ESG expectations set out in the LBMA's Responsible Gold Guidance version 9.

**Data collection:** In conducting an initial appraisal the LSM company will need to collect data from regulatory authorities, local government, law enforcement, community members and other stakeholders. They should consider the feasibility of obtaining geological records that pinpoint the geological identifiers associated with local ore bodies. LSM companies are likely to want to ensure that there is controlled access to ASGM sites and secure arrangements for the delivery of ore.

**Governance:** The LSM company will want, as part of formalisation, to encourage the formation of collective governance structures (such as the creation of a co-operative). The company will want to run background checks on those in leadership positions to ensure there is no evidence of criminal or adverse human rights involvement or of corruption. They will also need

to engage directly with the LSM miners around their input costs and production baseline data (this will allow subsequent checking if production suddenly diverges from established trends – either on the upside, because it may suggest that gold from other sources is being filtered into the local supply, or on the downside, which may imply that some gold production is being diverted into illicit channels). LSM companies will want to ensure that any entities from which they source gold are in compliance with local laws.

**Environment:** A number of case studies in this report (for example Lundin Gold in Ecuador and Calibre Mining in Nicaragua) note that ASGM entities are expected to present a basic environmental plan or obtain an environmental permit. In addition to seeking or supporting the replacement of mercury, LSM companies should seek to understand the impact of ASGM on water, soil and air quality; on endangered species; on deforestation; and hazardous waste (e.g. mercury or cyanide) disposal practices. The LSM company may want to ensure that it does not become liable for environmental damage or rehabilitation caused by ASGM.

**Social:** The potentially procuring LSM company will want assurance that there is no child or forced labour on the site; that women are not subject to abusive treatment; that indigenous rights are respected; and that the ASGM miners conduct themselves in ways that are not aggressive or disrespectful towards those people in the local communities who are not involved in ASGM; and that they act with the consent of local landowners.

There is increasing interest too in the role of independent regional gold processing plants that offer artisanal and small-scale miners access to better recovery rates and an alternative to the use of mercury amalgamation. In some situations, these can be provided or licensed by the State or by the private sector. In Peru, for example, two Canadian listed firms, Dynacor and Inca Gold, are active in this space. In the case of Dynacor, it purchases and processes gold ore from artisanal miners who have been formalised or are in the process of formalisation. It also provides their customers with support in navigating the formalisation process, training in safety, geological expertise, health support and loans to invest in better equipment. Dynacor works with Swiss refiner, PX Group, which sells gold from mercury-free ASGM at a premium and, through a Foundation, returns the premium back to the gold producing communities to fund social projects. There are also Peruvian companies active in the market.

Case studies from B2Gold in the Philippines and Calibre Mining in Nicaragua show the stringent steps that need to be taken by companies willing to buy-in material from local miners in order to protect the integrity of their gold production and ensure that illicit practices do not spring up alongside the contractual relationship. The case studies do, however, show that LSM purchase programmes can have significant policy benefits in terms of greater security and price predictability as well as leverage over environmental and social practices. Indeed, if LSM companies can satisfy themselves in relation to due diligence issues, including control of access to site, then they are in a potentially unique position to vouch to downstream actors for the ESG practices observed by responsible ASGM entities working in their locality.

## 11.3 Case studies

### 11.3.1 Calibre Mining in Nicaragua

Artisanal and small-scale mining plays a significant role in the economy of Nicaragua. As of mid-2021, Calibre had approximately 2,420 ASGM miners in their La Libertad concession, 500 around their Pavon North mine and 1,125 in their Borosi exploration concession. In 2020 Calibre established a purchase programme for ore mined on its concession. Purchase agreements are only made with formalised artisanal miners who are required to submit an environmental management plan. Their gold production is liable to municipal tax.

To formalise the relationship, the artisanal miners' work sites are inspected and geo-referenced; metallurgical tests are carried out and, if it is confirmed that the mineral comes from a Calibre concession and meets the metallurgical requirements, an integral supplier profile is developed, agreements are signed, and the transfer of ore begins.



ASM tunnel used for mineral extraction.  
Copyright: Calibre Mining Corporation.



Artisanal and small-scale mining plays a significant role in Nicaragua's economy. Image courtesy of Calibre.



Map of Calibre assets and ASM presence.

To ensure the integrity and traceability of the ore to be processed, each artisanal miner informs Calibre of the time and date of departure of the mineral, the extraction site, the name of the property owner, the name of the artisanal miner, the license plates of the transporting vehicle, the name and ID number of the driver, and the approximate volume of the transported mineral. This information is sent to La Libertad Mine, as well as to relevant Calibre managers, the Directorate of Mines of the Ministry of Energy and Mines, the Ecological Battalion of the Army, and the corresponding territorial office of the Ministry of the Environment, who only allow people whose information has been previously sent and who carry a copy of the signed agreements to pass. At the entrance to the La Libertad mine, only vehicles that have been duly reported are allowed to enter. To date, 250 artisanal miners from Rancho Grande and 30 from Rosita have entered into processing agreements with the company.

Calibre's ore purchase programme was partly designed to address pollution by local artisanal mining groups. Artisanal mills or rastras are the locally preferred, mercury-based processing systems, concentrated on the banks of rivers within the surrounding towns. Water is an essential ingredient of this process, sourced from streams that circulate through the rastras and return to the waterway, often along with tailings contaminated with mercury. This has caused the silting of waterways and pollution of local ecosystems.

Aside from improving the water pollution situation, Calibre's ore purchase programme was also designed to provide the miners with a stable decent livelihood, a more secure market and a fair price. As a result of this intervention, in 2020 approximately 3.27 metric tons of mercury that would otherwise have been used by participating miners was prevented from being released into the environment. In addition, 141,515m<sup>3</sup> of wastewater has been safely treated, contributing to good ambient water quality in local watersheds in the communities of Rancho Grande and Rosita.

