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Curbing Illicit Mercury and Gold Flows in West Africa: Options for a Regional Approach

INCLUSIVE AND SUSTAINABLE INDUSTRIAL DEVELOPMENT

Curbing Illicit Mercury and Gold Flows in West Africa: Options for a Regional Approach

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Acronyms and abbreviations

AfDB	African Development Bank
ANEEMAS	l'Agence Nationale d'Encadrement des Exploitations Minières Artisanales et Semi-mécanisées
ANGE	Agence Nationale de Gestion de l'Environnement
ASGM	artisanal and small-scale gold mining (EMAPE – French translation)
ASM	artisanal and small-scale mining
BCRG	Banque Centrale de la République de Guinée
BNE	Bureau National d'Expertise
CFA	West African franc
CNGPC	National Commission for Chemicals Management – Senegal
DGCC	Direction Nationale du Commerce et de la Concurrence
DGM	Direction Générale des Mines
DGPE	General Directorate for the Preservation of Environment
DNACPN	Direction Nationale de l'Assainissement du Contrôle des Pollutions et Nuisances
DNGM	Direction Nationale de la Géologie et des Mines
ECOWAS	Economic Community of West African States
EIA	environmental impact assessment
EMAPE	Extraction Minière Artisanale et à Petite Échelle de l'or (ASGM – English translation)
EPA	Environmental Protection Agency
FMMSD	Federal Ministry of Mines and Steel Development
FMoE	Federal Ministry of Environment
GNF	Guinean franc
GRA	Ghana Revenue Authority
HS code	Harmonized Commodity Description and Coding System
MCVDD	Ministère du Cadre de Vie et du Développement Durable
MEADD	Le Ministère de l'Environnement, de l'Assainissement et du Développement Durable
MECCNR	Ministry of Environment, Climate Change and Natural Resources
MEDD	Ministère de l'Environnement et du Développement Durable
MEEF	Ministère de l'Environnement, des Eaux et Forêts
MEEM	Ministère de l'Énergie, de l'Eau et Mines
MEEVCC	Ministère de l'Environnement, de l'Économie Verte et du Changement Climatique
MERF	Ministère de l'Environnement et des Ressources Forestières
MESTI	Ministry of Environment, Science, Technology and Innovation
MIA	Minamata Initial Assessment

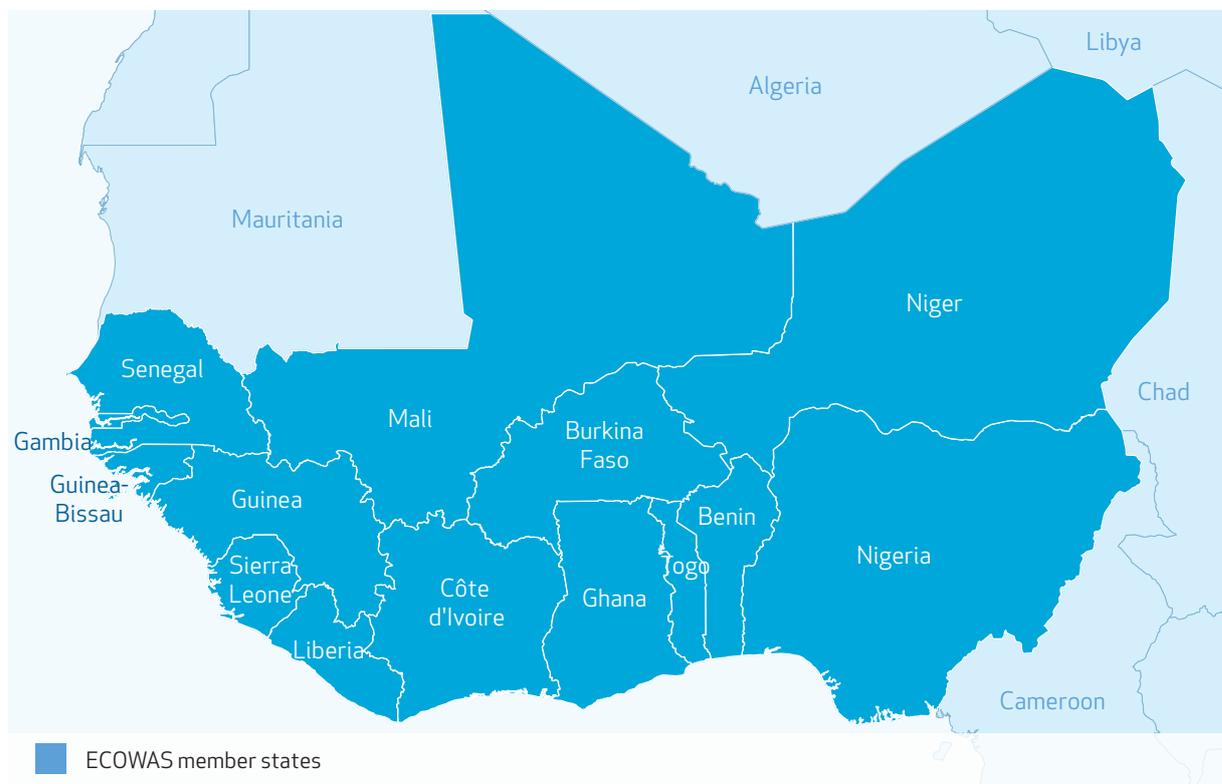
MME	Ministry of Mines and Energy
NAP	National Action Plan
NCCM	National Committee on Chemicals Management
NEA	National Environmental Agency
NESREA	National Environmental Standards and Regulations Enforcement Agency
OECD	Organization for Economic Cooperation and Development
OPM	Office of Precious Minerals
PMMC	Precious Minerals Marketing Company
UAE	United Arab Emirates
UEMOA	Union Économique et Monétaire Ouest Africaine (WAEMU – English translation)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
WAEMU	West African Economic and Monetary Union (UEMOA – French translation)

Executive summary

In 2017 the Minamata Convention on Mercury entered into force, a product of the global call for action to address the threat of mercury emissions to health and the environment. To meet its objective – ‘to protect the human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds’ – the convention mandates parties to the convention to ‘take steps to reduce, and where feasible eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining and processing.’¹ Currently, artisanal and small-scale gold mining (ASGM)² is the largest anthropogenic user of mercury, which is often used in the extraction of gold from mined ore, a process called amalgamation.³ In turn, Minamata signatory states have agreed to take steps ‘to reduce, and where feasible, eliminate, the use of mercury and mercury compounds in, and the emissions and releases to the environment of mercury from, such mining.’⁴

The adoption of the Minamata Convention has profound implications for West Africa. All member states of the Economic Community of West African States (ECOWAS) are signatories, and most of them have ratified the convention.⁵ Furthermore, as the region is home to some of the richest gold-ore deposits in the world, ASGM is conducted in nearly every ECOWAS member state, and gold is a major regional export.⁶ Mercury plays a key role in the sector, as it is used by the majority of the region’s estimated 2 to 3 million artisanal miners to extract gold from ore. Therefore, efforts to reduce mercury use and emissions have significant consequences for not only public health and the environment of ECOWAS member states, but also their economies – in terms of both people’s livelihoods and state revenues.

Figure 1: ECOWAS member states



Most, if not all, mercury is imported into the ECOWAS region. Although some is imported legally, most trade is informal, unregistered and clandestine.⁷ Hence, the amount of mercury imported, traded and used in ASGM across West Africa is far in excess of what official figures indicate. Curbing mercury use and supply therefore requires an understanding of the illicit flows of mercury and the current regulatory efforts aimed at controlling it.

Informal and illicit flows of gold perpetuate the use and spread of mercury in the region. Often, mercury is supplied to upstream partners as a way of securing gold flows. For example, gold buyers and mine site owners will double as mercury dealers to local miners and the sale price of gold is directly related to the provision of mercury. In this way, the mercury and gold supply chains create a self-reinforcing cycle that can be difficult to break. The challenge is exacerbated by the fact that the high-reward–low-risk nature of the sector – a function of the high value of gold and omnipresent informality in the regional gold economy – makes it very appealing to illicit actors, who have a vested interest in maintaining the status quo.⁸ As a result, efforts to reduce mercury use and trade in West Africa require an understanding of not only mercury flows and trade regulations, but also those related to ASGM gold production.

Recognizing the need for a greater understanding of mercury and gold trade flows, regulation and taxation, the UN Industrial Development Organization (UNIDO) commissioned this study of mercury and gold trade flows and regulatory frameworks. The study was informed by extensive desk research and key informant interviews conducted in 12 ECOWAS member states (Benin, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Liberia, Niger, Nigeria, Mali, Sierra Leone, Senegal and Togo.) Gambia was also included in desk research.

To curb mercury use in the ECOWAS region, greater cooperation and harmonization of regulatory frameworks and coordination between relevant government bodies are necessary, both at the regional and domestic levels. Because of the region's porous borders, facilitating the transnational movement of people and goods, a coordinated, regional approach is needed. This is highlighted by the fact that disparities in royalty rates are an incentive for gold smuggling. If no action is taken, the ECOWAS region may see a 'race to the bottom' in the setting of royalty rates, which will benefit exporters to the detriment of ECOWAS member states, and do little to curb mercury use and flows.

It is promising that there has been some regional action, including the adoption of ECOWAS Vision 2020 in 2007,⁹ and efforts to standardize tax regimes and internal tariffs.¹⁰ Also, the African Development Bank (AfDB) has advocated for increased regional integration,¹¹ supporting efforts to strengthen ECOWAS and the West African Economic and Monetary Union (WAEMU).¹²

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By building on these efforts, together with the momentum generated by the adoption of the Minamata Convention, ECOWAS member states will be better positioned to effect a coordinated implementation of the convention in the ECOWAS region. To do this, the following recommendations are made:

- Improve knowledge and awareness of mercury flows, so that trade regulations and the organizations charged with enforcing them are better informed.
- Standardize mercury-specific regulatory trade frameworks to generate a concerted and organized regional response.
- Improve engagement with, and capacity of, customs organizations, which are often the first line of defence against illicit mercury flows.
- Focus regional efforts on import and export hubs, in particular seaports, which act as a chokepoint in regional supply chains, in order to focus resources more effectively and efficiently.
- Reward miners who extract gold without mercury or make use of more environmentally-friendly technology through tax incentives and other trade benefits in order to reduce mercury demand.
- Harmonize gold-export regimes to reduce the drivers of illicit cross-border trade, which creates an obstacle to efforts to formalize the sector.
- Strengthen regulatory oversight of gold imports in destination hubs.

Mercury use in artisanal and small-scale gold mining

The use of mercury to recover gold from ore through amalgamation is widely practised among ECOWAS ASGM miners. Mercury is easy to use, inexpensive and readily available. For example, the Minamata Initial Assessment (MIA) for Burkina Faso estimated, that, in that country, roughly 25 tonnes of mercury are used annually in ASGM.¹³ Other substantial consumers of mercury in the region are Côte d'Ivoire, Ghana, Mali, Niger and Senegal. (Field research commissioned to estimate the use of mercury in ASGM in Ghana as part of the national action plan has been halted due to a ban on ASGM, which is expected to be lifted before the end of 2018.¹⁴)

Mercury use in ASGM is a more recent phenomenon in Nigeria, Liberia and Sierra Leone.

