

# Step 4 Research Guide: Artisanal and Small- Scale Mining

Diagnosing Corruption in the Extractive Sector:  
A Tool for Research and Action  
Annex. Step 4 Research Guide

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Natural Resource  
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## What does this area of focus cover?

This area includes the whole extractive industries value chain as it applies to artisanal and small-scale mining (ASM). ASM is defined in this guide as being largely (although not exclusively) informal and associated with low levels of mechanization, capital, safety measures, health care and environmental protection.<sup>1</sup> The sector is complex in socio-economic terms, being both a main source of income and a substitute—often seasonal—for other livelihoods. In numerical terms, artisanal mining is an important provider of employment, engaging around 45

million people globally,<sup>2</sup> in contrast to only around 7 million employed in large-scale mining (LSM).<sup>3</sup> It is an important source of local revenue and economic development, but also of conflicts around alternative land use, unregulated influx of migrants and large-scale smuggling.

ASM may include spontaneous and completely informal and illegal mining activities, but also more sophisticated forms of organization. While licensed artisanal mining operations exist, in some countries up to 60-80 per cent of this type of mining is informal, reinforcing miners' vulnerabilities. Informality also gives rise to a high risk of corruption and collusion.

**Table 1.** Key minerals with ASM as a major source

Mineral/metal	% derived from ASM <sup>4</sup>
Gold	20%
Diamonds	20%
Colored gemstones	80-85%
Industrial minerals	Up to 50% (for developing countries only)
Coltan and tin	20-25%
Cobalt	10-15%

ASM is a relevant source of several key minerals and metals needed for the energy transition, yet increased demand for these minerals risks negative repercussions for the environment and communities in ASM regions.<sup>5</sup>

ASM is a cross-cutting theme among the other value-chain focused guides, which cover the decision to extract; licensing and contracting; operations; revenue collection and revenue management. Given the specific characteristics of ASM, some areas are more susceptible to corruption than others.

- 1 For further reading on ASM and ASM governance, see: Girard V., Molina-Millan T., and Vic, G. "Artisanal Mining in Africa," Lisbon: Novafrica Working Paper Series (2021); Geneva: Intergovernmental Framework (IGF), *Global Trends in Artisanal and Small-Scale Mining (ASM): A Review of Key Numbers and Issues*. Geneva: IGF Working Paper Series (2017); Singo, P. and Seguin, K., *Best Practices: Formalization and Due Diligence in Artisanal and Small-Scale Mining; Impact* (2018); Vlassenroot, K. and van Bockstael, S. eds., *Artisanal Diamond Mining in Africa – Perspectives and Challenges* (2014); Brussels: Egmont Publishing; Huggins, Ch (ed.) (2021) *Property Rights and Governance in Artisanal and Small-Scale Mining*, London: Routledge. For detail on corruption in minerals and mining, see: Blundo, G. and Olivier de Sardan, J-P. *Everyday Corruption and the State: Citizens and Public Officials in Africa*, London: Zed Books (2006); Van Bockstael, S. The persistence of informality: Perspectives on the future of artisanal mining in Liberia, *Futures* (2014); vol 62.
- 2 Delve, *Global Platform for Artisanal and Small-Scale Mining Data*.
- 3 Intergovernmental Framework (IGF), *Global Trends in Artisanal and Small-Scale Mining (ASM): A Review of Key Numbers and Issues*, Working Paper Series (2017).
- 4 Data derived from Intergovernmental Framework (IGF), *Global Trends in Artisanal and Small-Scale Mining* (2017).
- 5 For more on corruption risks associated with transition minerals, see NRGi et al. (2022) *Preventing Corruption in Transition Mineral Supply Chains*. See also OECD: OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas

### These could include:

#### 1) Decisions to extract, licensing, and contracting.

Access to land and distribution of land for different activities—for instance, which regulations or decisions describe the allocation of land for ASM? Which authorities are involved? What are the legal and regulatory procedures for the award of ASM licenses? Are any discretionary decisions involved?

**2) Operations.** A substantial part of ASM takes place informally. It is important to note that informality has been identified as a key driver for bribery, corruption, smuggling and money laundering in this sector. Informality is both a cause for corruption and a consequence, making research around why and when ASM takes place informally of ongoing significance.<sup>6</sup> Where ASM is legal, it brings other challenges, such as health and safety issues. It is also known to frequently have a detrimental impact on the environment, with low levels of compliance with environmental regulations. Are formal operations supervised by state authorities to gather information about production?

**3) Trade.** Governance of ASM-related trade is a major issue, especially for goods of high value or in high demand. There is a close relationship between informal mining and informal trade and smuggling, with the latter often being a logical continuation of the former. Yet, this relationship is not always so straightforward. Large-scale smuggling may occur with metals that have been legally mined or LSM may be blended with (illegal) ASM sources. Corrupt practices can contribute to informal trade and smuggling, further reducing revenue generation for the state. Closely related are questions of money laundering, especially for gold and diamond mining activities. Investigation about the existence of chains of custody can be a useful starting point for research into this area. Mineral goods that are not traceable back to the mines and have no paper trail are more prone to illegal trading than goods with at least some form of traceability. In any case, available documentation should also be verified as fraud and forgery in this area can be rather extensive.

**4) Revenue management.** Artisanal mining can contribute to important incomes and state revenues, both at local and national levels. In this regard, corruption can negatively affect the quantity of revenues generated, as well as the management and distribution of these revenue streams. It is therefore useful for researchers to scrutinize how mined minerals or metals are being valued by evaluation authorities or at customs, with purposeful undervaluation to pay less taxes a frequent problem. In cases where ASM communities ought to receive shares of income or export taxes, investigations into how these revenue streams are being managed and distributed are particularly relevant.

In Box 1 we provide examples of how corruption has arisen in ASM in the past.

These cases make clear that corruption in ASM goes beyond petty corruption. Such corruption in ASM contributes to a number of issues including:

- struggles over land use, access to land and other resources (e.g., water)
- local conflict
- no contribution of mineral wealth to local development or poverty reduction
- persistence or promotion of criminal networks, violence or criminalized and failed states
- criminal activities, such as illicit financing and money laundering
- occurrence and persistence of 'sextortion'. The risk of solicitation of sexual extortion tends to be high, given the stark power disparity that often accompanies ASM, plus the high share of female workforce<sup>7</sup>.
- financing of armed groups
- limited livelihoods for miners, as various unofficial charges consume their profits.

<sup>6</sup> A UN investigative panel has shown that up to 98 percent of DRC's gold mined by ASM is being smuggled to neighbouring countries (UN 2014). Similar numbers exist for West Africa's gold and diamonds (United Nations Industrial Development Organization, 2019), Afghan gemstones, where up to 90 percent leave the country illegally (World Bank 2011), or for jade and rubies from Myanmar.

<sup>7</sup> For more information on this subject, please refer to <https://www.u4.no/publications/gender-sensitivity-in-corruption-reporting-and-whistleblowing.pdf>; or: <https://www.transparency.org/en/blog/sextortion-sexual-offence-or-corruption-offence>.