### 11.3.2 B2Gold in the Philippines

ASGM creates risks for B2Gold's operations in Mali, the Philippines and Colombia through conflict over land; intrusions for the purposes of ASGM or scavenging ore; crime and corruption in local communities; the presence of labour rights abuses and environmental and health and safety impacts. The range of the company's responses to these risks and their ASM Performance Standard are set out in **chapter 4**. At their Masbate mine in the Philippines, B2Gold purchases ore from small-scale miners in order to diminish their use of mercury and to provide greater security and stability of incomes.

## 11.4 ASGM access to capital

In some situations (for example in parts of Ghana or Peru) it is argued that certain types of illegal mining are not, contrary to global perspectives, under-capitalised and such operations are increasingly mechanised. Where ASGM is directed by armed groups and located in weak governance zones, the operations may control significant territories and invest in heavy equipment – this is simply illegal mining and has no connection to ASGM. Such illicit

'investors' are unlikely to be focussed on improving safety and labour standards, mercury reduction (unless it is to ensure that recovery rates are improved) or social and environmental practices.

However, far more ASGM operators are poor and forced to borrow money from informal or inequitable sources. According to research undertaken for the Inter-Governmental Forum on Mining and Sustainable Development,<sup>64</sup> collective loan schemes that encourage 'individuals to unite and form trust groups' on the same model as the Grameen Bank, have met with some success. The report also cites projects where instead of cash, equipment loans were made to ensure that finance is used for the required technologies rather than risk being siphoned off. The report also summarises material from academic sources on experience in Namibia:<sup>65</sup> 'where the government used a Minerals Development Fund to provide US\$92mn in loans for projects emphasising the sinking of shafts, exploration and mine expansion. Using low interest rates, slow payment periods and minimal bureaucratic overheads, 92% of loans have been repaid. A similar fund in Mozambique offered financing on the condition that miners could show a license, proof of collateral (20% of loan amount), a feasibility study and a plan for loan repayment.'

Some LSM companies have provided micro-finance and loans to local ASGM groups to help them to invest in better equipment or to provide working capital. However, in many countries artisanal and small-scale miners find it very difficult to access banking facilities (because the authorities fear an association with money laundering) and yet without such access they find it very difficult to join the formal economy. This may be an area in which, assuming satisfactory due diligence has been conducted, security concerns can be addressed and sufficient transparency exists, an LSM company may be able to facilitate such access. Such bank accounts are an important element in some central bank ASGM domestic purchase schemes. For example, in Ecuador participating miners can only receive payments from a central bank purchasing counter through a bank account (having established their right to mine the relevant area) and the central bank has facilitated a leading State-owned commercial bank to formalise credit products for ASGM entities.<sup>66</sup>

64. Inter-Governmental Forum on Mining and Sustainable Development: 'Guidance for Governments: Managing Artisanal and Small-Scale Mining', 2016.

65. Resources Policy 34 (1): 'Artisanal and small-scale mining as an extra-legal economy. De Soto and the redefinition of formalisation', Siegel. S and Veiga M.M, 2009.

66. World Gold Council 'Central Bank domestic ASGM purchase programmes', 2021.

## 12. The beginning and the end – interactions between LSM and ASGM during exploration and closure

Most chapters in this report are applicable throughout the mining lifecycle. This chapter focuses on interactions with ASGM at the exploration stage and during the declining years of a mine's lifecycle.



An artisanal miner descends into the sedimentary gold shaft in Bayanhongkor soum, Mongolia. Photo taken during Levin Sources-led expedition to train a gold refiner in responsible ASM, 2016. Copyright: Magnus Arrevad.

Interactions in the early days of a mining project can set the tone for LSM/ASGM dealings for years, or even decades, thereafter. Regrettably, the history of relationships, including in relation to compensation arrangements and actions taken by host government authorities, can be lost when a project is, for example, acquired from an exploration junior. In several situations, corporate due diligence at merger and acquisition (M&A) stage has reportedly failed to pick up the extent of negative legacies and, therefore, the acquiring company has not always been sufficiently aware of site challenges relating to relationships with ASGM.

In the case of LSM/ASGM interactions in the years running up to closure or during closure planning, established relationships may be crucial to a large-scale mining company's ability to achieve sustainable closure, to protect decommissioning work and to take effective measures against phenomena like acid mine drainage.

## 12.1 Interactions at exploration stage

As the case study below detailing Kinross's involvement in the Fruta del Norte project in Ecuador makes clear (see also material on the project in **chapter 5** on understanding local stakeholder and ASGM dynamics), it is far more likely that a mine will be successfully constructed if there is intensive engagement with artisanal and small-scale miners at exploration stage and a rounded appreciation of their position can be developed. As the International Institute of Environment and Development has noted: 'Managing interactions with ASM can take huge amounts of time, present a serious security issue, disrupt operations and undermine efforts to rehabilitate certain areas. The legal impact can be huge and ongoing, preventing miners from securing project financing.'<sup>67</sup>

In some cases, resettlement may be needed. Responsible Gold Mining Principle 7.8 reads: 'We will seek to avoid involuntary resettlement. Where this is unavoidable, we will proceed on the basis of meaningful consultation with affected communities, a publicly available planning framework, the restoration of established livelihoods and the provision of fair and timely compensation. We will seek to minimise adverse impacts on displaced people.' Thus, in relation to community-based ASGM, the sponsoring company is required to try to avoid involuntary resettlement, to seek to restore established livelihoods and, where this applies, to provide fair compensation and to minimise adverse impacts on displaced people. Good practice is explored in the 'Working Together' manual<sup>68</sup> in the following terms:

*'If the majority of miners are traditional ASM miners who have been working in the same area for generations, and if ASM activities form the key livelihood activity for the surrounding communities, this would need to be built into the social and community impact assessment and effective economic restoration programmes would need to be considered. If, instead, the miners were predominantly influx miners who have moved to the area more recently due to news of the mineralisation being found by LSM geologists, the company's long-term responsibility for their livelihoods would be quite different... Depending on the legal framework it may be possible to relocate the miners to an alternative area within the concession, thereby minimising the need to physically relocate settlements while allowing access to sufficient mineralisation to maintain an equitable livelihood. In some jurisdictions, this may not be possible, however, because LSM has legal responsibility for all mining-related activities taking place on their concession. A shortage of geological information can also limit the willingness of companies to hand over areas of the deposit until further exploration drilling has been completed.'*

67. International Institute for the Environment and Development, 'Responding to the challenge of artisanal and small-scale mining: How can knowledge networks help?', Buxton, Abbi, 2013.