- In Nigeria, the use of mercury in ASGM is a relatively new process, having been introduced some eight years ago. A baseline assessment is currently being conducted, which could give more accurate insight into the amount of mercury being used in Nigeria's ASGM sector.¹⁵
- In Liberia, the use of mercury in ASGM operations became commonplace in the early part of 2018. The increase in mercury usage is attributed to the increase in illicit mining, especially that involving foreigners from neighbouring countries.
- In Sierra Leone, there are reports of mercury use in the north of the country¹⁶ and the fear that mercury use would spread in that country seems to have been confirmed: it is known that mercury is used in the eastern and southern provinces of Kumaru and Baomahun.¹⁷

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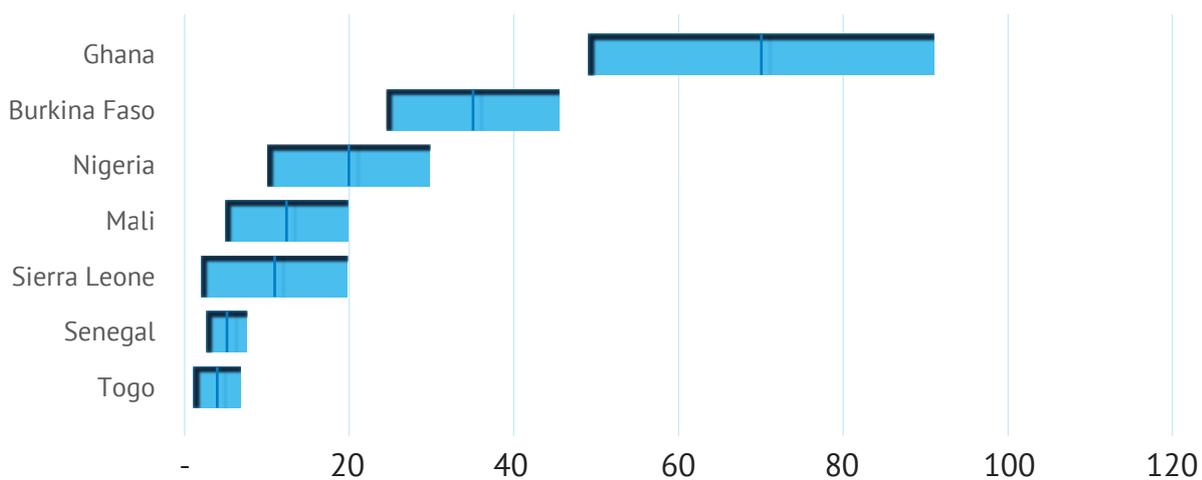
There are mixed reports on mercury use in ASGM in Benin and Togo:

- In Benin, although the use of mercury in ASGM has not been observed, the country's Minamata focal point reports that mercury is being used in ASGM in that country.¹⁸ This is corroborated by the Ministère de l'Énergie, de l'Eau et Mines (MEEM – ministry of mines) and the Ministère de la Santé (ministry of health) in Benin, which both report that although they have no physical proof of mercury use, a recent study found mercury to be present in water and soil samples, so it is likely that it is used.¹⁹
- The Togolese Minamata focal point reported that mercury is mostly used in dentistry in the country. The Ministère des Mines et de l'Énergie (ministry of mines) said that there is almost no ASGM in Togo, and others assert there is no need for mercury use in Togo because gold pieces are larger and can be seen with the naked eye. However, it is believed there are a growing number of artisanal miners,²⁰ increasing the likelihood and risk of mercury use. The Minamata focal point reports the Ministère de l'Environnement et des Ressources Forestières (MERF – ministry of environment and forestries) is pushing for a large-scale evaluation of the situation.²¹

In Gambia, there is no recorded use of mercury in ASGM. However, mercury is a potential future concern, in particular close to the borders,²² especially since it is commonly used upstream in Senegal.²³

Overall, a reliable estimate of mercury use is difficult to generate because of large variations in usage and lack of uniform definitions and measures. However, a 2017 report by COWI estimated sub-Saharan Africa's mercury trade amounted to between 200 and 400 tonnes annually.²⁴

Figure 2: Estimated mercury consumption for ASGM in 2015, range and mean value (tonnes)



Source: Carsten Lassen et al, *Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa*. World Bank and COWI, 2016

It is worth noting the growing use of cyanide in the region. Gold cyanidation is a highly effective manner in which to extract gold from gold-bearing ore. When used with mercury, cyanide exacerbates the negative impacts of mercury on the environment. In Senegal, cyanidation treatment is becoming increasingly common. Nevertheless, it is a practice that is illegal and is done with the utmost discretion. Reports from Togo also suggest that there seems to be a shift away from mercury imports and a growth in cyanide imports.²⁵ There are also reports of cyanide use in Nigeria and Ghana, with cyanide use prevalent in the Eastern, Ashanti and Northern regions of Ghana.²⁶



Mercury on an ASGM site.

Photo: Sadibou Sylla

Lack of trade data

Mercury

There is a dearth of trade data on mercury in the region, as well as globally. Although some seaports, through which mercury is shipped into the region, do register imports, most mercury enters the ECOWAS region as undeclared or misdescribed goods. Furthermore, when mercury is in transit, it is not technically an import of the country where it is offloaded from vessels, so it is not recorded as an import in official trade statistics. Because mercury tends to be dispersed throughout the region along informal and illicit supply chains after it leaves the port, the lack of data at this point is a major loss, even if it is not technically an import of the country where the port is located.

The fact there is not a mercury-specific trade category heightens the challenge, as multiple trade codes are applicable. For example, in Côte d'Ivoire, mercury imports have been recorded under the designation 'compounds, inorganic or organic, mercury, excluding amalgam'. By contrast, in Togo, customs label mercury imports as 'chemical products', grouping it with other chemicals, which makes it difficult to track mercury imports. In Togo, the MERF has encouraged customs to change their system to allow for more transparency, but that would necessitate considerable investment and improved technical capacity.²⁷ The Togolese experience highlights that constrained customs capacity, not to mention lack of knowledge of this product area among officials and others charged with regulating and tracking trade, is a challenge to measuring, tracking and reducing the mercury trade – one that the entire ECOWAS region faces.

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Table 1: Mercury imports reported by ECOWAS, kilograms (HS code 2852)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Benin									407	
Burkina Faso				1	15	8	89	90		
Côte d'Ivoire	13	100	85	140	184	225	6 433	97 876		
Gambia							415 562*			
Ghana			272	127	148	2 015			9 315	207
Guinea						3	14			
Liberia										
Mali	18			1 016					2 001	6
Niger		1 742	54	20	1 573	1 884			1 000	
Nigeria		4 400								
Senegal	9 149	321	10 625	1 859	165	6 457	161		46	550
Sierra Leone							6			
Togo		61								19
TOTAL	9 180	6 624	11 036	3 163	2 085	10 592	422 265	97 966	12 769	782

* Note: During this period, there was an ASGM boom in Senegal and, hence, mercury might have entered the country via Gambia and maybe Mali.

Source: UN Comtrade database, 2018, <http://comtrade.un.org/db/>.

Table 2: Mercury statistics by country

Country	Mercury data and information
Benin	It is claimed mercury is not brought into the country and therefore there is no official data available outside of UN Comtrade data. ²⁸
Burkina Faso	Agents of the state structures in charge of regulating and controlling imports have no information on the sources of mercury used in ASGM in Burkina Faso. ²⁹
Côte d'Ivoire	There are some records of mercury imports. For example, in 2014, 6 433 kilograms of mercury entering Côte d'Ivoire were recorded at the port of Abidjan. This said, trade data is lacking.
Ghana	There are some records of official mercury imports into Ghana. Government data indicates that in 2011, 2012 and 2013 approximately 19.3 tonnes, 9.6 tonnes and 2.5 tonnes of mercury, respectively, were legally imported into Ghana. ³⁰ However, data is limited and recorded imports fall far below estimated demand. In the whole of 2015, just one permit was issued for an import of 172.5 kilograms of mercury. ³¹
Guinea	There are no official statistics on the import of mercury, as it is a banned product. ³²
Liberia	The only available data on mercury imports into Liberia was recorded in 2017. In that year, 220 kilograms of mercury were imported from China by two companies. ³³
Mali	To date, there are no official records showing the import of mercury into Mali. This includes reporting by the ministry of commerce. ³⁴
Niger	There are some records of mercury imports. For example, in 2015, 1 758 kilograms of mercury entering Niger were recorded at the customs cordon. However, trade data is still not comprehensive.
Nigeria	There is no data available on mercury imports into Nigeria.
Senegal	There is no data available on mercury imports into Senegal.
Sierra Leone	There is no data available on mercury imports into Sierra Leone. ³⁵
Togo	The state keeps statistics on mercury imports, according to which, 8 477 kilograms of mercury had been imported since January 2018. However, accessing data is a challenge. ³⁶

Gold

Although there is comparably more data available on gold, there is also a shortage of reliable statistics on gold flows. Trade data on gold imports is reported, by the United Arab Emirates (UAE), the largest importer of West African gold produced by ASGM, but a lack of regulation – such as minimal documentary requirements for hand-carried gold imports and mineral-related deals allowed to be transacted in cash rather than through formal banking channels³⁷ – makes it difficult to fully rely on the trade data, as the value and origin of gold imports can be easily disguised. Accessibility can also hinder efforts to access and analyze data. Data is not always readily available, and some interlocutors reported not feeling comfortable about sharing data.

As is the case with mercury, various methods used to measure gold production and exports, both between various states and between ministries within a single state, make it difficult to measure and compare data.

For example, in Guinea ASGM production of gold is recorded in a Banque Centrale de la République de Guinée (BCRG – central bank) register and the Bureau National d’Expertise (BNE – national office of expertise) has statistics. However, it cannot be confirmed whether these are consistent because each entity has its own way of recording data.

Furthermore, methods used to measure ASGM production and exports may capture only a small fraction of the actual flows. As an illustration, in Mali, to determine ASGM production, the Direction Nationale de la Géologie et des Mines (DNGM – national directorate of mines) uses the quantities of gold recorded at the customs cordon from which it subtracts the quantity of gold declared by the industrial mines. The difference represents the amount of gold officially produced by ASGM. However, this method is thought to only capture a very small percentage of actual production.

The lack of reliable trade data and the difficulty in estimating mercury use and gold production make it a challenge to generate baseline assessments and evaluate the impact and effectiveness of regulatory efforts.

In turn, estimates of the scale and direction of mercury and gold flows are based on a hotchpotch of data sets, production estimates and anecdotal reports. But, although not ideal, this information does at least give a good sense of the very large scale of flows, regional import and export hubs, and the direction of flows.



The burning of gold amalgam.

Photo: Sadibou Sylla

Mercury flows in the ECOWAS region

As there is no reported mercury production in the region, most, if not all, mercury used in ASGM is imported. However, most flows are thought to be illicit, with registered imports falling far below estimates of mercury consumption during ASGM in the region. Mercury demand in the ECOWAS region is estimated to amount to hundreds of tonnes annually, but the total registered net import for all countries in the region during the period 2010 to 2015 was just 49 tonnes a year.³⁸ In particular, Burkina Faso, Côte d'Ivoire, Ghana, Guinea, Mali, Niger and Senegal do not record mercury imports of sufficient volumes to support current levels of mercury use in ASGM.