## → Box 1.

## Examples of corruption risks in the ASM sector

### Concealment of illegal mining by state actors.

A study from Ghana<sup>8</sup> describes how tens of thousands of Chinese small-scale miners were able to access mining sites and extract gold, despite ASM being reserved for Ghanaian nationals. Illegal mining by a large foreign group was only possible thanks to the payment of protection fees to state officials. This scheme was finally addressed, but only after several years and intense media coverage. The case shows that it is not always weak capacities that enable illicit ASM, but sometimes a knowing state that turns a blind eye as officials secure private gains. A similar example comes from Afghanistan's ASM-dominated lapis lazuli mining industry<sup>9</sup>, where a local warlord seized control over a vast deposit and rented it out to illicit miners for significant profit. Officials and politicians in Kabul also took bribes, enabling the business to continue.

**Illegal involvement of state security actors in ASM operations.** The DRC's mining sector, including ASM, is infamous for its links to top politicians and their families. For instance, as documented by The Enough Project, the circle around the President of the DRC achieved direct control over many ASM-based cobalt assets through its Republican Guard and the Secret Service.<sup>10</sup> While direct involvement by security forces is illegal, this scenario also features security services taking a share of the operations and using the proceeds to feed their own nepotistic networks. Similar links between state security and exploitation of ASM sites have been reported in Myanmar's jade trade.<sup>11</sup> Global Witness describes how leading figures in politics and the military have taken control of the majority of jade mining and trade – control which also extends into the lucrative gemstone trade.<sup>12</sup>

Control and ownership remain concealed, and the revenues from these operations flow to offshore accounts of the officials involved.

### Concealed ownership of ASM license-holders, partner companies or trading companies.

It is often not clear who owns, controls and benefits from the companies involved in ASM operations and the trading of artisanally-mined minerals. This opaqueness tends to be even more pronounced than in LSM, potentially obscuring the inappropriate participation of politically exposed persons and other parties. An investigation of Myanmar's jade trade has shown that all jade deposits of medium quality and above (which are mostly sourced via ASM) are directly or indirectly owned by the military or government leadership, with few benefits accruing to local communities or the national budget.<sup>13</sup> This involvement extends through the trading chain and export businesses.

**Harbouring and promoting trans-national organized crime via illicit gold mining and exports.** As a high-value and internationally convertible currency, gold has long been favoured by trans-national organized crime and terrorist organizations. Illegal trade in artisan-mined gold often relies on official complicity and other corrupt activity. According to a study by Farah and Babineau, officials in the Surinamese government allowed criminal groups to collect revenues by establishing a refinery that takes in all artisan-mined gold in the country.<sup>14</sup> The gold is officially certified and exported, providing the criminal groups with legal cash.

8 Crawford, G. and Botchwey, G. (2016), "Conflict, collusion and corruption in small-scale gold mining in Ghana – Chinese miners and the state," International Institute of Social Studies (ISS) Colloquial Paper No 48.

9 New York Times (2016): *Greed, Corruption and Danger: A Tarnished Afghan Gem Trade*, available at [www.nytimes.com/2016/06/06/world/asia/afghanistan-lajwardeen-mining-lapis-lazuli.html](http://www.nytimes.com/2016/06/06/world/asia/afghanistan-lajwardeen-mining-lapis-lazuli.html)

10 See The Enough Project (2018) *Powering Down Corruption: Tackling Human Rights Risks from Congo's Cobalt Mines to Global Supply Chains*. Available at: [enoughproject.org/wp-content/uploads/PoweringDownCorruption\\_Enough\\_Oct2018-web.pdf](http://enoughproject.org/wp-content/uploads/PoweringDownCorruption_Enough_Oct2018-web.pdf)

11 See for instance Global Witness (2015) *Jade: Myanmar's "Big State Secret"*. Available at: [www.globalwitness.org/en/campaigns/oil-gas-and-mining/myanmarjade/](http://www.globalwitness.org/en/campaigns/oil-gas-and-mining/myanmarjade/)

12 Global Witness (2022) *Myanmar's Poisoned Mountains*. Available at [www.globalwitness.org/en/campaigns/natural-resource-governance/myanmars-poisoned-mountains/](http://www.globalwitness.org/en/campaigns/natural-resource-governance/myanmars-poisoned-mountains/)

13 See Global Witness (2021) *Jade and Conflict: Myanmar's Vicious Circle*. Available at: [www.globalwitness.org/en/campaigns/natural-resource-governance/jade-and-conflict-myanmars-vicious-circle/](http://www.globalwitness.org/en/campaigns/natural-resource-governance/jade-and-conflict-myanmars-vicious-circle/)

14 Farah, D. and Babineau, K. (2017) *Suriname: The New Paradigm of a Criminalized State*. Centre for a Secure Free Society: Global Dispatch, Issue 3. Available at: [www.securefreesociety.org/research/march-2017-issue-3/](http://www.securefreesociety.org/research/march-2017-issue-3/)

## How to use this research guide

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The following research questions and guidance will help the independent expert complete Step 4 of the diagnostic assessment. The research findings will provide the basis for drafting the Step 4 report and completing the diagnostic table. The research guide draws on analyses of past corruption cases and relevant reports and guidance.<sup>15</sup>

The independent expert should review it before developing a research plan for Step 4, as the questions below may inform who they decide to interview and other choices around the research approach. They should then use the questions it contains to guide their desk research, interviews, focus groups or surveys (if used).

These questions are not exhaustive, but rather are meant to prompt ideas and provide insight on how corruption arises in countries around the world. The independent expert can skip questions not relevant to their context.

### The guidance has four parts:

#### Preliminary questions

- A. Which forms of corruption are of significant concern?
- B. What causes the different forms of corruption?
- C. What measures could help prevent corruption?

The main guidance document contains further advice about Step 4, including definitions of key terms, potential information sources, and guidance on how to summarize and present findings. The independent expert should read the main guidance document in combination with this research guide.

## Preliminary questions

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Before researching the corruption-focused questions that form the core of Step 4, the independent expert should answer the preliminary questions below. This will help them to:

- Update their understanding of the area of focus prior to conducting interviews
- Clarify the scope of their research (e.g., focus on one metal or mineral)
- Identify relevant sources of information and potential interviewees.

Researching the preliminary questions should be brief, though precisely how much work is needed will depend on the independent expert's existing familiarity with the subject. The expert should revisit the Step 2 research as a key source of information at this point. The preliminary questions should provide background information only and the independent expert does not need to capture the findings in detail in the Step 4 report or diagnostic table.

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<sup>15</sup> See references in footnote 1 of the Step 4 Research Guide on Licensing for more information.