68. CASM (Communities and Small-Scale mining), World Bank, IFC and ICMM: 'Working Together: How large-scale mining can engage with Artisanal and Small-Scale Mining', 2009.

## 12.2 Case studies

### 12.2.1 Kinross Gold in Ecuador

Kinross acquired the Fruta del Norte (FdN) exploration concessions from Aurelian Resources in 2008 and sold the project to Lundin Gold in October 2014. ASGM was firmly established in the area from well before discovery of FdN, hence one of the priorities for the company was to establish a productive relationship with the miners based on dialogue, respect for the law and human rights. ASGM was focussed mostly on alluvial deposits as well as some underground veins, whereas FdN was a new discovery to be developed through modern underground hard-rock mining. Kinross recognised the importance of ASGM for local livelihoods and its cultural relevance.

Following the enactment of a new mining law in late 2009, Kinross worked with Ecuador's Ministry of Energy and Mines to develop a strategy for formalisation of ASGM on the company's concessions. The company's approach included formalisation of artisanal miners in defined areas for alluvial mining; waiver of defined concession areas in favour of small-scale miners (underground vein mining); and legal action against illegal mechanised mining. Actions were to:

- Identify and confirm the type and location of ASGM activities on Kinross's concessions
- Develop mechanisms to legalise ASGM in its different forms
- Implement training programmes for ASGM to provide the requisite legal and institutional frameworks, as well as health, safety and environmental guidance.

Between 2010 and 2012 Kinross relinquished 54 hectares of its Zarza concession for small-scale underground mining (whilst retaining exploration rights in the area) and 24 hectares of its Victoriana concession for barite exploitation. More than ten artisanal mines had been formalised by the time Kinross sold the project. The company also worked with stakeholders to guard against in-migration of rival would-be miners so that local people were given preference. Key lessons were:

- **Early recognition of risk:** The company identified ASGM early on as a key risk and created an action plan (August 2009)
- **Importance of expert advice:** Kinross sought support from an international expert on ASGM
- **Buy-in from all parties:** The company understood the importance of a multi-stakeholder, collaborative process. It delivered a detailed road map proposal to government (December 2009) and secured support from all levels of the administration
- **Timely and accurate information on the ground:** Kinross conducted ASGM monitoring every two months, with ground and airborne inspections, and filed regular reports with the government
- **Internal alignment:** The project team was careful to secure support from key functions for the ASGM strategy. This helped to determine areas for potential alluvial ASGM and support for concession areas for waiver
- **Time and resources:** Kinross dedicated full-time positions to the ASGM project.



Alluvial miners on the Rio Zarza in south-east Ecuador. A diver guides a suction pump to pull up gravel which then passes over a sluice on the raft. Copyright: Kinross.

### 12.2.2 Newmont's approach to ASGM at exploration stage

Exploration geologists are often the first point of contact between a mining company and a community. Thus, Newmont's guidance for its exploration teams emphasises the importance of early engagement and building positive relationships with small-scale miners. The company's Exploration Guidebook and associated management workbook include requirements to identify appropriate management approaches to ASGM in or near exploration areas of interest. This evaluation is based on the legitimacy and legality of the activity, its scale, and the extent to which it commands community acceptance. Other elements in Newmont's ASGM profiling tool include whether it is a traditional livelihood or predominantly associated with in-migration; the extent of organisational capacity; the types of technology employed by the miners; the degree of financial transparency and integrity involved in the enterprise; and whether its impacts are broadly socially and environmentally benign or malign.

Newmont believes that the management of ASGM is not an issue it can resolve on its own, and so it seeks partnerships with governments, international institutions, civil society and ASM experts to identify solutions and the scope and relevance of international best practices.

### 12.3 Later stage livelihoods and planning for mine closure

Whilst mining companies have become increasingly skilled in planning and managing the environmental dimension of mine closure, some find the social dimension more challenging and many host governments have become increasingly reluctant to issue closure certificates. The social dimension may be particularly problematic where the closing mine is the dominant source of employment and economic activity, provider of infrastructure, or is located near significant artisanal or small-scale mining activity. Once formal mining ceases and closure work is complete, both artisanal mining groups and even some locally-based redundant mine workers may begin to rework tailings or waste dumps. Even though re-processing such waste might not be commercially viable for a large-scale mining company, opportunities may be there for artisanal exploitation. In the process of pursuing such opportunities the artisanal miners may, however, undo some of the environmental rehabilitation work that has been undertaken by the company.

As the University of Queensland has observed:

'In addition to reduced project value, the costs of not being able to formally relinquish a lease at the end of mine life due to security considerations associated with uncontrolled ASGM can be material'<sup>69</sup> for companies seeking to complete closure.'

## 12.4 Case studies

### 12.4.1 Buenaventura in Peru

The Paula mine in Southern Peru started its closure process in 2013 after 33 years of mining. At an early phase of closure ASGM miners started to trespass into one of Buenaventura's mining rights areas and disrupted some specific components of Paula's closure plan. The local rural communities viewed Paula's closure as an opportunity to work as ASGM miners and demanded the area be transferred to them as compensation for the years of the mine's operations. Control of the mining right is key for ASGM miners seeking to formalise and several rival players emerged, all demanding that the right be transferred to them. Buenaventura changed its plan and started to negotiate with a shared desire to mitigate social conflict and to protect the environment.