One source of illicit mercury flows into the ECOWAS region may be China. Hilson et al claim that, based on claims and anecdotal evidence, there is reason to believe that mercury and Chinese-manufactured artisanal and small-scale mining (ASM) technologies are arriving in the port of Lomé, Togo.³⁹ This contention is reinforced by Lassen et al, who report that while China is the largest primary mercury producer globally, it does not report any mercury exports in official trade statistics (the UN Comtrade database). However, a substantial flow analysis of mercury in China for 2011 indicated that more than 100 tonnes a year were exported.⁴⁰

Much of the mercury entering the ECOWAS region is thought to be imported through Lomé. It then enters Ghana and is transported north to Burkina Faso, and west into Mali, Sierra Leone and Liberia.⁴¹ Togo acts as a transit country for mercury imports, with very little mercury staying within the country. This is reflected in the fact that mercury imports are significantly higher than the volume of mercury estimated to be used for ASGM in the country.⁴²

A benefit to suppliers who import goods via Lomé is that tax and duty-free incentives are granted to firms located in Lomé's free-trade zone. For this reason, no taxes are levied on most mercury imports because they are in transit. Rather, it is assumed taxes are levied at entry into Burkina Faso, the destination for the vast majority of mercury shipments.⁴³ The only cost incurred in Lomé is the port delivery service (*prestation portuaire*).

Another facilitating factor is that because most mercury shipments are trans-shipments destined for Burkina Faso, they are subject to less scrutiny than imports staying within the country. The Togo container-scanning process prioritizes screening import shipments entering Togo. One customs officer reported: 'It is not my role to verify whether there is any mercury in the container. I do not verify the contents of the containers.'⁴⁴ The Agence Nationale de Gestion de l'Environnement (national agency for environmental management, ANGE) also has limited scope in terms of verifying imports, and has enforcement capacity only over shipments of mercury that enter Togo as a final destination, and not shipments in transit.⁴⁵

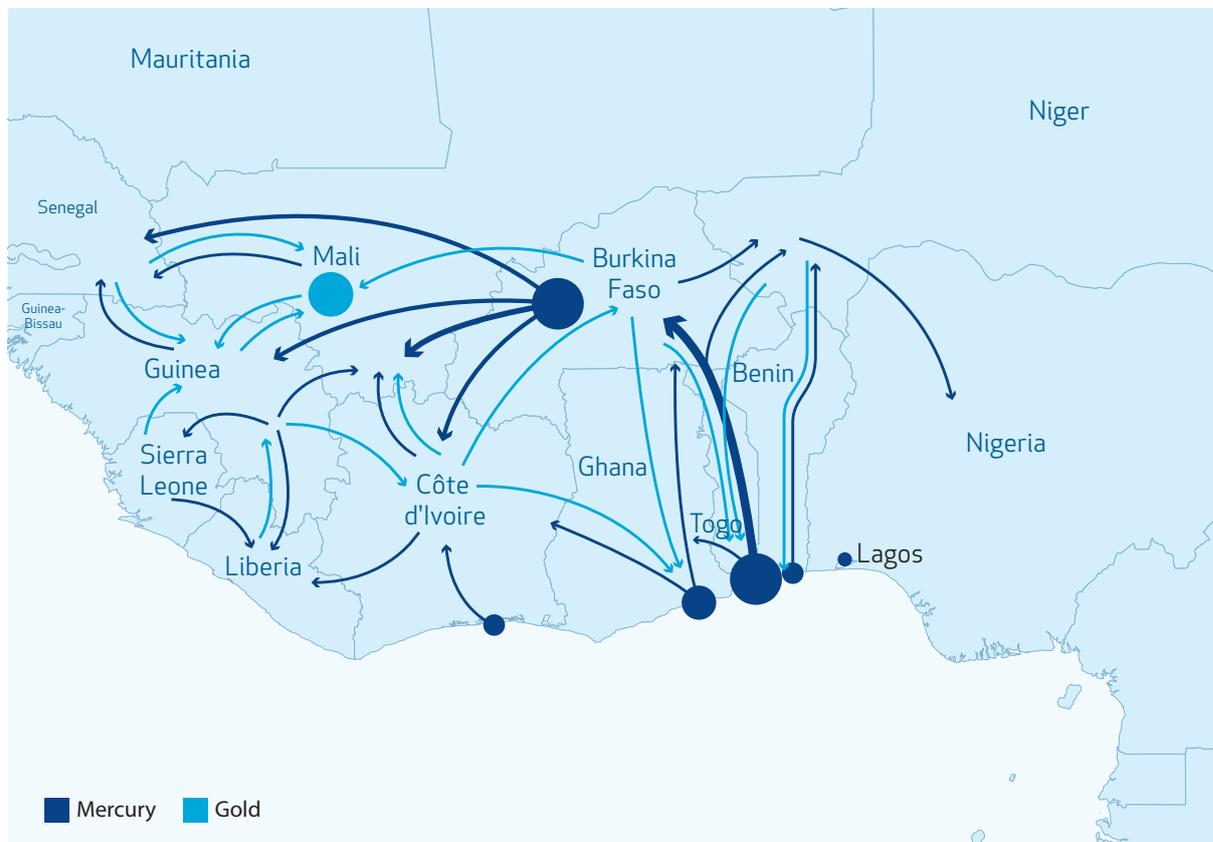
Once mercury leaves the port of Lomé, there are mixed reports on the handling of mercury trans-shipments through Togo. Once authorized by the Ministère des Mines et de l'Énergie (ministry of mines), mercury shipments may be escorted by the military or customs, which means deploying armed officers on the trucks transporting the goods to Sinkassé, the border crossing with Burkina Faso. However, the port authority said that there have never been any escorts, neither customs, nor police, nor military, for mercury shipments. If mercury is not escorted, it can therefore easily disperse and enter illicit supply chains at any time after clearing customs in Togo.⁴⁶

According to the Togolese authorities, most companies that import mercury are from Burkina Faso and they report doing so for the purpose of industrial mining in Burkina Faso and Mali. However, due to the porous nature of supply chains, it is thought that once mercury reaches Burkina Faso there is a strong probability it is sold on the black market.⁴⁷

In addition, mercury may enter the region through ports in Côte d'Ivoire, Ghana and Benin, as well as other regional ports. There are mixed views on how significant a regional import hub Ghana is. Although there have been reports that a large volume of mercury is smuggled directly into the country, our interviews indicated that

most mercury may be smuggled into Ghana via Togo and Burkina Faso.⁴⁸ However, there are anecdotal reports in other countries that mercury is sourced from Ghana. For example, in Niger, sources of mercury are reported to be the port of Tema in Ghana, as well as Lomé and Cotonou in Benin. Mercury used in Senegal is traded via Mali and Guinea, and the available information indicates that this mercury is transported via Burkina Faso from Ghana and Togo.⁴⁹

Figure 3: Map of mercury and gold flows



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Within the region, mercury is traded in closed supply chains, often linked to the clandestine gold trade, where personal introduction is typically the only way to get access. Mercury flows, as mapped out in Figure 3, consist of a criss-crossing matrix of streams covering the region.

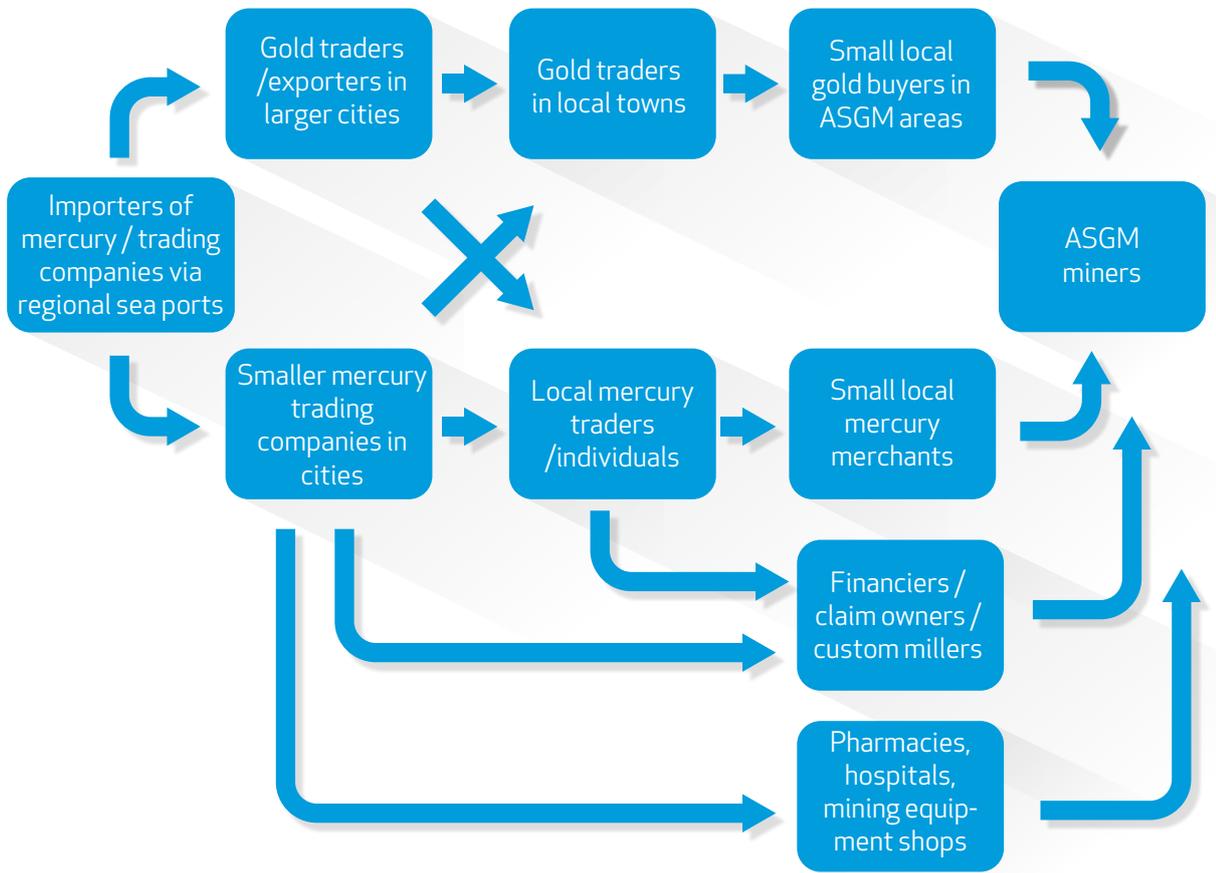
However, within this pattern, Burkina Faso does stand out as a regional linchpin. Nationals of Burkina Faso are reported to be responsible for much of the illegal mercury trade in the region.⁵⁰ The stronghold that Burkinabè actors have over mercury supply chains has a wider impact on the region. In Burkina Faso, agents of the state administration said: 'It's a real mafia that manages the supply around the source of mercury in Burkina'.⁵¹ There are various reports of mercury flows in the region from Burkina Faso:

- In Côte d'Ivoire, miners report paying lower prices for mercury from Burkina Faso than from wholesalers in Ghana.
- In Guinea mercury is said to come from Burkina Faso. Observations made on ASGM sites have shown that most of the Burkinabè miners on the sites are both importers, users and distributors of mercury to other gold miners at the sites.
- In Mali mercury is generally supplied by miners coming from Burkina Faso.
- In Niger, mercury is reportedly sourced from Burkina Faso,⁵² supplying the country's gold collectors.
- In Senegal, available information indicates that mercury is transported via Burkina Faso from Ghana and Togo.

Flows from regional hubs appear to filter towards the Mano River Union region, with Liberia and Sierra Leone receiving mercury from several neighbouring countries, in particular Guinea. In Guinea it is reported that importers in regions close to Liberia or Sierra Leone prefer to use canoes to ship product.⁵³

In Nigeria mercury is smuggled and introduced by foreigners from Ghana, Mali, Niger, Senegal and Guinea. However, it is unclear from where they source the mercury; with the exception of Niger, it is unlikely that they source it from their country of origin.⁵⁴

Figure 4: Mercury supply chains



Source: Carsten Lassen et al, *Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa*. World Bank and COWI, 2016.