## What are the key attributes that govern ASM?

Before reaching out to stakeholders, the independent expert should gather up-to-date information about key issues in ASM. Given the vast scope of this sector and associated topics, it might be beneficial to look at a specific region or mineral/metal. This will help the expert to ask specific, well-informed questions and can provide a basis for narrowing the assessment scope. Identifying the most important stakeholders in this area of focus will also help the expert to identify potential interviewees for the Step 4 research and participants for the prioritization and action-planning workshops in Steps 5 and 6. If the expert and users already know that they want to focus on one or more aspects of ASM, they can limit the scan to the selected sub-topic.

To approach this question, a number of data sources are of potential help. The Delve database is publicly assessable and growing, and contains information on ASM-related topics, as well as raw datasets.<sup>16</sup> The ASM Hub looks at ASM in Mongolia, but also contains a library with international reports on various topics.<sup>17</sup> For a solid source in Spanish and with a focus on Latin America, see at Plataforma Integral de Minería.<sup>18</sup>

Some Extractive Industries Transparency Initiative (EITI) reports cover ASM data.<sup>19</sup> International aid organizations such as Pact also have solid coverage of the sector (via the ITSCI Initiative),<sup>20</sup> or ARM's CRAFT scheme. Other documentation that offers a general understanding about ASM and its position within a country's mining sector includes regulatory frameworks and reports from national mineral agencies or similar.

However, public data about ASM is still notably scarce and more difficult to obtain than for LSM. This makes it helpful to collect evidence and data from a range of organizations that deal with the topic regularly.<sup>21</sup>

### Attributes to consider could include:

#### Scale and content of the ASM sector

- Is there already ASM of significant scale or value in the country? If not, is there a likely possibility that it could increase?
- What minerals or metals are being mined? Are high-value minerals or metals such as gemstones or gold, which carry a high risk of corruption, being extracted?
- Is ASM known to persist informally despite ongoing governance reforms?

#### Decision to extract; licensing and contracting<sup>22</sup>

- What is the regulatory basis and description for ASM licensing?<sup>23</sup>
- What is the actual process for acquiring a license?
- Who is responsible? Who is involved? Since a number of agencies are usually involved at different levels, it is advisable to draw organigrams that depict individual layers of responsibility involved. For an example, see Figure 1 on the next page.
- If it can be assessed relatively easily,<sup>24</sup> outline capacity levels of key agencies in local areas (e.g., mines inspectorate, mining offices). Is the local economy subject to regulation and interference by traditional or local powerbrokers (e.g., tribal chiefs, regional governors etc.)?

16 A Delve, [Global Platform for Artisanal and Small-Scale Mining Data](#).

17 [asmhub.mn/en/files/index?rtype=reports](#)

18 [www.plataformaintegraldemineria.org/es](#)

19 Countries whose EITI reports cover ASM data include: Burkina Faso, Central African Republic, Colombia, Cote d'Ivoire, the Democratic Republic of Congo, Guyana, Mali, Myanmar, Nigeria, the Philippines, Senegal, Tanzania, Togo and Zambia.

20 Pact, [www.pactworld.org/our-expertise/mining](#).

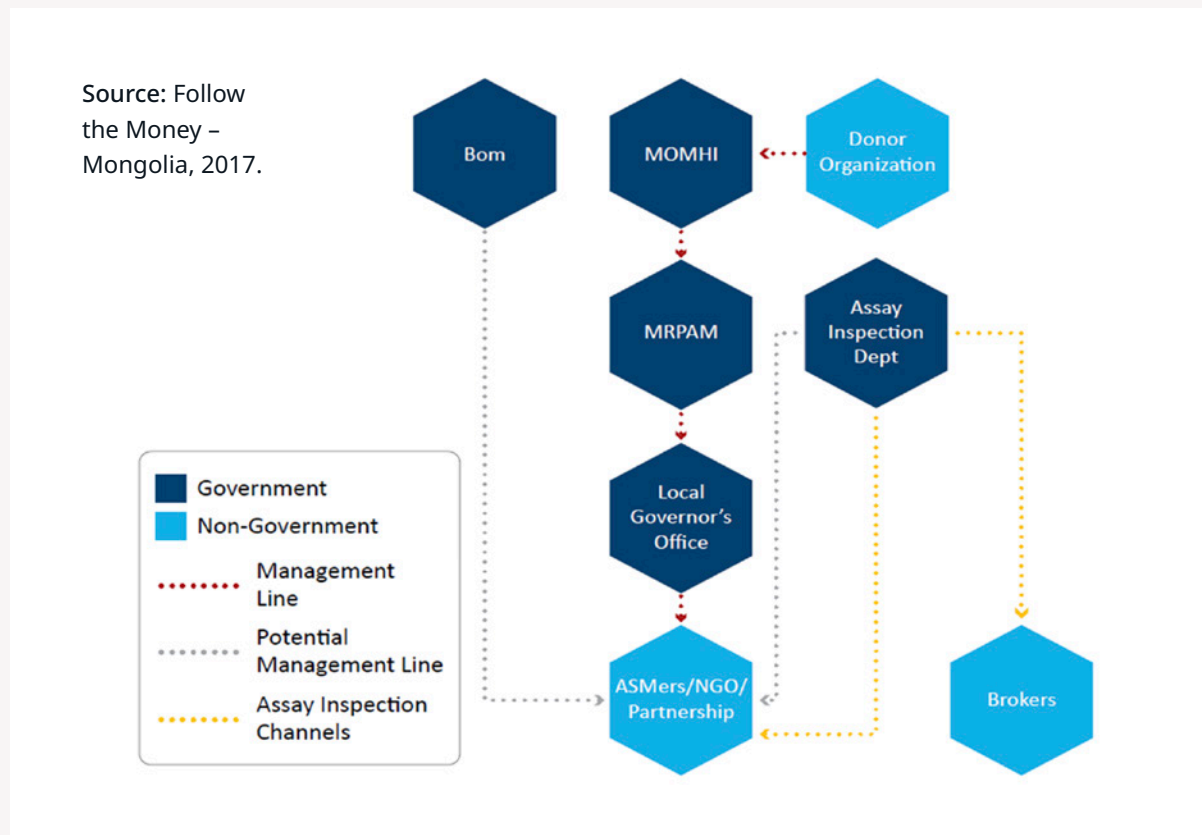
21 Useful organisations for ASM data include: the German Agency for International Cooperation GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), the German Authority for Geosciences and Natural Resources (BGR), the World Bank, UN Development Program, UN Environment Program, USAID and the International Institute for Environment and Development.

22 It should be noted that ASM licensing in many jurisdictions is a sub-national responsibility.

23 For a brief description of regulatory frameworks, see, for example, EITI reports for Afghanistan or Mongolia. It is not necessary for the independent expert to be more explicit or detailed at this stage.

24 Such information might be available through an EITI multi-stakeholder group, depending on its composition.

**Figure 1.** Sample organigram showing regulatory organization by different government agencies for Mongolia's ASM gold sector.



### Operations

- Are ASM operations supervised? Lack of supervision increases the risk of non- or under-reporting of production, giving rise to smuggling and illicit trade.

### Trade

- Are there arrangements in place to trace production (chains of custody)?
- If so, is there data available?
- Which authorities are responsible for supervision?