Buenaventura hoped that if the agreement to transfer the closure plan and mining right to the communities was successful, they could build the capacities of the local ASGM miners and help them formalise. The parties invited government agencies to act as intermediaries and to scope how they could support an agreement. However, the State authorities claimed a lack of legal base and declined to get involved. The return to the negotiation table was met with increasing pressure and the company's first objective was to prevent social conflict by generating confidence, establishing ground rules and identifying the legitimate stakeholders.

The negotiations resulted in a significant reduction in the number of counterparties – from 12 actors down to two – aggregated around the rural communities. The groups formed two separate mining companies, envisaging that the mining right would be transferred to them both. The next step was to negotiate the transfer condition. Buenaventura's key interest was to complete mine closure and maintain good relations with local stakeholders. Missing was the environmental study needed to formalise their ASGM activities, which would allow them in the future to work in closed components of the mine and be

69. University of Queensland, Sustainable Minerals Institute: 'A large-scale perspective on Small-Scale Mining', Owen, Jon and Kemp, Deanna, 2019.



The Paula mine in Southern Peru before and after remediation. Images courtesy of Buenaventura.

responsible for the next modifications. To achieve these objectives, a deal was reached with the two companies whereby Buenaventura would transfer the mining rights and support ASGM formalisation by elaborating and financing the environmental study while the companies would allow free access to complete Paula's closure. A formal deal was reached in May 2019.

The company's aims have been to formalise ASGM activities in Paula so as to achieve good social relations, protect the environment and support the ongoing development of local communities. Nevertheless, the process has encountered many challenges, especially from the lack of involvement by government authorities. The formalisation process is overly bureaucratic and complex, and lacks an underlying legal framework.

Two years after signing the agreement and despite Buenaventura's support, ASGM formalisation has not succeeded. Notwithstanding having the mining right, the land agreement and the environmental study guaranteed by Buenaventura, the behaviour of the two companies and other local actors suggest that they may prefer the status quo. Moreover, even if the formalisation process goes ahead, Buenaventura may need to extend its support for the ASGM activities in order to fulfil its objectives. In conclusion, without government leadership and partnership with stakeholders like NGOs and environmental agencies, the Company believes ASGM formalisation has limited chances of success.

**Lessons learned:** This case is of ongoing relevance to Buenaventura because it likely foreshadows similar social pressures around the closure of another nearby operation. The company has drawn the following lessons from its experiences to date:

- Buenaventura has established a set of minimum non-negotiable conditions for engaging with ASGM groups: environmental care; respect for human rights and property rights.
- Buenaventura needs to evaluate its pipeline of closure projects to identify other sites where closure plans will require significant social engagement
- Buenaventura will continue its existing engagement strategies and capacity-building activities, including working with local enterprises, from the exploration and operational phases of the mine lifecycle so as to cover closure.
- Mine closure is a challenging endeavour and so it is important to correctly identify the legitimate counterparties and to address issues openly. Transfer of the mining right is crucial and allows the parties to co-operate in setting up a workable agreement towards ASGM formalisation if the minimum conditions of environmental care, respect for property rights and protection of human rights are adequately met.
- The lack of a normative framework for State authorities to assist in ASM formalisation through LSM and ASGM co-operation is a major challenge. Buenaventura is, therefore, considering working with industry associations to help government officials frame reforms that pave the way for future co-operation

#### 12.4.2 Harmony Gold in South Africa

Harmony Gold has, over many years, worked with communities and local entrepreneurs to create viable aggregates and construction materials businesses from the company's waste rock dumps. More recently, and in keeping with the principle of shared ownership, Harmony has been working with community groups to give them access to waste dumps that still contain gold in commercially recoverable quantities. The company donates these dumps to local communities to enable access to the resource and, where necessary, assists these ASGM entrepreneurs to responsibly turn the resources to account.

To this end, Harmony provides technical resources, financial support and, most importantly, access to processing facilities. The ore is sampled to provide approximate gold content and after processing the material is delivered to the Rand Refinery. Harmony undertakes extensive due diligence on its community partners and by taking the gold into its facilities helps to guard against it seeping into illicit channels or the mining entities coming under pressure from criminal groups. In some cases, the company buys the gold from the small-scale miners but those who are more financially robust and can wait for payment are paid directly by the refinery. Harmony has found that the success rate of the new small businesses rises significantly when the company remains closely engaged and provides technical and financial capacity building. This work involves three companies and is undertaken as part of Harmony's commitment to transformation and broadly-based social development.

#### 12.4.3 Macuelizo mine in Honduras

In 2004 Geomaque de Honduras (owned at the time by Rio Narcea Gold Mines Ltd and acquired in 2007 by Lundin Mining Corporation as a site under closure) stopped operations at its Macuelizo mine in the department of Santa Barbara in Honduras. A closure plan was approved by the government in 2011 and remediation started that year. Between 2007 and 2015 almost UK\$5mn was invested by the company in this process, but in 2014 closure was interrupted due to the arrival of artisanal miners in the old open pit. Following this interruption over 200 miners from surrounding communities resumed ASGM activities on the site without government authorisation. Their practices were unsafe and included mercury use.

Local people urged the government to legally transfer the concession to the communities so that ASGM activity on the mining site could be formalised and carried out in a more socially and environmentally responsible way and in compliance with Honduran law. At the request of the Lundin Foundation, the Alliance for Responsible Mining (ARM) visited the site in 2017 and worked with the miners to inform them of the benefits of community-based artisanal mining and encouraged community representatives to adopt good practices and certified operations. ARM continues to provide technical support to the miners to improve their sustainability.

The parties agreed that switching from closure to a title transfer from industrial to small-scale operations was the best path. However, there was no legal precedent in Honduras for this kind of switch. A roadmap was developed and implemented during 2018 and 2019, resulting in the mining rights being assigned to the community-based company, Minas y Cuevas. A critical part of the agreement was that the activity should be conducted to high ESG standards and production must be certified. Minas y Cuevas took the challenge and created a S.A. (Sociedad Anónima) to receive the entire exploitation concession (400 hectares) from the mining authority, Inhgeomin.