In seeking to curb mercury flows, it is critical to target seaports, which serve as pivotal chokepoints in the mercury supply chain. However, countries where import hubs are located may be wary of shouldering the burden of regulating mercury flows for the entire region. This is especially so considering that mercury use is minimal in Togo, which may see little return from its efforts. Hence, regional efforts may require dialogues that raise awareness of the harms of mercury and go beyond the mercury trade in order to identify how to best support capacity and increase regulatory efforts in countries that serve as mercury import hubs.

Mercury import-and-export regulations

Minamata commitments and actions

The Minamata Convention has been widely ratified by ECOWAS countries. Of the 15 member states, Cape Verde, Côte d'Ivoire and Liberia are the only countries that have not ratified the convention (they have signed it).⁵⁵ Côte d'Ivoire and Liberia are aiming to ratify the convention by the end of 2018.⁵⁶ And both countries have moved forward in terms of taking action on the mercury trade, even though they have not yet ratified the convention.

Countries in the region are at various stages in conducting MIAs and national action plans. MIAs for Burkina Faso, Guinea, Mali and Niger were conducted under the supervision of UNIDO with the support of the UN Institute for Training and Research (UNITAR) between 2015 and 2018. MIAs that are expected to be completed in 2018 include those for Côte d'Ivoire, Ghana, Liberia and Togo. In August 2017, Ghana registered for a five-year exemption for the import and export of mercury-added products listed in the Minamata Convention to allow the country to develop the requisite data and information, and technical and financial capacities to comply with the extended phase-out date for these products.⁵⁷

Figure 5: Minamata Convention implementation action

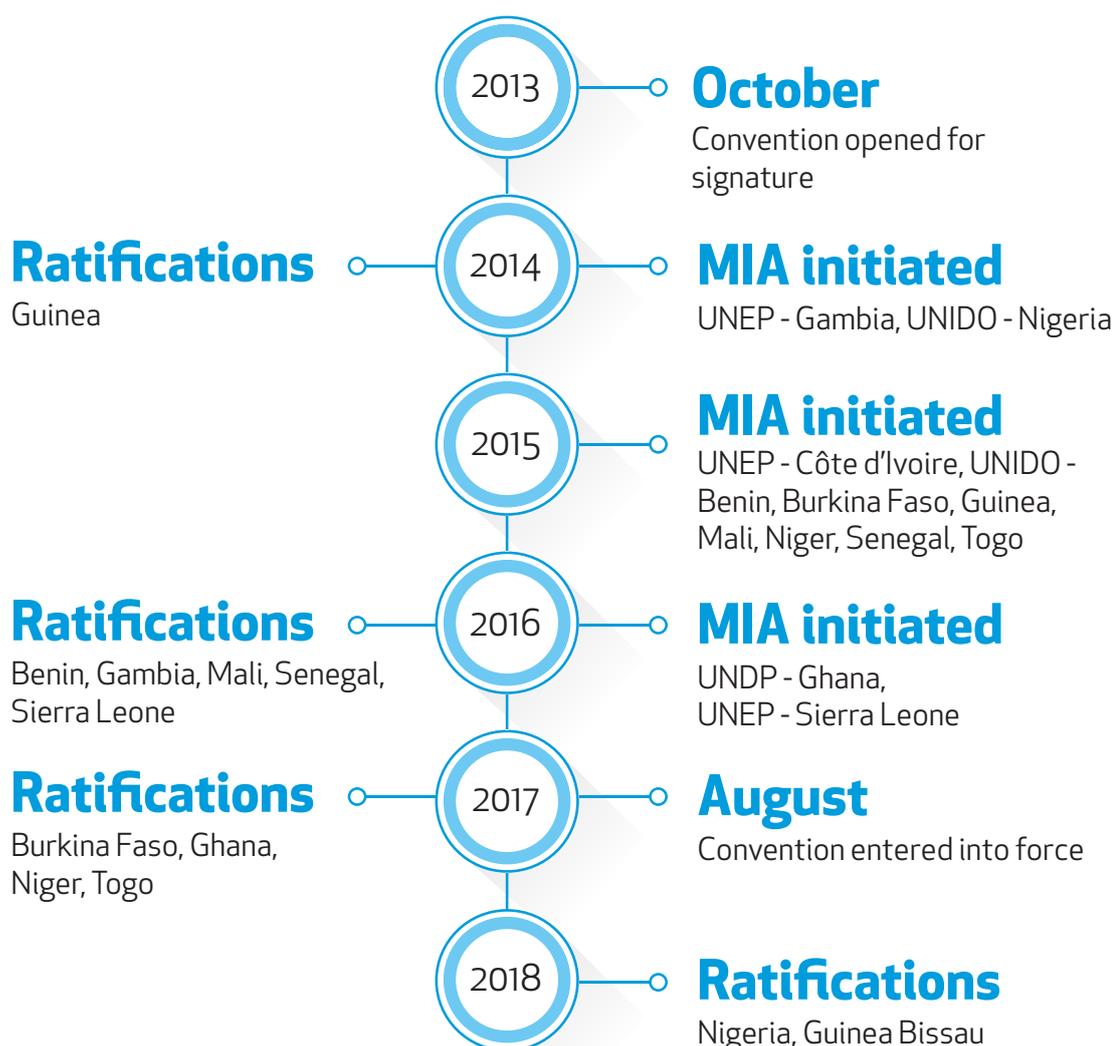


Table 3: Minamata focal points

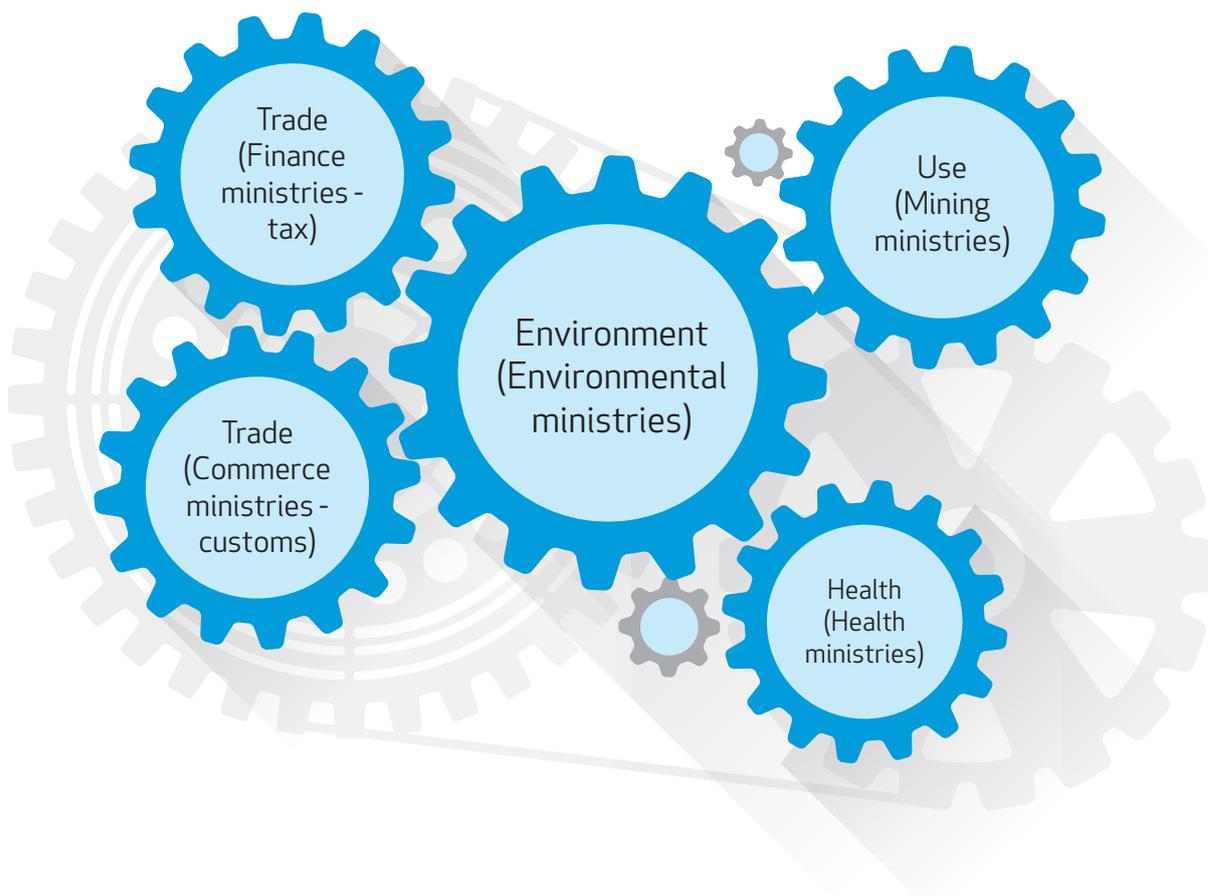
Country	Focal point
Benin	Ministère du Cadre de Vie et du Développement Durable (MCVDD)
Burkina Faso	Ministère de l'Environnement, de l'Économie Verte et du Changement Climatique (MEEVCC)
Côte d'Ivoire	Ministère de l'Environnement et du Développement Durable (MEDD – Côte d'Ivoire)
Gambia	Ministry of Environment, Climate Change and Natural Resources
Ghana	Ministry of Environment, Science, Technology and Innovation (MESTI)
Guinea	Ministère de l'Environnement, des Eaux et Forêts (MEEF)
Liberia	Environmental Protection Agency (EPA)
Mali	Le Ministère de l'Environnement, de l'Assainissement et du développement Durable (MEADD)
Niger	Ministère de l'Environnement et du Développement Durable (MEDD – Niger)
Nigeria	Federal Ministry of Environment (FMoE)
Senegal	Ministère De l'Environnement et du Développement Durable (MEDD - Senegal)
Sierra Leone	Ministry of Environment
Togo	Ministère de l'Environnement et des Ressources Forestières (MERF)

Regulatory bodies and efforts to control the mercury trade

Environmental ministries are typically the Minamata focal points for the countries in the region (see Table 3, which gives an overview). Although this makes sense in many ways, it is a stumbling block for regulating the trade and use of mercury. In many instances, environmental ministries have little, if any, control over creating and enforcing trade regulations. Rather, the government bodies charged with regulating the trade are often finance ministries, where tax and customs bodies tend to sit, and mining ministries.

For example, in Togo the MERF, for the moment, is mainly a lobbying power. This limits its ability to take concrete action on combating mercury flows. The Minamata focal point reports that the MERF has lobbied various stakeholders in the ministry of mines and the customs agencies to ban mercury imports. However, the Ministère des Mines et de l'Énergie (ministry of mines) asserts that mercury is only in transit, and is not being imported, so the customs agency refuses to treat mercury differently from other chemical products because there is no mercury-specific legislation. The MERF hopes to play a decisive role in mercury imports once the environmental code is revised.⁵⁸

Figure 6: Mercury and relevant regulatory powers of the government ministries



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The division in responsibilities highlights the need to involve a diverse range of government actors in discussions on mercury flows – yet this does not seem to be the case, with many customs organizations saying they have little knowledge about mercury and inadequate capacity to identify and seize illicit mercury shipments. For example, a senior military officer in Togo, stationed at the port, said that he was not even aware that mercury was passing through the port; however, now that he was informed of the threat, he initiated a process to ensure mercury transports were escorted (in the same way that he had initiated measures to escort cyanide in 2016, which requires authorization).⁵⁹ Similarly, in Senegal, while there are a number of ministries involved in regulating mercury trade, including economy and finance, mining and health ministries, they reportedly tend to lack the technical and financial capacity to focus on mercury in particular.⁶⁰ Compounding these regulatory challenges surrounding mercury is the fact that there appears to be little coordination between ministries.