### Other issues

- Land rights and regulation about access to land. Of specific interest in some countries could be the role of non-stationary land-users, such as herders in Mongolia or countries of the Sahel, in conflicts with miners.

- Degree of formalization. Informal miners often have reason to remain informal, as their goods may always count as being illegal.
- Integration of ASM into the local economy. Is ASM integrated into local taxation and development plans?

This section can be answered concisely and does not require deep-rooted research. Answering the questions should help to describe the key characteristics of ASM in a particular country, although it is not necessary to find answers to all the questions ahead of a research project. Using graphics can help the expert to better explain key actors, and the types and flows of revenues that make up the core of ASM governance.



## Which aspects of the ASM sector should the research consider?

As mentioned, ASM's cross-cutting nature means a focus on a specific sub-topic, or on actual or perceived consequences, might be helpful when reviewing the sector. Dedicated reports are often available about one sub-topic, and many organizations have programs with a focus on one segment, substantially narrowing down the effort to locate useful background information and data.

The decision to select a specific subtopic could be informed by identifying where opportunities for corruption are greatest along the value chain or which areas would react most positively to reform. The researcher can base their choices on research about reported or proven informality, as this has an influence on corruption in any step of the value chain. Many researchers mention "persistent informality" as one of the key dimensions of ASM.<sup>25</sup> This can be caused by either inefficient or low-capacity regulatory oversight, but it can also thrive under relatively effective state governance, since it is a source of "protection in return for bribery" for corrupt officials.<sup>26</sup> A study argued that states or local authorities that perpetuate governance of informal ASM turn state

functions into "generalized informal functioning of the state facilitating corrupt practices and private accumulation by public officials."<sup>27</sup>

When looking at licensing, a comparison between regulations and actual practice is useful. Scrutiny of operations is also important, as the way that mining is conducted and supervised may indicate governance problems further downstream, such as smuggling or other forms of illicit trade. Researchers should also find out how revenues are assessed, and which government institutions are collecting them, bearing in mind the system of miners, collectors, traders and exporters that make up the domestic ASM trading chain.

Given the present importance of the energy transition, a useful focus could be on ASM as a source of various minerals and metals required to promote green energy projects around the world. For example, a focus on ASM and the energy transition could explore how illicit supply chains impact choices by international buyers such as magnet or battery producers. Or it could examine how an increase in prices and competition for these resources impacts producer countries—for example, through increased competition for land, exacerbated by corrupt land-grabbing for these minerals and collusion by politically exposed persons seeking access to profitable mine-sites.

### → Box 2.

## Key stakeholders involved in ASM

### Key stakeholders in ASM include:

- Relevant government policy, regulation and enforcement entities at national, regional and local levels
- International standard setting organizations, such as the OECD
- ASM cooperatives, communities and associations
- Civil society organizations such as the Alliance for Responsible Mining (ARM), Artisanal Gold Council, IMPACT and others
- Traders and trade associations
- Exporters, such as industry representatives, at a national level
- Global organizations for specific minerals or metals (e.g., World Diamond Council, Responsible Jewellery Council)
- The manufacturing industry and consumer industry associations (e.g., Global Battery Alliance)

25 See, for instance, Van Bockstael, S. (2014) The persistence of informality: Perspectives on the future of artisanal mining in Liberia, *Futures*: Vol 62.

26 See, for instance, Crawford, G. and Botchwey, G. (2016) "Conflict, collusion and corruption in small-scale gold mining in Ghana – Chinese miners and the state," *International Institute of Social Studies (ISS) Colloquial Paper No 48*.

27 Blundo, G. and Olivier de Sardan (2006) J-P. *Everyday Corruption and the State: Citizens and Public Officials in Africa*, London: Zed Books, p.5.

## A. Which forms of corruption are of significant concern?

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The independent expert should identify the forms of corruption of significant concern in their area of focus, by reviewing which forms of corruption have occurred in the past or could occur in the future.

In Step 5, the independent expert and user will use the tool's Diagnostic Table to prioritize the forms of corruption. Therefore, during Step 4, the independent expert should gather information on which forms of corruption are of greatest concern. The aim should be to focus on the forms likely to occur and which could cause significant harm.

Evidence for answering this question will include:

- Past corruption cases. If a form of corruption has arisen in the past, it might arise again—unless reforms now make it less likely.
- Interviewee perceptions of areas where corruption is happening or could occur in future.
- Evidence on where corruption has occurred in the past from existing reports and investigations (e.g., from the media, non-governmental organizations, parliament, development organization reports or ASM project reports).
- The presence of red flags linked to those forms of corruption. These are the warning signs and observable symptoms of corruption. See Box 3.

Below we describe several forms of corruption related to ASM along the extractive industries value chain, and a list of associated red flags. The independent expert should assess whether these forms of corruption are a problem in the area they are looking at. This is not an exhaustive list, but rather presents forms of corruption frequently detected in ASM around the world. The research should also seek to identify any other forms of corruption related to ASM that are of serious concern. In answering this question, the independent expert should be as specific as possible, including by identifying minerals or metals, or regions involved.

We recommend identifying no more than 10 leading forms of corruption (in most assessments, the independent expert will likely identify fewer than that).

## Common forms of corruption in ASM

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### Extortion and bribery of unlicensed ASM miners

Extortion and bribery are among the most common types of corruption associated with ASM worldwide. It can involve officials at all levels, including traditional powerbrokers or chiefs at local level. Police and other state security forces are also frequently involved. In many countries, informal operations frequently take place with officials backing them in return for “protection” fees or shares of the production.<sup>28</sup> This means that officials or politicians may promote informal ASM and receive payments or shares in the mining operation in return.

Scenarios in which this form of corruption could arise include:

- Unlicensed ASM miners bribe local officials or powerbrokers so they can continue a mining operation.
- Unlicensed ASM miners bribe local or higher-level officials (depending on institutional circumstances) to acquire a license, bypassing otherwise lengthy and cumbersome official processes.
- Officials take bribes to ease or speed up application processes. Conversely, lengthy and cumbersome procedures could be allowed to persist if they enable officials to gain directly from “helping” ASM miners with preferential treatment.
- Officials at all levels take fees from illegal ASM operations—either a one-time fee or a share of production—and allow illegal operations to continue in return.

Where officials and politicians benefit financially from illegal mining operations, they are often unwilling to change or reform the status quo, and may even oppose governance reform outright, impeding formalization efforts.

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<sup>28</sup> See, for instance, United Nations Industrial Development Organization (2018).

### **Favoritism and nepotism in licensing decisions or assigning land to ASM operations**

Favoritism and nepotism are closely associated forms of corruption. When favoritism plays a role in the assignment of land for mining purposes, this could put other potential land users such as farmers or dwellers at a disadvantage. When official systems for land use are bypassed due to bribes, mining license-holders may gain, but the consequences could be detrimental to general development and the environment.