The government was clear that a new perspective was needed to move from a potential negative impact to a community-empowered initiative. It also insisted that high standards were essential, irrespective of the size of the mine. As part of this, an agreement was reached with the German gold refinery, Heimerle and Meule, using the CRAFT Code as a framework. As Edelmin Rodriguez from Minas y Cuevas commented at the time: 'You cannot live your whole life in secrecy. Our objective is to create jobs and to generate education, health and other things.'

Minas y Cuevas draws people from seven communities and supports over 300 families. Its production capacity is still lower than the minimum authorised for an LSM operation, but the mining authority recognises Minas y Cuevas as such an organisation. Consequently, requirements and costs are still a challenge for an operation of this scale. The mining organisation has not decided to change its legal personality and/or reduce its concession size but it is evaluating other options to make its operation viable, with the support of current and new partners.

# 13. Understanding local ASGM: baseline checklist

The material in this chapter builds on Chapter 5 (Understanding the local stakeholder and ASGM context). It seeks to support companies in building a baseline understanding of the governance, socio-economic, security, stakeholder and environmental dimensions of local ASGM activities. In seeking to understand the dynamics of local ASGM operations it may be useful to involve external expertise from consultants, technical institutions or civil society.



Artisanal gold miner, Yako, Burkina Faso. Copyright: Hugh Brown.

In addition to fieldwork, the range of contextual information sources might include national and local government authorities, regulatory agencies, industry associations, miners' groups, NGOs and universities. A point commonly made in the academic literature is that a lot of knowledge and analysis of ASGM exists but that much of it is held in silos rather than being widely shared between stakeholders. For example, the International Institute for Environment and Development urges the creation of in-country ASM 'knowledge networks', comprising a group of select individuals from different backgrounds, including large-scale mining, with knowledge of the ASM sector.<sup>70</sup>

### Whether conducted at the start of mine development or later, an ASM baseline study might usefully include:

#### Geographic location and technical issues

- The location of ASGM activity – is it within or around the concession? How many sites are active? Are there areas that have previously been worked but are currently inactive? What type of mining is involved – e.g. alluvial versus hard rock?
- Are mercury or cyanide used, and what other forms of gold extraction are used? What is the level of sophistication of mining and processing techniques? Is there a significant degree of mechanisation? If so, what sort of machinery is being used and does this breach permitted ASGM activities under local regulations?
- What are the approximate/estimated grades and recovery rates and production volumes?
- Is there any evidence/information available around health and safety incidents or scope for providing capacity-building support?
- As far as can be reasonably estimated, what is the depth of any underground workings? How extensive are surface level or underground workings?

- What sort of tools are being used? Hard rock ore is likely to be removed with picks, shovels, jack hammers and excavators – and with occasional use of explosives – at soft rock sites tools are likely to include shovels, baskets, excavators and spraying with water.

#### Legal status

- What is the legal status of the ASGM groups – do they have licences or permits or have they a track record of seeking formalisation? What is the known history of contacts between the mine and ASGM groups, or between the ASGM groups and government entities? Are any agreements (formal or informal) in place with any of these groups?

### Traditional v Influx ASGM, demographic make-up

- What sort of mining is involved? It may be a mixture between traditional/community-based, seasonal, crisis/disaster driven, or broader influx (in this case what is the estimate of the origin of the miners and their nationality (ies)?). In the case of in-migration, where do these miners live (e.g. renting in local villages, in informal settlements, etc.)? In the case of migrants are they generally alone or accompanied by family members?
- Approximately what proportion of the local population is engaged with ASGM activities or their supply chain?
- Approximately how many miners are involved in mining and processing activities in the vicinity of the mine?
- What is the estimated gender breakdown of the workforce?
- Are children (for these purposes those under the age of 18) present? If so, are they engaged in mining or other potentially hazardous activities?<sup>71</sup>
- Are there any accessible governmental or civil society programmes directed at increasing access to education or to combat child labour?

70. 'Responding to the challenge of artisanal and small-scale mining. How can Knowledge Networks Help?' International Institute for the Environment and Development. Buxton, Abbi, 2013

71. In relation to gender, companies may wish to draw upon 'Gender dimensions of Artisanal and Small-Scale Mining: A rapid assessment toolkit' Adriane Eftimie, Katherine Heller, John Strongman, Jennifer Hinton, Kutala Lahiri-Dutt, Nellie Mutemeri. World Bank, 2012

## Livelihoods

- What are the estimated earnings of artisanal miners and those involved in processing? How do these compare with average local earnings from agriculture, small businesses etc.? How significant is income from local ASGM believed to be for key local communities?
- What is the impact of both LSM and ASGM activities on other occupations/livelihoods? For example is mining reducing the availability of agricultural land; is mercury pollution affecting livelihoods for fishermen? What arrangements are being made for people whose livelihoods are subject to, or at risk of such displacement?
- Has the mine sought to promote alternative livelihoods programmes? If so with what success? Have these diverted people from active involvement in ASGM or from other livelihoods?

## Social and organisational issues

- What are the organisational structures amongst the ASGM groups? Do they behave cohesively? Are there recognised leaders, and if so what sort of authority do they exercise? Are co-operatives or companies involved?
- Do the ASGM units appear to have any recognisable management structure or involve individuals with specialist knowledge?
- What is the relationship between traditional leaders (e.g. chiefs) and the ASGM activities? Do they exercise authority or grant rights to work on specific areas of land? (In West Africa what is the role and authorities of the tombolomas?) Does the presence of ASGM strengthen or weaken the authority and influence of traditional leaders?
- Does there seem to be tension or conflict between ASGM groups and members of the host community? If so, how do these tend to be resolved?