This is not to say that countries are not making efforts: in Ghana, the MESTI, the Ghana Revenue Authority (GRA) and Environmental Protection Agency (EPA) are all members of the Minamata Convention Steering Committee. In Nigeria, the National Committee on Chemicals Management (NCCM), coordinated by the FMoE, includes the environmental health, trade and agricultural ministries. (Although the NCCM is mandated to promote information sharing on chemical-management issues, it faces challenges owing to irregular meetings and inadequate funding.) Also, the Nigerian National Action Plan Steering Committee includes a number of ministries, as well as civil-society, academic and UN actors as observers. Likewise, in Senegal, the Commission Nationale de Gestion des Produits Chimiques Sénégal (CNGPC – national commission for chemicals management) coordinates the actions of the various ministries in the field of chemical management. However, it has limited technical and financial capacity to be able to take a stand and act on all issues related to mercury.⁶¹

Platforms created under other initiatives, in particular the Basel Convention and the Rotterdam Convention, could be leveraged for coordination. For example, Benin has the Chemical, Biological, Radiological and Nu-

clear Risk Mitigation Centres of Excellence Initiative, a platform created by the European Union for chemical products.⁶² Meanwhile, in Togo, l'Autorité Nationale pour l'Interdiction des Armes Chimiques au Togo (national authority for the prohibition of chemical weapons), launched in 2016, is a new body that aims to coordinate action on various conventions, such as Minamata and Basel, by providing a platform for dialogue on various related issues.⁶³

Table 4: Overview of ECOWAS member states' regulatory bodies for mercury

Country	Regulatory actors
Benin	<p>The mines, commerce, health, environment and customs ministries are all involved in regulating the trade in and use of mercury. The Ministère de l'Economie et des Finances Direction Générale des Douanes et Droits Indirects (ministry of commerce) authorizes mercury imports, depending on use. However, the Minamata focal point in the MCVDD reported that there is no mercury import through the port of Cotonou, because no authorizations for imports are given.</p> <p>Both the mining and environment ministries are involved in regulating the use of mercury. The Ministère de l'Énergie des Recherches Pétrolières et Minières et du Développement des Énergies Renouvelables, Direction Générale des Mines (ministry of energy, petroleum and mineral research and renewable energy development, directorate general of mines), issues certificates of environmental conformity to miners, while the Agence Béninoise pour l'Environnement (environmental agency) oversees environmental impact assessments (EIAs). Although there is currently no platform to coordinate discussion on mercury imports and use, the MCVDD is in the process of creating a platform for all conventions and ministries.⁶⁴</p>
Burkina Faso	<p>The MEEVCC-Burkina Faso through the general directorate for the preservation of the environment (DGPE), works in close collaboration with the Guichet Unique du Commerce Extérieur (Counter for Foreign Trade) to regulate the import of industrial chemicals. Each time an importer submits an import declaration, it is referred to the DGPE before it is validated. Even though there is no text prohibiting the importation of mercury, the DGPE approves only up to 2 kilograms for a metrology laboratory as a way of enforcing the mining code's prohibition on mercury use in ASGM.⁶⁵ Mercury-containing health products are regulated by the ministry of health, which allows the import of mercury for dental use.</p> <p>Currently, there is coordination between the environmental and mining ministries to regulate the use of mercury in ASGM.</p>
Côte d'Ivoire	<p>The Ministère de la Santé et de l'Hygiène Publique (ministry of hygiene and public health) said, pending the ratification of the Minamata Convention, that Côte d'Ivoire relies on the contribution of non-governmental organizations to reduce the use of mercury and promote its alternatives.⁶⁶</p>

Gambia

The National Environment Agency (NEA), which sits in the Ministry of Environment, Climate Change and Natural Resources (MECCNR), is responsible for controlling the import and use of pesticides and hazardous chemicals. The NEA collaborates with the Geological Department, which sits in the Office of the President. The Geological Department is the main policy adviser to government on geological and geophysical issues relating to development of mineral resources, and administers the Mines and Quarries Act, Gambia's mining code.⁶⁷

The National Environmental Management Council was created as the main policy-making body for environmental and natural resources in Gambia, and the NEA as the secretariat. Although the council should meet quarterly, this has not happened.⁶⁸

Ghana

The Ministry of Trade and Industry issues licences for the import of mercury. To import mercury for mining, endorsement and clearance are sought from the Minerals Commission and EPA, respectively. However, the ministry does not monitor compliance once a licence is issued. Instead, the Customs Division of the GRA, in collaboration with the Chemicals Control and Management Division of the EPA-Ghana, is responsible for ensuring the importer is licensed and quantities are within licensed amounts, as well as recording imports.⁷⁰ The Ministry for Lands and Natural Resources grants licences for mining. The Minerals Commission has nine district centres, each tasked with monitoring mining activities in its jurisdiction.⁷⁰

Guinea

The MEEF, through the Direction Nationale de l'Environnement (national directorate of environment), regulates mercury imports and use. It does this by working closely with the mines, public health and finance ministries. The ministry of finance was in charge of regulating mercury import through the customs authorities. However, due to the increasing use of mercury in ASGM, the government asked the MEEF to regulate mercury entering the country.

Liberia

The Ministry of Commerce and Industry is responsible for regulating the import and export of mercury. The Ministry of Mines and Energy (MME) is the government agency responsible for the administration of the mineral sector, including granting mining licences. The EPA-Liberia is the regulatory body for the sustainable management of the environment and its natural resources.⁷¹

Mali

In general, any imported product is regulated by the ministry of commerce, which issues an authorization. For the specific case of mercury, the authorization to be issued by the ministry of commerce requires the opinion of the MEADD via the Direction Nationale de l'Assainissement du Contrôle des Pollutions et Nuisances (DNACPN - national directorate for sanitation and pollution control). However, in practice, the DNACPN has rarely been asked to issue an opinion on the import of mercury, and the Ministry of Commerce does not allow mercury imports into Mali. Officially, the DNGM is empowered to authorize mercury imports as a chemical used in mining but, to date, it has not allowed any mercury imports into the country, and mining authorities have prohibited the use of mercury in ASGM.⁷²

Niger

Normally, all products to be imported into Niger are regulated by the ministry of commerce. However, mercury to be used in ASGM also requires authorization from the ministry of mines and the MEDD. All industrial chemicals, including mercury, require the authorization of the MEDD before they are imported. Because Niger has ratified the Basel, Bamako and Minamata conventions, mercury and mercury waste imports are not authorized. The ministry of health can authorize the import of products containing mercury used for dental work; however, to date, liquid mercury has not been used in dentistry in Niger.

Nigeria

An importer of mercury needs to secure a chemical-import permit from the National Agency for Food and Drug Administration and Control. The FMOE provides a letter of consent for the importation of mercury and all other chemicals. However, this rarely happens, and the last time mercury was officially imported into Nigeria was five years ago.⁷³

The legal framework governing mining activities and their environmental impacts is implemented by the FMOE and the Federal Ministry of Mines and Steel Development (FMMSD). There are also mineral resources and environment management committees in all the country's states to advise local government areas and communities on the implementation of programmes for environmental protection and the sustainable management of mineral resources. Representatives include environmental, mining, agricultural, local, state and federal actors.⁷⁴

The National Environmental Standards and Regulations Enforcement Agency NESREA mandate specifically targets hazardous chemicals – under which category mercury falls. NESREA has offices in 23 states throughout the six geopolitical zones of Nigeria. NESREA plans to sensitize all the 23 states on the Minamata Convention.

Senegal

The CNGPC, part of the MEDD, is tasked with controlling and monitoring the import, use, production and movement of harmful or dangerous chemicals. The personnel are trained in mercury management. The directorate general of customs, attached to the ministry of economy and finance, may authorize mercury imports, after receiving the opinion of the CNGPC. Other ministries involved in regulating mercury trade and use include the ministry of economy and finance (responsible for control of imports and exports of chemicals, and access to statistical data on the export and import of products), the ministry of mines (issues authorizations for the artisanal mining of gold) and the ministry of health (ensures health monitoring of the population).

Sierra Leone

The Ministry of Trade and Industry is the lead body for regulating the import and trade in mercury. The ministry is responsible for issuing import licences, but an importer also needs to acquire a permit from the EPA to import mercury. However, neither the ministry nor the EPA have received any applications or issued any permits for mercury imports.⁷⁵

The National Mineral Agency is mandated to promote the development of the minerals sector by effectively and efficiently managing the administration and regulation of mineral rights and mineral trading in Sierra Leone, and to provide technical and other support to the mineral sector, including geographical surveys and data-collection activities.

The EPA is under the Office of the President and is responsible for the formulation of policies on all aspects of the environment. It also initiates legislative regulatory proposals, standards and guidelines on the environment. The EPA has created environmental focal points in relevant ministries to mainstream environmental issues in their mandates. These focal points used to meet quarterly to discuss issues relating to the environment, but lack of funds has meant that they have not met recently.

The Ministry of Mines and Mineral Resources is responsible for policymaking in the mining and mineral sector.

Togo

Importing raw mercury is permitted and regulated by the Ministère des Mines et de l'Énergie (ministry of mines and energy) when it is imported in its raw form. As for importing products that contain mercury, such as pills used in dentistry, an authorization is needed from the ministry of health. The ANGE has the enforcement capacity and right to control mercury imports destined for Togo as a final destination. However, given that all the mercury in Togo is in transit, it does not oversee the import process and has never issued authorizations.⁷⁶ When mercury arrives, the Unité Mixte de Contrôle de Conteneur (mixed container control unit), which sits in the ministry of security (but which works in cooperation with customs), calls the ministry of mines, which sends an expert to confirm that the flasks contain mercury. They then provide a document to authorize the transit. For other types of mercury uses and imports, the agriculture, water and health ministries participate in the regulatory process. However, these uses are far less common than those related to mining.⁷⁷

In regulating mercury use in Togo, the Ministry of Mines tends to work with the ANGE. A certificate of environmental compliance from the ANGE is needed before exploitation can be authorized.

While there is no coordination committee or similar platform, the MERF cooperates with all the relevant ministries that are supposed to be involved, and its personnel attend meetings.⁷⁸

Regulatory frameworks

Although most ECOWAS states have ratified the Minamata Convention, there is a lack of mercury-specific legislation and regulatory frameworks, which has implications for efforts to control its trade and use. The lack of clear guidance has led to confusion about how mercury imports should be treated. It is common for officials to say that even though there are no mercury-specific trade regulations, its import is not allowed because of other environmental or mining laws. For example, in Benin, there is no legislation relating specifically to mercury law, but some authorities report that mercury needs specific authorization because it is a product that has an impact on health.⁷⁹ However, this creates confusion for customs agencies, with many reporting that they treat mercury no differently from any other chemical or hazardous substance. Regulations are especially lax when the mercury is not intended for use in the country and is in transit, as is the case in Togo – where there is no specific legislation addressing mercury, only ‘chemical products’.⁸⁰

Legislative action has been undertaken to comply with other relevant international conventions, in particular the Basel Convention, which all ECOWAS countries in this report have acceded to. The Basel Convention addresses mercury in the form of mercury waste and mercury-containing pesticides. However, mercury for use in ASGM may fall outside the scope of the Basel Convention because mercury itself is not a waste product, although it does end up as waste product.⁸¹

Some ECOWAS member states have explicitly decided to continue to allow the import of mercury so they may better monitor flows. In Senegal, the CNGPC has decided not to ban mercury in a bid to better manage the problem and adopt a progressive strategy to reduce its use. Likewise, in Côte d’Ivoire, in an effort to enable the government to be aware of its sellers in the chemical supply chain, and to control and track the mercury used in mining, medium-sized mines are allowed to use mercury or cyanide. A company or mine owner needs to present a management plan for destruction or treatment of wastes, and the plan needs to be accepted by both the environmental and mining ministries.⁸² Also, Ghana allows small-scale miners to buy mercury for use in ASGM if they respect good mining practices.⁸³

Although there is little in the form of trade regulations, many member states have mining or environmental regulations that prohibit the use of mercury in ASGM. For example, Benin does not prohibit the importation of mercury, but the use of mercury in orpaillage (gold panning) is prohibited by Arrêté n°2004-71, regulation of panning in the Republic of Benin, Article 11. Likewise, Burkina Faso permits imports of mercury, while the 2015 mining code prohibits the use of mercury in artisanal mining (Article 77). However, like trade regulations, environmental codes may not specifically relate to mercury, with the element falling under the category of hazardous and toxic chemicals and waste.