Opaque decision-making in licensing is common in ASM. In most jurisdictions, the licensing process is regulated by local government, which tends to be subject to less scrutiny and independent supervision than national governments. It is also much more difficult for complaints by other land users to reach the justice system in remote areas of the country, and many mining codes or regulations leave substantive discretionary power to local authorities. Official licensing requirements for ASM miners can also be unreasonably complex in both a technical and a financial sense, making it easier to pay bribes than to follow the formal procedures.

#### **Corrupt officials can exercise favoritism or nepotism in several different ways, including:**

- bypassing the official cadastre to ensure miners access to land, in return for bribes
- ignoring alternative rightful land-use demands
- concealing illegal land use by miners
- pressuring other land users to make way for ASM operations
- intervening in the license award process to ensure members of their personal network or family acquire the license.

### **Concealing environmental damage and avoiding rehabilitation claims**

Issues around environmental damage are closely associated with informality, while extending beyond it. Informal mining operations have little incentive to help with land restoration after the mining work has been completed.

This is especially true for so-called “rush-mining,” a phenomenon where mining experiences a sudden influx of many workers who mine prospective land without any consideration for vegetation, soil, or water resources.

Even where ASM is legal, environmental degradation often remains unaddressed. A recent study shows a direct correlation between a rise in gold prices and deforestation in Sub-Saharan Africa.<sup>29</sup> This reflects the often remote and scattered way the sector operates, paired with little state supervisory power. While there has been a move towards better addressing licensing issues in ASM over the last two decades, this progress has been less evident when environmental recovery is at stake. While this is likely linked to the low capacity of local authorities, there is also difficulty in finding appropriate financing vehicles to ensure reclamation work is conducted, such as the rehabilitation funds that LSM is often obliged to pay into during the operational phase.

#### **Corruption associated with environmental rehabilitation could occur in one or more of the following ways:**

- Officials conceal the true state of environmental damage or choose not to enforce rehabilitation rules or other mechanisms—in exchange for bribes, to protect their own financial interests or to protect the interests of a political powerful entity. This is closely associated with “protection fees” as described above.
- Officials or local authorities could pressure environmental or other interest groups not to file complaints over environmental rehabilitation, to protect certain ASM miners with whom they share connections.
- Informal small-scale mining may take place in protected areas. In areas such as the Amazon, highly mechanized but informal small-scale miners seek gold on a vast scale, with suspected connections to trans-national crime.<sup>30</sup> Cases like these are difficult to investigate, but the question of who is ignoring such practices and who gains should be tackled by well-equipped teams of investigators.

29 Girard V., Molina-Millan T., and Vic, G. (2021) “Artisanal Mining in Africa,” Lisbon: Novafrica Working Paper Series

30 Interview with Pact, March 2022

### **Traditional powerbrokers abuse their position as intermediaries**

Local powerbrokers, such as chiefs or local governors, often become involved as mediators in conflicts between illegal ASM and other land users. They may grant ASM operations permission to proceed and “protection” in return for bribes or against shares of the miners’ outputs. As long as traditional authorities are the owners of the land or have a major say in its use, anyone seeking to mine needs the authorities’ consent and official permission. In this way, traditional authorities or powerbrokers can allow any party access to land for mining, in return for bribes, even if there are already other land users. Miners often are better equipped with capital than other land users or may offer the local authorities shares of the production at a later stage when granted a license. This may also happen when ASM is not permitted in a particular area.

### **Official complicity in smuggling and sales of minerals or metals**

Illicit trade in mined products occurs frequently in ASM, with illegally mined products reinforcing the tendency to smuggle. As it occurs during the mining phase itself, officials or politicians are frequently involved in either permitting smuggling, the selling and buying of smuggled products, or actively promoting smuggling. In this case, officials might seek to prevent an increase in formal trade in order to skim the proceeds of trade that takes place in return for bribery. The researcher should closely examine institutional capacity at national and local levels to assess state capacity to enforce rules. However, despite solid state capacity, the incentive to permit informal trading might persist, for the reasons given above.

There is also an international dimension to smuggling, as with money laundering. Every product smuggled will at some stage end up as a legal product in the global value chain. That means that even smuggled products need a buyer willing to purchase them regardless of their lack of coherent documentation. Buyers at border regions in particular tend to be aware of whether they are buying smuggled or legally traded goods. For some metals and minerals, there have been efforts in recent years to clean up the supply chains and exclude illicit goods – for example, “conflict minerals”

in U.S. and European Union markets. The Kimberley Process has also managed to reduce, to a degree, the presence of informally traded diamonds in global markets.

The different forms of corrupt behavior around illicit trade and smuggling mirror the actions and incentives described in the previous section:

- Miners, traders or exporters bribe officials so they can trade goods that have been mined informally and are not accounted for. This means they bypass chains of custody (where these exist), or the minerals and metals are simply passed down the trading chain until the point of export, where they are smuggled out without export tax being paid. The mined products could be fed into official channels at any stage—for instance, at the level of intermediary dealers or at the point of export. This depends on the motivations of the actors involved. Miners might be tempted to avoid declaring any products to authorities when they have no license or simply want to avoid paperwork. Traders and exporters might want to do the same, either because they bought from unlicensed miners or want to avoid or save on taxation. However, depending on the chain-of-custody requirements, feeding products back into the trading chain without corresponding papers could make it necessary to bribe officials.
- Depending on its scale, smuggling can be organized or maintained by private individuals or enterprises, but officials in various public agencies may conceal it in return for bribes or other benefits. This can involve officials in mining ministries and agencies, the police and custom officials, but can also go beyond to reach higher levels of state.
- Officials or politicians can themselves partly organize the smuggling—for instance, by instructing customs officials not to control checkpoints at certain times.
- Apart from full-scale smuggling, production is frequently underreported or undervalued by exporters. This often, but not always, takes place in collaboration with customs officials. In such cases, exporters pay for a lower ratio of mineral to ore than is warranted. This mechanism is more prevalent when ore such as cassiterite is exported, rather than for gold, which in most cases leaves the country as a pre-refined product (doré bars).

### Officials or politicians' involvement in ASM trading

ASM and trading can be an attractive business, meaning officials or politicians may be involved in legal forms of this industry. They might run mines or logistics companies themselves, own shares, support miners or traders financially, or have close family members or acquaintances involved in the business.

While such connections with ASM can be perfectly legal, they nevertheless raise questions of conflicts of interest, especially when the officials represent bodies charged with supervision or other regulatory functions. This behavior can be technically legal but still corrupt if it involves the abuse of power for private gain. These connections may also stray into illicit behavior, for example in the following scenarios:

- A fully licensed trade and logistics company owned or supported by an official or politician might decide to buy and sell illicitly mined minerals or metals.
- A formalized ASM operation owned or supported by an official might buy additional material from illegal ASM operations, or while operating legally in one claim, it might seek to extend illegally to additional claims.
- In general, ASM operators, traders and exporters collaborate as a tightly knit network, often supported by a web of pre-financing of operations. Parties are expected to act reliably and support each other in business. The direct involvement of officials or politicians in ASM operations or trading is likely to conflict with official regulations sooner or later, especially where ASM is weakly governed, and the prevalence of illicit operations and trade is high.