- What is the role of national or local authorities in facilitating, controlling or limiting ASGM activities? Is there any suggestion, especially in the case of migrant miners, of forced or bonded labour or modern slavery conditions?
- What provision is available for mining emergencies in terms of health facilities (if the mining population is substantial)?
- What proportion of incomes in surrounding communities is estimated to come directly from ASGM? What proportion is estimated to come indirectly from ASGM?
- Is gold mining conducted by individuals or small groups of miners, or a small enterprise with limited capital investment, or (increasingly common in some jurisdictions) is the mining conducted with heavy capital equipment? If so, what is the suspected source of finance for this and, as far as can be ascertained, have any of these mining activities been granted licenses or permits?

## Environmental issues

- Do the ASGM groups have any environmental permits?
- What arrangements do they use for tailings storage? What potential hazards does this create?
- Is there evidence of mercury or cyanide pollution of the soil or water courses? Do local health indicators indicate problems arising from mercury pollution? Is there a potential risk of increasing mercury concentrations in local foodstuffs?
- If there are concerns about mercury pollution does the government plan any environmental interventions? If there is evidence of cyanide use, how and where is it stored and what is the ability of local authorities to cope with a spill?
- Does ASGM activity pose risks for decommissioning mining areas or for eventually securing closure certificates?

## Security-related dimensions

- Does the company's mining concession or nearby transport infrastructure coincide with areas reputed to be used by criminal groups for activities such as drug or people trafficking? Are armed groups reputed to extort or finance ASGM activities?
- Are those involved in ASGM also involved in incursions onto LSM mining areas? If so, what are the approximate levels of trespass? Are incursions undertaken by different individuals? Do intruders target specific areas of the concession or of active mining areas?
- What is the presence of State (police or army) security forces? Are they well-disciplined and do they comply with the tenets of the Voluntary Principles on Security and Human Rights? Are security forces respected by the local population?
- When arrests are made do the illegal miners go on to face criminal sanctions and credible penalties?
- What are the costs of public and private security to deter illegal mining on the concession?
- Do security forces command public confidence or consent, or does their presence generate a significant number of grievances?
- How are the ASGM mining operations believed to be financed and are legitimate banking services available to ASGM groups? Who is believed to own or control significant items of mining or processing equipment? How, if at all, is access to mine sites controlled and is this granted in return for payments by miners?
- What are the rumoured or estimated selling prices for gold realised by local ASGM? Is there competition between aggregators or traders in the region?
- If the mine were to purchase gold-bearing material or to facilitate the sale of ASGM production to legitimate refiners is there a significant danger of vested interests suffering serious economic damage? If so, what counter-punches might they seek to land in order to disrupt any measures designed to create more collaborative relations between LSM and ASGM?

## Socio-economic and commercial issues

- What indications are there about the approximate incomes of individual miners?
- Do ASGM activities appear to command 'protection' from either powerful political figures or from senior commanders in the security forces? Are powerful local elite interests evident in the way that State institutions respond to local challenges of illegal mining?
- From where are key mining and processing inputs believed to be sourced (e.g. mercury and explosives)? To whom is local gold production sold? Is there a national 'buying-in' agency (e.g. the central bank) for artisanal gold and, if so, can this be accessed by operations around the mine? Is there any evidence about how the gold leaves the country or about where it is refined?

# Appendix A:

## Index of case studies by company

Company	Mine/Project	Chapter	Page
AngloGold Ashanti	Corporate	Company organisation, policies and tools	22
	Geita (Tanzania)	Security, conflict, human rights and child labour	68
	Geita (Tanzania)	Capacity building and technical support	63
	Obuasi (Ghana)	Formalisation and coexistence	49
	Siguiri (Guinea)	Working with governments and mobilising partnerships	37
B2Gold	Corporate	Company organisation, policies and tools	23
	Fekola (Mali)	Working with governments and mobilising Partnerships	41
	Gramalote (Colombia)	Formalisation and coexistence	46
	Masbate (Philippines)	Market access and due diligence	79
	Masbate (Philippines)	Security, conflict, human rights and child labour	69
	Masbate (Philippines)	Socio-economic development and alternative livelihoods	57
Barrick Gold	Kibali (Democratic Republic of Congo)	Socio-economic development and alternative livelihoods	54
	Loulo (Mali)	Working with governments and mobilising partnerships	38
Buenaventura	Paula (Peru)	The beginning and the end (interactions between LSM and ASGM during exploration and closure)	83
Calibre Mining	Corporate	Company organisation, policies and tools	24
	La Libertad (Nicaragua)	Market access and due diligence	77
	La Libertad (Nicaragua)	Working with governments and mobilising partnerships	40
Endeavour Mining	Burkina Faso, Senegal, Cote d'Ivoire	Understanding local stakeholder and ASGM dynamics	30
	Corporate	Company organisation, policies and tools	22
	Senegal (Sabodola)	Socio-economic development and alternative livelihoods	56
Gold Fields	Corporate	Company organisation, policies and tools	22
	Damang and Tarkwa (Ghana)	Socio-economic development and alternative livelihoods	55
	Damang and Tarkwa (Ghana)	Formalisation and coexistence	50
Golden Star	Prestea (Ghana)	Working with governments and mobilising partnerships	38
	Wassa (Ghana)	Socio-economic development and alternative livelihoods	55
	Wassa (Ghana)	Socio-economic development and alternative livelihoods	56
Harmony Gold	South Africa	The beginning and the end (managing the LSM/ASGM interface during exploration and closure)	85
IAMGOLD	Rosebel (Suriname)	Capacity building and technical support	63
	Rosebel (Suriname)	Formalisation and coexistence	48
Kinross Gold	Corporate	Company organisation, policies and tools	21
	Fruta del Norte (Ecuador)	Understanding local stakeholder and ASGM dynamics	27
	Fruta del Norte (Ecuador)	The beginning and the end (interactions between LSM and ASGM during exploration and closure)	82
	Tasiast (Mauritania)	Security, conflict, human rights and child labour	68
Lundin Gold	Fruta del Norte (Ecuador)	Formalisation	50
Newcrest Mining	Gosowong (Indonesia)	Working with governments and mobilising partnerships	40
	Hiré (Cote d'Ivoire)	Socio-economic development and alternative livelihoods	56
Newmont	Corporate	Company organisation, policies and tools	23
	Ghana	Socio-economic development and alternative livelihoods	57
	Merian (Suriname)	Formalisation and coexistence	47
	Merian (Suriname)	Working with governments and mobilising partnerships	37
	Merian (Suriname)	Security, conflict, human rights and child labour	70
	Corporate	The beginning and the end (interactions between LSM and ASGM during exploration and closure)	83
Resolute	Syama (Mali)	Understanding local stakeholder and ASGM dynamics	28