There are also legal frameworks relating to health, but these mainly address the use of mercury for dental purposes, and not the health impact from mercury use in ASGM.

This misalignment between regulatory frameworks governing the trade and use of mercury creates challenges and confusion when it comes to enforcement. For example, the Nigerian police are encouraged to take action on environmental crimes, implying they should therefore clamp down on hazardous activities relating to mercury, whereas, at the same time, the Nigerian customs authority is instructed to allow mercury imports and levy a 5 per cent import duty.⁸⁴ Also, in Mali, mercury and waste from mercury compounds are listed as hazardous yet mercury is not on the list of products subject to import restrictions nor is it banned in the mining code. Thus, regulating mercury is a difficult process because regulations allow imports of mercury, while simultaneously trying to prevent the use of mercury in what are often widely dispersed and remote geographic areas.

The action of regional organizations may help resolve such discrepancies. For example, the WAEMU has introduced a Common Mineral Policy and Community Mining Code.⁸⁵ The WAEMU is also working towards issuing a harmonized mining act, which will prohibit the use of mercury in ASGM.⁸⁶ However, although a draft has been circulated to member states, there is disagreement over the fiscal aspects, and this is delaying its

adoption.⁸⁷ Also, the Autorité de Développement Intégré de la Région du Liptako – Gourma (Liptako-Gourma integrated development authority) could play a role.

Furthermore, the ECOWAS Harmonisation of Guiding Principles and Policies in the Mining Sector, 2009, is binding upon member states. One of the aims of the directive is to harmonize the mining policy and the legal framework of the member states while making sure that the harmonization takes into account the specific situation of each member state. A number of topics of the directive are relevant to curbing trade and use of mercury in ASGM, including protecting the environment, protecting national interests (which includes the definition of the tax system applicable to minerals), access to information, and human rights obligations and mining.

Table 5: Overview of member states’ legal frameworks for mercury

Country	Legal frameworks
Benin	<p>The import of mercury is regulated by the Code des Douanes (2014). Although mercury is not specifically mentioned, it is included because the code is applicable to products that may have an impact on health.⁸⁸</p> <p>The MEEM has banned the use of mercury with a decree, but no specific legislation exists. The Mining Code requires that mining activities be conducted in a manner that minimizes the negative impact on the environment and on the local population. The mining code is being revised and will include a ban on the use of mercury in ASGM.⁸⁹</p> <p>There is nothing in the environmental code banning mercury, but a law is being drafted that will mention mercury, as well as other chemical products. The law should be sent to the National Assembly before the end of 2018. The ministry of health is also working to propose some legislative text with the support of the World Health Organization. However, it does not appear the ministries are working together to develop legislation.⁹⁰</p>
Burkina Faso	<p>Burkina Faso has no legislation that directly regulates the import of mercury. Law No. 036-2015 / CNT of the Mining Code, however, states that the use of hazardous chemicals, including mercury, cyanide and explosives, is prohibited in ASGM. The country’s environment code also includes provisions for the management of hazardous waste and waste from abroad, which is prohibited from transit, import and export. The decree establishing the list of hazardous waste is being prepared.</p>

<p>Côte d'Ivoire</p>	<p>No text officially regulates mercury imports. The mining code states that activities must be conducted in such a way as to ensure the protection of the quality of the environment, and prohibits the use of explosive substances and chemicals in small-scale operations. Article 68 prohibits chemicals and explosives in artisanal mining. In the same way, Article 99, which deals with waste from artisanal mining, could enforce a ban on mercury imports for use in ASGM. However, in the same mining code, there is an allowable use of mercury in semi-industrial mines once the capacity to safely manage mercury wastes, emissions and releases have been proven.⁹¹ However, there is some confusion in the application of the law, as types of mining (i.e. artisanal as opposed to industrial) are not clearly defined.</p> <p>The environmental code does not contain any specific provisions on mercury. It does, however, refer to substances that, because of their toxic, radioactive, corrosive or otherwise harmful nature, constitute a danger to people and the environment. Under these provisions, the code would therefore cover mercury.</p>
<p>Gambia</p>	<p>The National Environment Management Act prohibits imports of mercury compounds. Other environmental legal frameworks and strategies exist, although none specifically for the management of mercury.⁹² However, 'environment' is defined very broadly in the EIA regulations of 2014, which raises implementation difficulties, given the scope of the expertise required.</p>
<p>Ghana</p>	<p>The Mercury Act 1989 governs mercury imports and trade in Ghana. The act legalizes the possession and use of mercury, but provides penalties for miners who use mercury without a licence.⁹³ Registered ASGM operators and licensed traders can purchase and trade in mercury legally through authorized dealers.</p> <p>The policy is reflected in the Minerals and Mining Act 2006, which allows small-scale miners to purchase quantities of mercury that are 'reasonably necessary for mining operations' from authorized dealers. Also, the Mining and Mineral Regulations 2012, stipulate that mercury may be used in ASGM if the person in question 'has the written permission of the Chief Inspector of mines to do so and that person uses a retort to apply the mercury'.⁹⁴</p>
<p>Guinea</p>	<p>Currently, there is no specific framework in Guinea for the control of mercury in ASGM. However, in the past, the import of liquid mercury into Guinea was banned due to its use in manufacturing counterfeit bank notes. Decree 287 regulates the import of chemicals, including prohibiting chemicals based on their hazard class. The country's environmental code deals with chemicals in general. It is in this context that the protection of the environment and human health could be integrated against the harmful effects of mercury.⁹⁵</p>

Liberia	<p>Currently, there is no legislation restricting mercury use or trade in ASGM in Liberia, although the Assistant Minister of Mines and Energy indicated the use of the product is illegal.⁹⁶ The Mining and Minerals Law of 2000 provides guidelines to ensure the proper management of resources. Furthermore, the Minerals Policy of Liberia was created in March 2010 to complement the mining and minerals law. These laws are under review. Another relevant law is the Environmental Management and Protection Law of Liberia 2002, which guides the sustainable development, management and protection of the environment against the impact of mining. The EPA Liberia has also published the EIA guidelines of 2007 for mining and mineral processing.</p>
Mali	<p>Mercury is not on the list of products subject to import restrictions in Mali. However, Decree No. 07- 135 / P-RM OF 16 April 2007, Fixing the List of Hazardous Waste defines mercury and mercury compounds waste as hazardous. Consequently, their production, possession, handling or use in any human activity is prohibited. By the same token, the fact that the production of mercury waste is prohibited means that the products generating such waste are also prohibited in Mali. However, the country's mining code does not mention the prohibition of mercury.</p>
Niger	<p>All ministries involved in ASGM formally prohibit the use of mercury. Law No. 98-56 (1998), which establishes a framework for environmental management, stipulates that 'harmful and dangerous chemical substances which ... present or are likely to present a danger for man, the fauna, the flora and the environment in general, when they are produced ... are subject to the control and supervision of the relevant technical services'.⁹⁷</p>
Nigeria	<p>There is no law banning the import of mercury, but its import is highly restricted, with imports allowed only for research purposes. Specifically, NAFDAC Act No. 15 of 1993-Cap NI LFN 2004 regulates and controls the import and export of all types of chemicals, including mercury.</p> <p>There is no mining legislation specific to mercury, although the 2009 National Environmental (Mining and Processing of Coal, Ores and Industrial Minerals) Regulations address pollution from mining and the processing of minerals.</p> <p>The National Environmental (Hazardous Chemical and Pesticides) Regulations, 2014, are used for regulation of chemicals. This is currently under review to include provisions under the Minamata Convention.</p>
Senegal	<p>There is no law banning the import and use of mercury. The National Commission on Chemicals Control decided not to prohibit mercury, so it could instead adopt a step-by-step strategy to reduce its use.⁹⁸ However, article L44 of the Environmental Code does state that noxious and dangerous chemicals that present or may present a danger to humans or the environment are subject to the control and supervision of relevant departments; and national government edict n° 2010-1281 prohibits the importation, collection, transportation, recycling, storage, manipulation, treatment or elimination of mercury without ministerial approval.</p>

Sierra Leone

There is no law banning the import of mercury, but the import of mercury is not allowed.⁹⁹ While there is no specific law regulating use of mercury, it is regulated under the EPA Act 2008, as amended July 2010, and under the Hazardous Chemicals and Pesticides Control and Management Act, 2016, and the Toxic and Hazardous Substance Regulations, 2016.¹⁰⁰

Togo

The import of mercury is regulated by laws that concern 'chemical products' in general. There is nothing in the current mining code on banning mercury use. A law on mercury was being drafted, but, given that miners claimed they did not use mercury, the drafting process was stalled because the parliamentarians did not see any use for such a law. Although mercury is not specifically mentioned in it, Togo's environment code of 2008 criminalizes activities that pollute and degrade the soil and subsoil, and impair the quality of the air or water in violation of the provisions of the code.¹⁰¹



The Port of Lomé.

Photo: Alexandre Bish

Gold royalty rates and export processes

The regional export and import of gold is largely informal, as miners seek to maximize their profits, which are eroded by factors such as taxes, royalties, distance to markets and buying systems. Due to the porous borders and alleged pervasive smuggling, it is difficult to confirm from which cities, or even countries, ASGM gold is exported out of the region.

Disparate royalty rates are one driver of smuggling, so countries that apply lower export rates act as a magnet for gold smuggled from neighbouring countries. Porous borders enable gold dealers to shop around for policies that cost the least and deliver the greatest returns. For example, the higher tariff levied by Sierra Leone on gold exports than by its neighbour Guinea is said to incentivize gold smuggling.¹⁰² Therefore, some states have reduced taxes in an effort to increase revenues from gold exports.

It ought to be noted that fees directly linked to export – specifically royalty rates, assay fees and other stamp duties – are not the only costs that influence gold export profits. There are a wide range of necessary expenses ASGM operators must pay to mine, trade and export gold legally. These can include gold mining licences, environmental impact assessments, securing access to land, and buyer and export licences, among many others. As such, it is difficult to build a complete estimate of all fees impacting on gold profits, especially when attempting to do cross-country comparisons. For this reason, although it is acknowledged there are a number of other influential regulatory factors, the focus here is on costs directly related to exports.

Currently, royalty rates in the ECOWAS region vary from country to country and can depend on the amount of gold being exported and who is exporting or refining it (see Table 6).