### Tax evasion and misappropriation of revenue

While the total amount of taxation taken from ASM is considerably smaller than for LSM, it still affords opportunities that make corrupt behavior attractive for public officials or politicians. For example:

- Local authorities who administer the funds can assign funding for specific projects or sectors in return for bribes.
- Local authorities may misappropriate shares of the funds for their own personal gain.

- Local authorities may collude with miners or traders to reduce the taxable burden.

### Promotion of money laundering or illicit financial flows

ASM in the gold sector poses a particular risk for money laundering and illicit financial flows. As an internationally accepted currency, gold is an attractive vehicle for laundering money. It has a high weight-to-value ratio and is easy to hide and transport. These advantages are compounded by global gold markets that still leave many holes for gold traders willing to buy and sell gold with unclear origins.<sup>31</sup> For instance, a large refinery in Dubai is suspected of having helped launder billions of U.S. dollars through insufficient due diligence of its buyers.<sup>32</sup> In Eastern DRC and Uganda, a network of traders and refineries have contributed to the ongoing trade of illicit gold to global markets.<sup>33</sup>

The major mechanisms for money laundering activities in ASM are illicit businesses or organized crime groups investing in an ASM operation or buying ASM-mined gold which is then converted into legal currency. However, the issue of relevance for this research guide is the possible involvement of state organs in money laundering schemes. There is at least one large-scale case where the state has supplied relevant infrastructure for laundering profits from ASM gold (see the Suriname case in Box 1).

More frequently, officials are bribed to turn a blind eye to laundering schemes within the country's illicit ASM gold sector. Although little field research or investigation has been conducted in this area, and even fewer cases have been proven, corruption involving illicit financial flows or money laundering seem to be able to take the following forms:

- Officials, especially border control and customs, are complicit when organized groups export gold that has no relevant documents of origin, as would normally be required.
- The state may itself be an enabler of money laundering schemes, by facilitating mining or buying and trading gold to/from criminal actors that are using suspected or known proceeds from illicit financial activities.

31 Within OECD countries, significant effort has been made in recent years to limit the possibilities of money laundering. For instance, banks must acquire solid background data for anyone involved in bank-based transactions ("Know Your Customer" or KYC requirements), cash transactions have specific ceilings, and the origin of funds must be declared. Gold traded within London Bullion Market Association markets normally has clear titles of origin and other relevant documentation. However, some major gold markets, such as Dubai and India, are less restrictive, allowing traders to sell and buy gold without detailed background checks.

32 See Farah, D. and Babineau, K. (2017) Suriname: The New Paradigm of a Criminalized State. Centre for a Secure Free Society: Global Dispatch, Issue 3. Available at: [www.securefreesociety.org/research/march-2017-issue-3/](http://www.securefreesociety.org/research/march-2017-issue-3/)

33 [home.treasury.gov/news/press-releases/jy0664](http://home.treasury.gov/news/press-releases/jy0664)

→ **Box 3.**

## Red flags for corruption in the ASM sector

Certain red-flag warning signs often accompany the forms of corruption described above. The independent expert should look out for these red flags during the research process.

### Decision to extract; licensing and contracting

- Various sources confirm that informal mining is continuing in some areas despite government presence.
- “Rush” ASM has been noted in some regions of the country. This form of mining often occurs after disasters or economic downturn in some industries (especially agriculture), or may be the result of a sudden rise in prices for specific minerals or metals. It is often quietly supported by protecting officials or politicians, but there may also be a genuine lack of state capacity to formalize a sudden and large occurrence of ASM activities.
- Official regulation for acquiring an ASM license is not being reformed, despite clear evidence of its inadequacy and efforts by various stakeholder groups, including donor organizations, to promote change.
- Persisting conflicts, sometimes involving violence, over access to land.
- Widespread reports of degraded land that was formerly mined by ASM.

### Operations

- The presence of foreign miners in a country, ignored by government officials even though ASM is usually reserved for nationals.

### Trading

- Well-documented discrepancies between aggregated official import statistics for a specific mineral or metal from one country, and that country’s export statistics.
- A supply chain cannot be traced back to the mine and there is no proof of chain of custody.
- Neighboring countries or several countries within one region have differing export tax rates for minerals and metals<sup>34</sup>.
- A country’s official export statistics for a certain mineral or metal are above its official reserves or production (e.g., gold export from Rwanda) or they show exports of minerals or metals that it does not possess at all (e.g., diamond exports from Gambia).

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<sup>34</sup> A lower export tax rate is an incentive for traders to smuggle the goods to this destination for export to save on payable taxes.

## B. What causes the different forms of corruption?

For the forms of corruption identified as a leading concern in Question A, the independent expert should try to uncover why the corruption has occurred in the past or why it might occur in the future. The following questions could help guide this research. They address risk factors for corruption and its underlying causes—and it is essential that the research covers both of these subjects.

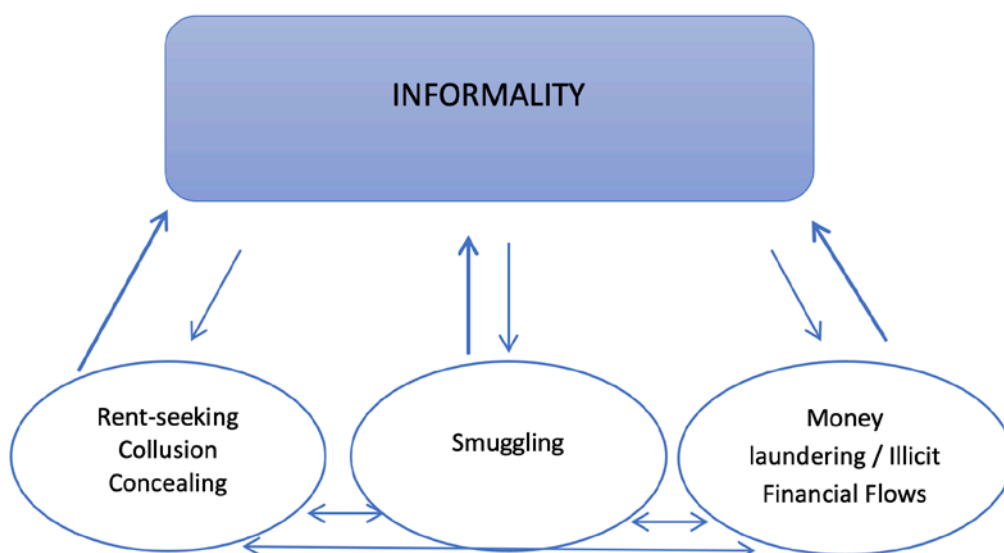
### Which risk factors make corruption more likely to occur?