# Appendix B:

## Index of case studies by country

Country	Mine/Project	Company	Chapter	Page
Burkina Faso		Endeavour	Stakeholder engagement and understanding local ASGM dynamics	30
Colombia	Gramalote	B2Gold/ AngloGold Ashanti	Formalisation and coexistence	46
Cote d'Ivoire	Hiré	Newcrest	Socio-economic development and alternative livelihoods	56
Democratic Republic of Congo (DRC)	Kibali	Barrick Gold	Socio-economic development and alternative livelihoods	54
Ecuador	Fruta del Norte	Kinross Gold	Understanding local stakeholder engagement and ASGM dynamics	27
	Fruta del Norte	Kinross Gold	The beginning and the end (interactions between LSM and ASGM during exploration and closure)	82
	Fruta del Norte	Lundin Gold	Formalisation and coexistence	50
Guinea	Siguiri	AngloGold Ashanti	Working with governments and mobilising partnerships	37
Ghana	Obuasi	AngloGold Ashanti	Formalisation and coexistence	49
	Damang and Tarkwa	Gold Fields	Formalisation and coexistence	50
	Damang and Tarkwa	Gold Fields	Socio-economic development and alternative livelihoods	55
	Prestea	Golden Star	Working with governments and mobilising partnerships	38
	Wassa	Golden Star	Socio-economic development and alternative livelihoods	55
	Wassa	Golden Star	Socio-economic development and alternative livelihoods	56
Honduras	Macuelizo		The beginning and the end (interactions between LSM and ASGM during exploration and closure)	85
Mali	Loulo	Barrick Gold	Working with governments and mobilising partnerships	38
	Fekola	B2Gold	Working with governments and mobilising partnerships	41
	Syama	Resolute Mining	Understanding local stakeholder and ASGM dynamics	28
Indonesia	Gosowong	Newcrest	Working with governments and mobilising partnerships	40
Mauritania	Kinross Gold	Tasiast	Security, conflict, human rights, and child labour	68
Nicaragua	La Libertad	Calibre Mining	Working with governments and mobilising partnerships	40
	La Libertad	Calibre Mining	Market access and due diligence	77
Peru		Buenaventura	The beginning and the end (interactions between LSM and ASGM during exploration and closure)	83
Philippines	Masbate	B2Gold	Market access and due diligence	79
	Masbate	B2Gold	Socio-economic development and alternative livelihoods	57
	Masbate	B2Gold	Security, conflict, human rights and child labour	69
Senegal	Sabodala	Endeavour	Socio-economic development and alternative livelihoods	56
South Africa		Harmony Gold	The beginning and the end (interactions between LSM and ASGM during exploration and closure)	85
Suriname	Rosebel	IAMGOLD	Formalisation and coexistence	48
	Rosebel	IAMGOLD	Capacity building and technical support	63
	Merian	Newmont	Working with governments and mobilising partnerships	37
	Merian	Newmont	Formalisation and coexistence	47
	Merian	Newmont	Security, conflict, human rights and child labour	70
Tanzania	Geita	AngloGold Ashanti	Capacity building and technical support	63
	Geita	AngloGold Ashanti	Security, conflict, human rights and child labour	68

# Appendix C: Risks and opportunities for large-scale mining companies in their interactions with ASGM

This appendix sets out the risks that large-scale mining companies may encounter from their interactions with artisanal and small-scale mining groups and suggested management responses. It also sets out some of the opportunities which creative or well-managed interactions with ASGM may generate:

Risks for LSM operators	Potential responses	Relevant corporate functions
Company impeded in its access to land	Removal of illegal miners from concession	Security
	Securing broad community acceptance	Community relations
	Provision of alternative geologically viable ASGM corridors	Exploration/geology/legal
Security of assets and personnel	Implementation of the Voluntary Principles on Security and Human Rights	Security/govt relations/ community relations/HR community
	Creation (where possible) of constructive engagement with ASGM groups including around clear 'no go' zones	Relations/security/operations
Safety of both workforce and intruders	Reduce intrusions by illegal miners through effective security measures and engagement with ASGM groups	Security/community relations
	Clear signage and delineation of 'no go' zones	Operations/security
	Creation of alternative livelihoods and/or permitted mining areas for ASGM	Community relations/ geology/ operations
Adverse impacts on livelihoods of surrounding communities from their loss of access to artisanal mining opportunities	Develop cohabitation or formalisation opportunities	Operations/legal/community relations
	Compensation for the loss of established livelihoods and/or alternative livelihoods programmes	Land acquisition/legal/community relations
	Employment and training opportunities in the mine and local procurement programmes	Human resources/procurement/ community relations
Operational risks (e.g. stoppages through intrusions; unexpected voids; impact on pit wall stability)	Close monitoring of ASGM activities and enforcement of clear separation of ASGM from industrial mining areas	Security/operations
Potential need for involvement of State security forces	Engagement with government authorities and public security	Government relations/security
	Implementation of the Voluntary Principles on Security and Human Rights	Security/legal/community relations
	Seek to resolve issues through engagement or mediation	Community relations/legal/ operations
Association with human rights abuses (e.g. child labour; poor health and safety standards that lead to fatalities or injuries; gender based violence)	Consider undertaking human rights impact assessment and use as a basis for engagement with ASGM and for mobilising governmental and NGO partners to facilitate initiatives aimed at resolving abuses	Community relations/government relations/legal/ human resources/ safety, health and environment (HSE)
	Provision of technical support/training to responsible ASGM	HSE/community relations/ operations
	Review company social investment strategy so as to help address social problems	Community relations
Environmental degradation in vicinity of mine (e.g. through tailings being dumped into river systems; felling of trees or damage to local fauna) or creation of liabilities within concession area (e.g. water pollution or mercury poisoning)	Consider undertaking capacity building on alternatives to mercury and other aspects of safety, health and environmental performance	Safety, health and environment/ community relations