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Table 6: ECOWAS gold export royalty rates

Rate	Country
0%	Guinea
1%	Burkina Faso ¹⁰³
2%	Mali, Togo in transit (CFA 45/g)
3%	Burkina Faso (<\$1 000), Côte d'Ivoire (<\$1 000), Ghana (<\$1 300), Liberia, Niger, Sierra Leone, Togo
3.5%	Côte d'Ivoire (\$1 000–1 300), Ghana (\$1 300–1 500), Senegal (refined locally)
4%	Burkina Faso (\$1 000–1 300), Côte d'Ivoire (\$1 300–1 600), Ghana (\$1 450 –2 299), Nigeria
5%	Burkina Faso (>\$1 300), Côte d'Ivoire (\$1 600–2 000), Ghana (>\$2 300), Senegal (refined abroad)
5.85%	Benin
6%	Côte d'Ivoire (>\$2 000)

Table 7: Cost of exporting 1 kilogram of gold from ECOWAS member states

Country	Royalty rate and other export fees	Costs	Profit
Benin	<ul style="list-style-type: none"> • 5% gold export • 0.85% taxe de voirie 	\$2 052	\$33 024
Burkina Faso (when sold to the Agence Nationale d'Encadrement des Exploitations Minières Artisanales et Semi-mécanisées (ANEEMAS))	<ul style="list-style-type: none"> • 1% royalty • CFA 200/g assay fee 	\$711	\$34 365
Côte d'Ivoire	<ul style="list-style-type: none"> • 6% royalty • CFA 70 000/kg assay fee 	\$2 231	\$32 845
Ghana	<ul style="list-style-type: none"> • 3% royalty • 0.176% assay fee 	\$1 114	\$33 962
Guinea	<ul style="list-style-type: none"> • 0% royalty • GNF 300/g for assay and casting 	\$33	\$35 043
Liberia	<ul style="list-style-type: none"> • 3% royalty 	\$1 052	\$34 024
Mali	<ul style="list-style-type: none"> • 2% royalty 	\$702	\$34 374
Niger	<ul style="list-style-type: none"> • 3% royalty of 80% of value • CFA 5 000/g assay fee 	\$850	\$34 225
Nigeria	<ul style="list-style-type: none"> • 3% 	\$1 052	\$34 024
Senegal (refined locally)	<ul style="list-style-type: none"> • 3.5% royalty • CFA 300/g assay fee 	\$1 768	\$33 308
Senegal (refined abroad)	<ul style="list-style-type: none"> • 5% royalty • CFA 300/g assay fee 	\$2 294	\$32 782
Sierra Leone	<ul style="list-style-type: none"> • 3% royalty rate 	\$1 052	\$34 024
Togo	<ul style="list-style-type: none"> • 3% royalty rate 	\$1 052	\$34 024
Togo (in transit)	<ul style="list-style-type: none"> • CFA 45/g tax rate 	\$81	\$34 995

Notes: CFA 1 = US\$0.0018; GNF 1 = US\$0.00011; Calculations are based on the assumption: gold purity is 22 carats (meaning it has a purity of 91.67 per cent) and the London spot price, an international benchmark for gold prices, is \$38 265 for 24 carat gold (9 October 2018) = \$35 076

Notably, the tax policies of Mali and Togo, and more recently Guinea, contribute to their role as regional gold export hubs.

Mali previously levied a 3 per cent export tax on gold, as do neighbouring Burkina Faso and Côte d'Ivoire. However, the tax applied only to the first 50 kilograms of gold exported, above which no export tax was applied.¹⁰⁴ As a result, Mali was the biggest conduit of illicit exports in the region, with the UAE reporting imports volumes from Mali exceeding Mali's entire gold production. However, the 2017 Loi des Finances Rectificative (Amending Finance Act) changed this, fixing the export tax at 2 per cent of the total value of gold. This change, along with a reduction in royalty rates levied by Burkina Faso and Guinea may reshape regional flows.

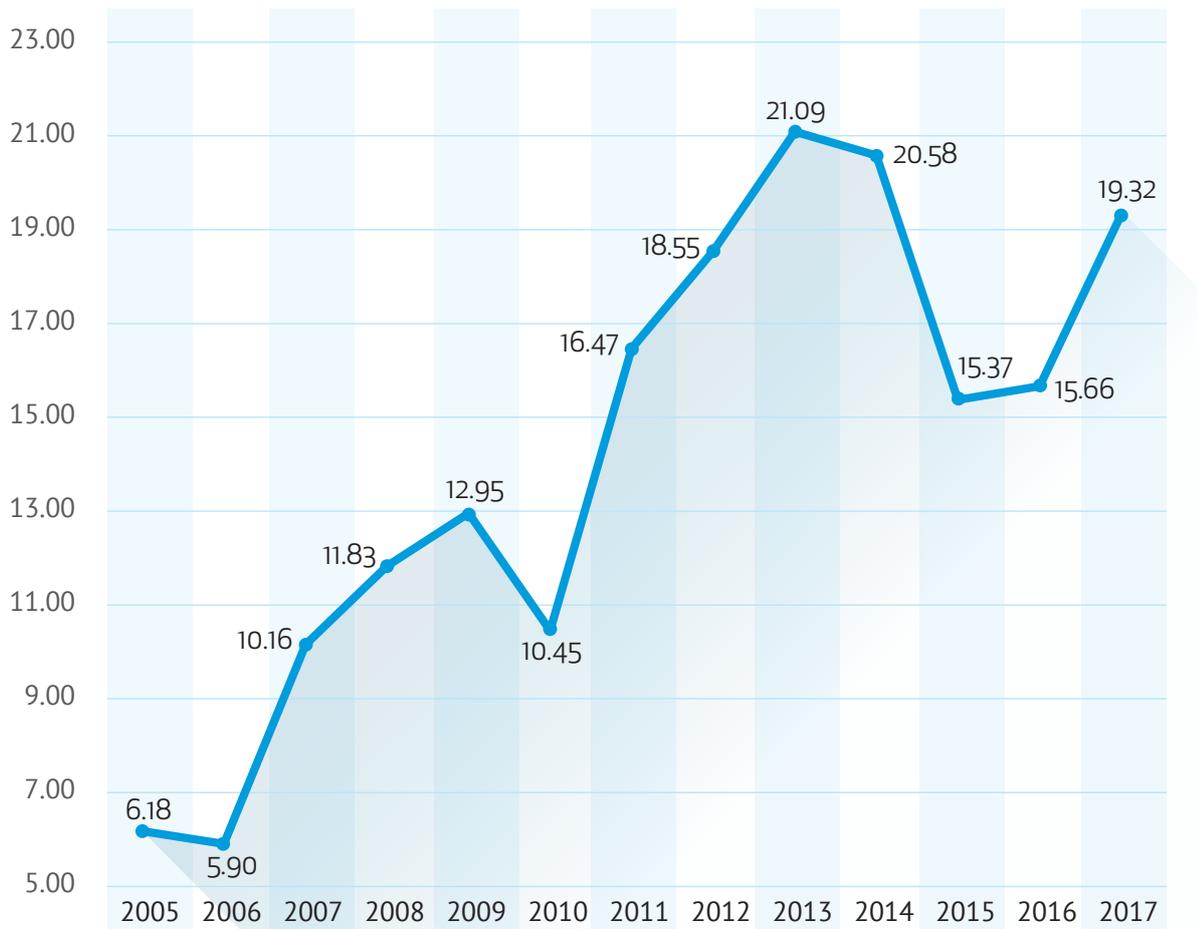
Guinea has reduced its royalty rates to 0 per cent. (Interviews with officials in Sierra Leone indicate the royalty rate for Guinea is 0.5 per cent,¹⁰⁵ although the rate was reduced in 2016, reflecting the lack of information sharing among ECOWAS member states.) This seems to have shifted the balance of flows from Mali to Guinea, with Guinea exporting increasing quantities of gold. Many miners from the region of Kangaba in Mali (some 30 kilometres from the border with Guinea) smuggle gold to Guinea, often under the pretext of managing family business. The shifting dynamic is reflected in exports to the UAE.) Mali's DNGM registered 20 tonnes of ASGM gold production in 2016 but only 6 tonnes in 2017. Furthermore, the superiority of the CFA franc in exchange-rate strength compared to the Guinean franc motivated some miners to sell gold over the border in either Mali or in Côte d'Ivoire. However, the increasing flow of gold to Guinea is said to have stabilized the Guinean franc, reducing the drive to smuggle gold out of Guinea.¹⁰⁶

Burkina Faso has also reduced royalty rates, introducing a discount on royalties if the gold is sold directly to ANEEMAS, the national agency charged with supervising the ASM sector. Instead of paying 3 to 5 per cent royalties, exporters are charged CFA200 000 per kilogram, roughly 1 per cent of the value of gold at current market prices. Since Decree 2017-0023 was published on 23 January 2017, the royalty on gold is no longer payable by the miner but by the trading and export buying house.¹⁰⁷

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Low royalty rates also contribute to Togo's role as an export hub for gold extracted by ASGM in neighbouring countries, mainly Burkina Faso. Togo's estimated ASGM production remains insignificant compared to its export volumes.¹⁰⁸ Despite producing minimal amounts of gold,¹⁰⁹ since 2010, the country has been exporting the equivalent of around half of Burkina Faso's total official gold production per year.¹¹⁰ The significant difference between exports and production can be explained by the fact that the vast majority of exported volumes come from neighbouring countries and are not produced in Togo.¹¹¹ By smuggling gold into Togo and exporting it from there, dealers pay only Togo's tax of CFA45 per gram on gold in transit and avoid Burkina Faso's precious-metals export taxes.¹¹² Similarly, exchanges with miners in Niger have revealed that artisanal gold is moved out of the country fraudulently to be sold in Togo. The smuggling is facilitated by traders in Lomé who do not require their Burkinabè clients to present documents authorizing the export of gold, instead preferring to operate on an 'ask no questions' basis.¹¹³

Figure 7: Official Togolese gold exports (tonnes)



Source: PDGM¹¹⁴

While royalty rates are the primary taxes levied on gold exports, a number of other fees and taxes are levied in almost every member state.

One such cost is known as assay fees. The responsibility for assaying gold is attributed to various national entities, from central banks, to mining ministries and state-run laboratories. There is no consistency among the ECOWAS countries as to the organization responsible for gold assays, and various rates and methods are used to determine the fees. Some countries apply a price per gram, whereas others apply an assay fee as a percentage of the value of the merchandise. Applied as price per gram, the assay fees were found to vary from \$0.03 per gram in Guinea to \$0.13 per gram in Côte d'Ivoire. As a percentage of the value, assay fees ranged from 0.17 per cent in Ghana to zero in Sierra Leone.¹¹⁵

Local customary governance and taxation also contribute to the cost of gold production and export. The governance of ASGM often rests under the de facto control of customary authorities, despite the fact that all mineral extraction administration lies de jure with the state. For example, the customary governance structures that are in place in ASGM villages in Senegal transcend the village space and result in an evolved and sophisticated mode of organization and governance specific to the gold resource, one that allows for a direct taxation. This mining tax is often paid in the form of a percentage of unprocessed ore removed from the ground.¹¹⁶

Miners are also obligated to pay other taxes and charges that directly impact the profitability of gold, including licensing fees, surface rents charged, and the costs of environmental certification and compliance. In some cases, miners are expected to contribute to community development, and this can be done through the customary tax system. Each of the additional, or overhead costs of participating in ASGM influence the level of profitability of ASGM miners. Therefore, a gold buyer can offer prices that omit some of the liabilities

by smuggling the gold to a neighbouring country, then it becomes an incentive to sell informally and reap the benefits of cost savings and increased profit.

In addition to these expenses, export processes, which can be complex and take a long time, have an impact on which countries gold dealers decide to sell gold from (see Table 8). In most member states, it takes several days to export gold (reportedly, it takes up to four days in some countries). In addition, the bureaucracy can be convoluted, involving numerous parties and visits to various offices. The financial costs related to these delays are substantial for miners and buyers, who are kept away from the mine site and have to cover transportation and accommodation costs while they are dealing with the export paperwork. By contrast, the processes in Benin and Togo are very efficient, taking place in a single day.¹¹⁷ For example, in Cotonou, the Ministry of Mines and export companies are all close to the airport, meaning the export process requires only a phone call and a short drive.