Certain policies, practices and other risk factors can make systems more vulnerable to corruption. For instance, if the institutions tasked with processing license applications are understaffed

and underfunded, their employees may be more susceptible to accepting bribes or requesting facilitation payments.<sup>35</sup> In this example, the low levels of human and financial capacity are risk factors. While capacity gaps do not show that corruption has occurred, they indicate that institutions could be vulnerable to corruption. Identifying specific risk factors is important because they can provide a starting point for targeted action-planning in Step 6 of the diagnostic assessment. For ASM, risk factors might include:

#### Degree of formalization

The prevalence of informal mining is at the core of many of the corrupt practices outlined above. Informality makes extortion through various bribes (“protection fees”) worthwhile for both officials and miners, which in turn promotes the persistence of informality. The diagram below underlines this correlation:



<sup>35</sup> A facilitation payment is a small bribe solicited to facilitate or expedite the performance of a routine transaction or service which the entity making the payment is legally entitled to receive.

Besides an inherent incentive for a number of actors to ensure informality persists, it is also caused or aggravated by the following factors:<sup>36</sup>

### Decision to extract; licensing and contracting

- Unspecified or unclear license application process, including:
  - Authorities responsible for licensing are difficult for miners to access (e.g., in a country's capital only)
  - Complex or lengthy license clearing procedures
  - Excessively expensive license fees
  - Low capacities of government authorities charged with licensing or supervision.
- Insufficient security of tenure.
- Unclear property rights or access to land, or unclear terms of the ASM license.
- Multiple authorities involved in clearing land title or use at local cadaster offices, mining authorities, forestry officials, and agriculture or land extension services.
- Politicians at national or local level directly or indirectly involved in ASM. This could be through politicians holding an ASM license, even though the operation is managed by another entity, or through politicians and powerbrokers acting as financiers. This often leads to a situation of dependency between miners and financiers, forcing the former to sell at below-market prices to the financiers.

### Operations

- The type of minerals being mined, with low-weight, high-value products being especially prone to smuggling or tax evasion.
- Extraction zones close to borders and porous border management, or located in conflict affected areas.

### Trading

- Complex and lengthy export permit procedures, frequently involving more than one authority to clear and sign.
- Insufficient supervision capacities of relevant authorities, especially at local levels.
- Unequal rates of export tax for one specific mineral or metal between neighboring countries or countries in one region.

### Revenue management at local levels

- Unclear responsibilities for tax collection.

### What are the underlying causes and motives of the most significant forms of corruption?

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It is important for the Step 4 research to include ideas about the underlying causes of corruption, which often relate to a country's political system. This type of research can be difficult, as there is often no hard evidence for the motives behind corruption or on who benefits from it. It can also be quite sensitive. However, stakeholders usually have ideas about the drivers of corruption and its place in their country's politics and economy.

The independent expert can collect ideas on underlying causes through thoughtful interviewing, assurances of anonymity, triangulating answers across stakeholders and reaching out to experts who study the country's political economy. Any insights gained on the causes of corruption will be useful in the action planning in Step 6. This should reflect the country's political realities and the selected actions could address underlying causes of corruption, as well as its specific forms or risk factors.

<sup>36</sup> For a more in-depth discussion on ASM and formality and informality, see Crawford, G. and Botchwey, G. (2016) "Conflict, collusion and corruption in small-scale gold mining in Ghana – Chinese miners and the state," International Institute of Social Studies (ISS) Colloquial Paper No 48; Singo, P. and Seguin, K. (2018) *Best Practices: Formalization and Due Diligence in Artisanal and Small-Scale Mining*; Van Bockstael, S., (2014) *The persistence of informality: Perspectives on the future of artisanal mining in Liberia*.



### Key questions include:

- What is the relationship between the country's political elite and the key actors of the ASM sector (miners, traders, exporters)?

There are different ways in which this relationship could promote corruption in its diverse forms, as outlined throughout this module:

- A close, positive relationship, such as within kin group, could lead officials or politicians to become officially or unofficially involved in the ASM mining or export business in various ways. Or such a relationship could lead to their favoring or turning a blind eye to illegal mining practices.
- Alternatively, this relationship can be based on highly unequal terms, making miners particularly vulnerable to random extortion and minimizing their livelihoods.
- The social fabric between groups of actors across countries in one region might also be relevant. For instance, a certain ethnic group might prefer to trade and smuggle with its kin group across the border rather than with another group based in their country's capital, with whom the trader does not share social ties.
- Who wins and who loses from the corruption or governance weaknesses in the ASM sector? Or who would win or lose if corruption took place in the future?
- Who is involved, both formally and informally, in the different forms of corruption in the ASM sector? Who influences events in these areas?
- Who would benefit if corruption in the ASM sector took place? Who would lose out? Benefits can be financial, professional or political.
- Are there any outside or foreign actors involved in the ASM sector? For instance, the presence of foreign miners is always reason for suspicion, as ASM is mostly reserved for nationals. Also, do foreign networks support smuggling or other illicit actions?
- Are anticorruption actors strong enough to detect, punish and deter corruption in the ASM sector?
- How prominent is ASM in the country? Does it play a disproportionate role in its economy and politics?

- Do wider economic events make corrupt behavior in ASM more or less likely? The events could include local elections, domestic or international conflicts, economic booms or downturns, or shifting demand for specific natural resources.
- Has corruption become normalized? Is corruption in ASM allowed to persist because stakeholders feel that "this is just how the system works?" Is that a common excuse?

### C. What measures could help prevent corruption?

The independent expert should gather ideas about what measures might help to address the identified forms of corruption. These ideas will help to inform the action planning in Step 6.

### Who might support anticorruption and why?

- What current incentives work in favor of anticorruption reform in the ASM sector? These could include anticorruption efforts by a country's EITI multi-stakeholder group; a governance project targeting the ASM sector by an international financial institution or donor agency; increased global linkages with national ASM supply chains and associated implementation of standards and chains-of-custody efforts, or increasing work by an international mineral or metal association (such as the London Bullion Market Association or the World Gold Council) to promote formalization and transparent supply chains.
- Which actors would support anticorruption reform in this area? Does existing corruption lead to undesirable cost for any actor? Would any actor benefit politically by supporting reform? Relevant actors could include politicians and political parties, government officials, local powerbrokers, landowners, ASM cooperatives and other ASM associations, civil society groups, ASM communities, traders and exporters, the international donor community, international industry associations, fair trade associations and similar groups.

- Of the forms of corruption identified, where is reform most feasible?
- When corruption was identified in the past, how did anticorruption actors or processes perform? What can we learn from this record about strengths and weaknesses in anticorruption responses?

### What are specific ideas for anticorruption actions?

To solicit ideas from interviewees, the independent expert could ask:

- If you could change one thing in how the ASM sector works, what would make the most difference in preventing corruption?
- What policies and practices could work well in reducing corruption, and could be further strengthened? If familiar to the researcher or interviewees, other comparable countries or cases may also offer ideas for successful tactics.
- Would fixing any of the **risk factors identified under Question B** help prevent corruption effectively? This could include actions to:
  - promote formalization
  - strengthen capacities of governments and public authorities charged with overseeing access to land, licensing and permitting, mining operations, environmental rehabilitation, and export and trade. Actions in this field would include accessible digital cadaster systems to increase transparency in licensing and reduce conflict over land tenure.
  - streamline regulatory processes for ASM licensing.
  - strengthen oversight mechanisms and transparency of licensing, operations and trade regimes.
  - streamline and simplify export procedures.
  - promote third-party oversight and accountability mechanisms over local authorities charged with management and distribution of revenue derived from ASM.