Risks for LSM operators	Potential responses	Relevant corporate functions
Exploitation of disaffection amongst local people (especially youth) by armed groups	Maximise understanding of sentiment amongst local youth/people and identify grounds for resentment	Security/community relations
	Consider additional options for increasing socio-economic benefits for community members (whilst not rewarding negative behaviours)	Community relations/human resources/procurement/operations
	Review security assessments	Security
Reputational issues	Using baseline studies or impact assessments, maximise internal understanding of risks involved in association with local ASGM	Communications/community relations/security
	Using risk assessment and scenario planning assess the opportunities available through building ASGM relationships and consider mitigation measures for managing risks associated with seeking closer working relations	Community relations/security/operations/risk management/government relations/legal
Deteriorating relationships with host communities as a result of income loss through denial of access to ASGM income-earning opportunities	Consider case for, and logistics involved in, the creation of geologically viable ASGM corridors	Exploration/geology/operations/security/legal/community relations/HSE
	Evaluate potential alternative livelihood programmes or scope for increased local procurement or social investment	Community relations/human resources/procurement
	Avoid conflict through engagement and exploration of potential for mediation	Community relations/legal/security
	Involve government agencies	Government relations
Growth of illicit economy in vicinity of mine	Consider options, where due diligence provides confidence about underlying ESG performance of local ASGM entities, for either purchasing ore or undertaking other options for supporting ASGM market access	Operations/processing/legal/security/community relations/government relations
Collusion and gold theft	Strengthen intelligence gathering, gold room and security measures	Security/operations/human resources/community relations
	Careful vetting and monitoring of recruits and build understanding of dynamics within communities	
	Through engagement and co-operation with ASGM, reduce presence of illicit actors in vicinity of the mine	
	Engage with local law enforcement	
Difficulties in completing closure/decommissioning	As the mine approaches end of life, consider options for co-operative arrangements with local ASGM for trading access to gold-bearing facilities against an agreement not to disturb areas where environmental decommissioning has been undertaken	Operations/closure planning/health, safety and environment/security/community relations

Companies are used to considering the LSM/ASGM interface from the perspective of reducing or mitigating risks. As a result of having developed co-operative relationships with responsible ASGM groups, some companies have been able to realise operational, commercial and developmental opportunities.

Opportunities	Potential initiatives	Relevant corporate functions
Reduced operational disruptions from incursions or conflict	Engage with local responsible ASGM in order to support formalisation and adoption of more benign and efficient processing arrangements	Community relations/security/legal/operations/HSE
	Clearer delineation of 'no go' areas to discourage incursions	Security/community relations
Potential to improve local ASGM social and environmental practices	As part of more co-operative arrangements, review potential for safety, health and environment capacity building initiatives and/or supporting due diligence and market access for responsible ASGM entities	HSE/community relations/human resources/security
Greater potential to support delivery of the Sustainable Development Goals for surrounding communities	Agree developmental priorities with community leaders. If it is possible to design formalisation or co-existence arrangements, then it should create a more consensual environment and improve incomes/development outcomes	Community relations/government relations/security/legal
Where host government aims to promote the formalisation of legitimate ASGM, assess whether/how to support that objective and, thereby, strengthen the mine's license to operate	Engage with government around regulatory framework for formalisation and ensure that it respects existing concession rights	Government relations/legal/community relations/security
	Review geological data and existing ASGM sites (on or adjacent to concession) and the potential opportunities created by cohabitation or formalisation models (e.g. establishment of ASGM 'corridors')	Geology/exploration/operations/community relations/legal
Security cost savings from reduced tension, fewer incursions and improved management of ASGM	Seek more sustainable local relationships including, for example, through enhanced local incomes and shared development focus	Security/finance/community relations/ procurement
Operational opportunities (e.g. exploitation of marginal deposits within concession under sub-contract)	Consider whether it may be a viable option (legally and operationally) to contract ASGM entities to work satellite deposits	Operations/security
Greater transparency around potential social and environmental impacts	Greater openness about social challenges in areas associated with ASGM (e.g. child labour) creates opportunities to address those challenges through social investment or NGO or donor partnerships	Community relations/HSE
Creating a grievance mechanism that commands confidence/respect among ASGM groups	Ensure that company grievance mechanism is compliant with criteria set out in the UN Guiding Principles on Business and Human Rights and is capable of commanding confidence of third parties in resolving complaints	Community relations/legal
Creation of formalised ASGM mining corridors	Consider surrender of concession areas unsuitable for LSM development but with geologically viable deposits	Operations/legal/community relations/HSE
Orderly closure planning	Consider governance arrangements for continued exploitation of waste facilities by ASGM entities in return for co-operation around orderly environmental decommissioning	HSE/community relations/operations
Reduce presence of criminal or illicit actors in vicinity of mine	Divert ASGM from the use of mercury, including potentially through support for the development of independent processing plants	Security
	Support responsible ASGM in supply of due diligence information and in access to mainstream gold markets	Government relations/legal/community relations
	Support responsible ASGM in seeking formalisation	
Support creation of reputable independent gold processing centres so as to improve integrity of local supply chains and reduce mercury pollution	Reduce vulnerability of local ASGM to 'middle-men' or to pressure from criminal/armed groups	Operations/HSE
	Facilitate responsible ASGM access to legitimate gold markets	Legal/Treasury
	Improve water quality and human health through eliminating mercury use	HSE

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