- Would stakeholders recommend any of these specific anticorruption actions, which are considered good practice or have proven successful in the past?

#### Improve and foster formalization through close cooperation between ASM and the government

The informality of ASM is one of the key factors linking it to corruption. Promoting formalization schemes can therefore help prevent entrenched corruption in the ASM sector.

In some cases, government supervision and close cooperation between ASM cooperatives<sup>37</sup> and government officials—especially inspectors and geological surveyors—has been fruitful for both parties. Miners gain access to important knowledge, and the government gains an increase in taxation. In the diamond mining region around Séguéla in Cote d’Ivoire, for instance, the Ivorian mining authority has established a scheme under which geological survey officials present on the ground liaise closely with registered ASM cooperatives. The miners receive technical and logistical support from the government, which in turn is aware of all sales transactions made by the miners.

Similarly, the Democratic Republic of Congo (DRC) has also taken steps to promote formal ASM in specific zones, establishing Artisanal Extraction Zones (*Zones d’exploitation artisanales, ZEAs*) throughout the country. ASM takes place only through official cooperatives, which are obliged to implement certain health and safety standards. ASM activities are supported through improved state services, such as the ASM Assistance Service, the Mining Police, the Mining Cadastre and an evaluation office. However, a 2018 study highlighted that for such an approach to work, government agencies must be adequately funded.<sup>38</sup> The private sector can also support ASM’s access to legal channels, for instance with investments in health and safety equipment, overburden removal and providing access to legal markets<sup>39</sup>.

37 For a more in-depth discussion on ASM and formality and informality, see Crawford, G. and Botchwey, G. (2016) “Conflict, collusion and corruption in small-scale gold mining in Ghana – Chinese miners and the state,” International Institute of Social Studies (ISS) Colloquial Paper No 48; Singo, P. and Seguin, K. (2018) Best Practices: Formalization and Due Diligence in Artisanal and Small-Scale Mining; Van Bockstael, S., (2014) The persistence of informality: Perspectives on the future of artisanal mining in Liberia.

38 Singo, P. and Seguin, K., (2018) *Best Practices: Formalization and Due Diligence in Artisanal and Small-Scale Mining*; Impact.

39 [www.csr.uq.edu.au/publications/a-large-scale-perspective-on-small-scale-mining](http://www.csr.uq.edu.au/publications/a-large-scale-perspective-on-small-scale-mining).

### Establish fair trade standards and chains of custody

A variety of standards exist for different minerals and metals, such as Fairmined.<sup>40</sup> To achieve certification, a product, process or service must meet specific mining practices, such as formalization and fair pricing. Most standards work with third-party auditing to ensure their independence and run traceability schemes to prove that the metal mined under the standard comes from a particular mine, where implementation of the practices is confirmed. A common disadvantage of these schemes is that they work under “closed pipe” principles, meaning only a certain number of audited mines can participate due to limited audit capacity. The associated evaluation and training are also costly, and it is not always clear who is carrying these costs.

#### Example 1: Mojo Gems

Mojo Gems is a firm specializing in the production and trade of gemstones mined fairly. Under this project in Tanzania, all transactions are documented, and miners must be licensed if they are to participate. The sales and taxation processes are documented at the export stage. Mojo pays miners a fair price for the gems, and pays export tax and other applicable fees to the government. Through this mechanism, the miners’ incomes do not appear in public, and the government is supportive as it receives tax payments.

#### Example 2: Government gold-buying programs in Ethiopia and Mongolia

Mongolia’s Central Bank has the sole right to purchase gold in the country, and has increased its purchases of gold mined through ASM from 3.2 tons in 2014 to more than 12 tons in 2018.<sup>41</sup> A similar process is taking place in Ethiopia. In both cases, the central bank pays market prices to the miners. While these programs are unlikely to have fully rooted out smuggling, the amount of gold that the banks were able to purchase from ASM has risen steadily and considerably over the years. This supports the thesis that established buying institutions paired with fair and transparent prices can reduce illicit trading.

### Simple and cost-efficient regulatory requirements, including export taxes

The complexity of official processes, and the time and money required, often make it worthwhile for miners to bypass them, especially since they receive little in return. ASM processes should be simple, quick and cheap, and local mining authorities should have decision-making powers in licensing and supervision, rather than remote capitals. The principles of simplicity and cost-effectiveness should also extend to trading and export. One-stop shops to facilitate export, including valuation for gems or assay for gold, would be attractive for miners, exporters and buyers, and have the added benefit of allowing the government easy supervision.

### Improve local development and strengthen ASM communities

Controlling a vast, scattered and dynamic ASM sector is extremely difficult even for reasonably equipped governments. A key to fostering formalization may be to make ASM itself an important stakeholder. For this to work, ASM communities must feel direct benefits from working within formal systems. Revenue shares from legal ASM must flow back to the regions and communities involved. When this happens, ASM itself may support formalization, countering illegal mining and reinforcing tendencies for legal behavior.

### Strengthen oversight mechanisms, CSO involvement, whistleblowing channels and media knowledge

Many corruption risks in ASM occur because it takes place in remote locations, where neither governments nor watchdogs have a strong presence. Given this, funds to strengthen oversight mechanisms are useful investments. Without such organized monitoring, there is a high chance that most corruption will remain unidentified. Often, a coalition of knowledgeable CSOs, expert journalists, investigators and multi-stakeholder bodies such as an EITI working group can, over time, shed light on areas long hidden under a system of secrecy.

<sup>40</sup> Certification is the procedure by which an independent or third party provides assurance that a product, process or service complies with a given set of production standards. A certification label, mark, or accompanying certificate controlled by the standard-setting body is usually applied to the product or packaging to show consumers that compliance with the specific standards has been verified. Together, the system of rules, procedures, standards and management for carrying out certification is referred to as a certification system, scheme or initiative. Standards outline the technical specifications and precise criteria that must be followed to achieve certification, and define guidelines for doing so. Fair trade is the overarching movement concerned with promoting greater equity in international trading partnerships between the global North and South. It aims to contribute to sustainable development by offering better trading conditions and securing workers’ rights for marginalised producers. Source: Geneva: Intergovernmental Framework (IGF), *Global Trends in Artisanal and Small-Scale Mining* (2017).

<sup>41</sup> ASM Knowledge Hub

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## About NRGi

The Natural Resource Governance Institute is an independent, non-profit organization that supports informed, inclusive decision-making about natural resources and the energy transition. We partner with reformers in government and civil society to design and implement just policies based on evidence and the priorities of citizens in resource-rich developing countries. Learn more at [www.resourcegovernance.org](http://www.resourcegovernance.org)

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