Of note, there appears to be little overlap between government actors charged with regulating the gold trade and those regulating the trade and use of mercury. In particular, in most countries, environmental ministries have little, if anything, to do with the gold trade. This is another point that highlights the value of greater coordination. Including environmental ministries in efforts to regulate the gold trade may enable a more holistic understanding and response to efforts to curb the mercury trade and use.

Table 8: Overview of ECOWAS member-state gold export processes

Country	Export process
Benin 1 day	<ol style="list-style-type: none"> 1. Gold transported through private security by authorized gold exporter to the airport with official from MEEM. 2. MEEM authorizations are presented to airport customs. Gold assay and sealing conducted by MEEM officials under airport customs' oversight. The process takes place on the same day as the scheduled flight.
Burkina Faso 2 to 3 days (average 3 days)	<ol style="list-style-type: none"> 1. The licensed gold exporter goes to the Bureau des Mines et de la Géologie du Burkina Faso (bureau of mines). 2. Get certificate after assay and payment of fee. 3. Go to chamber of commerce and industry for prints and stamps. 4. Go to director general of taxes to pay taxes. 5. Go to export office at airport for last paperwork.
Côte d'Ivoire 3 to 4 days (average 3 days)	<ol style="list-style-type: none"> 1. Exporter pays assay levy. 2. Go to the Société pour le Développement Minier de la Côte d'Ivoire (mining development) to get the necessary certificate. 3. Go to the chamber of commerce to get the necessary forms and stamps. 4. Exporter pays tax. 5. Gold is taken to export office at the airport.
Ghana	<ol style="list-style-type: none"> 1. The licensed gold exporter informs the Precious Minerals Marketing Company (PMMC) they are intending to export gold two working days prior to export. 2. The PMMC assays the gold. 3. A report is issued to the gold exporter, the Bank of Ghana, customs and the Minerals Commission. 4. The assay fee paid. 5. Gold is sealed in presence of an authorized representative of the assay centre.

<p>Guinea 2 to 3 days (average 2 days)</p>	<ol style="list-style-type: none"> 1. An export application is sent to the BNE with a copy of the export licence. 2. The BCRG assays the gold. 3. Quantities declared to customs. 4. Administration and customs formalities are completed once the fee is paid.
<p>Liberia 1 to 2 days</p>	<ol style="list-style-type: none"> 1. The exporter goes to the Office of Precious Minerals (OPM), which conducts a valuation of export values and royalties due. 2. The exporter pays the royalties due to the Liberia Revenue Authority by cheque. 3. The exporter goes back to the OPM to show evidence of payment and the OPM issues an export authorization.
<p>Mali 2 to 4 days (average 3 days)</p>	<ol style="list-style-type: none"> 1. An exporter must register to the Direction Nationale du Commerce et de la Concurrence (DGCC – national directorate of trade and competition). 2. An exporter must then go to DNGM for a certificate after the gold has been assayed. 3. Go back to DGCC for export intention. 4. Pay taxes at the general directorate of taxes and revenues. 5. Go back to DGCC for final export authorization. 6. Finalize the export process at airport customs office.
<p>Niger 3 to 4 days (Average 3 days)</p>	<ol style="list-style-type: none"> 1. An exporter must go to the Direction Générale des Mines (DGM – general directorate of mines) to declare intention to export. 2. A tax invoice is issued by DGM and the exporter must go to the Direction Générale des Impôts (general tax division) to pay the tax. 3. The exporter must then go to the DGM for final liquidation and to get a gold export certificate. 4. The exporter must go to the chamber of commerce and industry to get an export authorization forms and stamps. 5. Gold must then be taken to the general directorate of customs export office in the airport.
<p>Nigeria 2 to 3 days</p>	<ol style="list-style-type: none"> 1. An exporter must obtain an export permit. 2. They must then provide proof of source of purchase of minerals. 3. They must then pay the necessary charges, including royalties.
<p>Senegal 2 to 3 days (average 2 days)</p>	<ol style="list-style-type: none"> 1. A licensed exporter buys a certificate of origin book from the chamber of commerce. 2. The form for each export must be taken to the ministry of mines to be authenticated. 3. The exporter must then go to the foreign trade office to get a visa. 4. They must then apply to customs for assay.
<p>Sierra Leone 1 to 2 days</p>	<ol style="list-style-type: none"> 1. The licensed gold exporter informs the Directorate of Precious Minerals Trading (PMTD) two working days before export for valuation. 2. An assay and purity test is conducted and the gold is re-weighed. 3. The gold packaged in presence of mines, customs, PMTD officials.
<p>Togo 1 day</p>	<ol style="list-style-type: none"> 1. Authorized gold exporter brings gold to the ministry of mines' laboratory. 2. Gold is assayed then sealed in the ministry's laboratory, in presence of with the gold exporter, under the supervision of a customs official. 3. Gold is escorted by private security and customs until loaded onto the plane the same day.

Gold flows

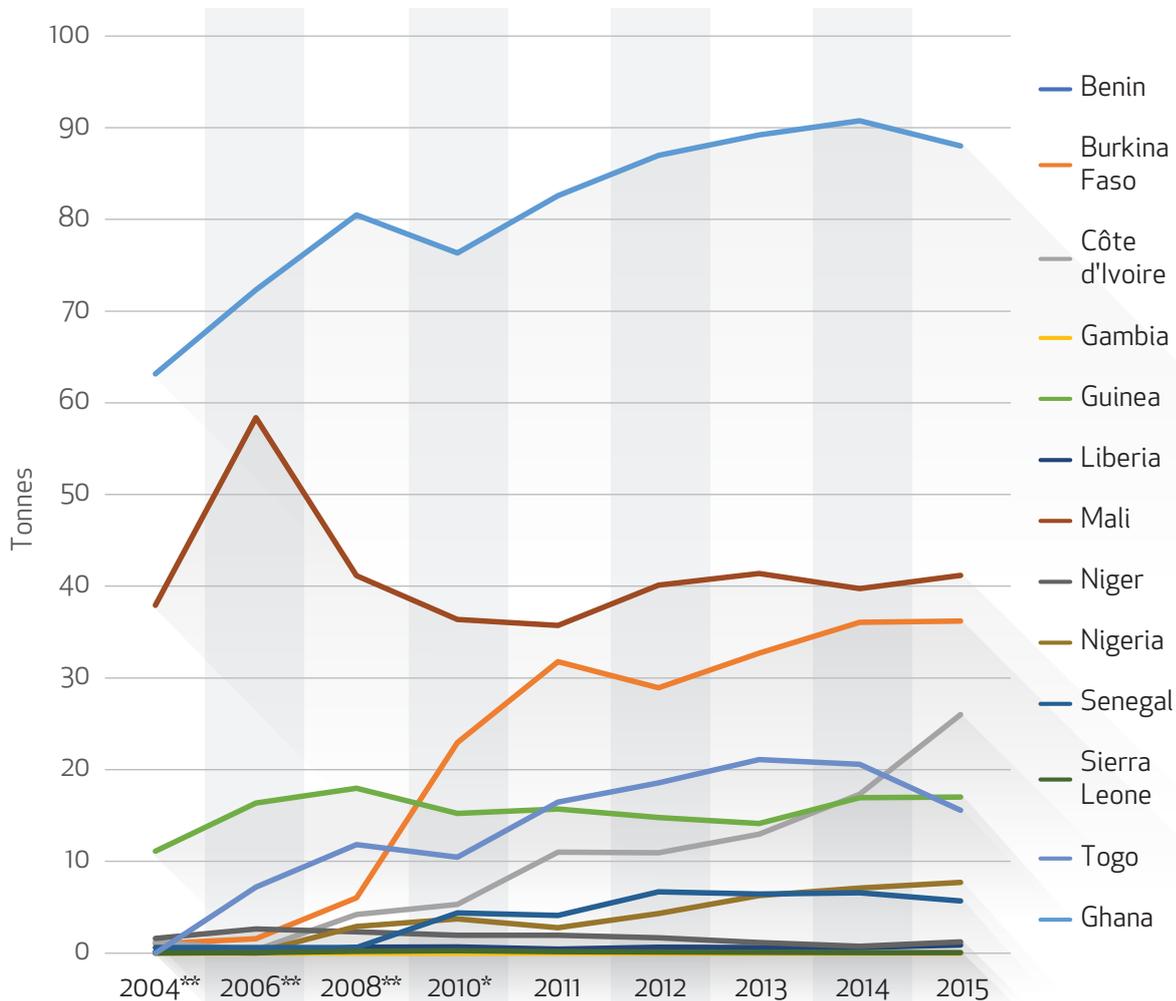
Flows of artisanally mined gold through the region, as visualized in Figure 3, are as follows:

- **Burkina Faso:** The major immediate destinations of artisanal gold from Burkina Faso are Togo and Ghana, before being exported to the UAE and Switzerland. Buyers may process gold to a purity averaging 22 to 23 carats. It is in this form, small bullion the size of a pack of cigarettes and a maximum weight of one kilo, that gold is smuggled from Burkina Faso to Togo. According to conservative estimates, no fewer than 7 000 kilograms are thus smuggled from Burkina Faso to Togo annually, although there is reason to believe the volumes could be much higher.¹¹⁸ From sites in Burkina Faso, gold is also taken to Ghana, where the superiors of the main collectors are based.
- **Côte d'Ivoire:** Gold produced in the central, northern and eastern regions is fraudulently flown to Mali, Burkina Faso and Ghana, from where it is exported to Dubai. The Group of Experts on Côte d'Ivoire reported that no customs officers were deployed along a main route between Côte d'Ivoire and Bamako, Mali, from 2002 to 2011 and that there were regular movements of goods along that route, some of which included gold smuggling.¹¹⁹
- **Ghana:** Ghana is not thought to be a major player in regional flows. Most gold produced domestically is thought to be exported from the country. In addition, Ghana does not seem to attract large gold flows from neighbouring countries.
- **Guinea:** Much of Guinea's gold is thought to be shipped to Mali. To avoid transaction costs, miners prefer to use back roads to transport gold and to deal with sellers from other countries (mainly from Mali).
- **Liberia:** Most of the gold legally exported is destined for Dubai, UAE. However, it is suspected that gold is smuggled to Guinea because that country has a royalty rate of 0.5 per cent, compared to Liberia's rate of 3 per cent, which results in low official export volumes.¹²⁰ A UN Panel of Experts on Liberia found that some traffickers smuggle up to 10 kilograms of gold a week through Côte d'Ivoire and Guinea, where it is then trafficked on to the UAE.¹²¹ A major consideration when trafficking gold is transportation costs, both in terms of money and time. Transporting gold to Monrovia can slash profit margins, whereas smuggling gold over the border can be a shorter and less costly trip.
- **Mali:** Although Mali is the one of the largest exporters of gold in the ECOWAS region, if not the largest, it is still thought the country is losing some of its gold production to intraregional smuggling. Gold found in the border regions, particularly in the south-west and north-east, is thought to be sold in Guinea and through Burkina Faso to Togo.
- **Niger:** Artisanal gold produced in Niger is diverted for sale to Togo and Benin before being exported to the UAE, particularly in the souks of Dubai. Meanwhile, gold produced in the northern part of the country, especially in Agadez, is diverted to Sudan, via Chad, before being sold in the UAE and other Arab countries. This flow is reflected by the influence of gold buyers from Arab countries (e.g. Yemen and Syria).¹²²
- **Sierra Leone:** Most of the gold produced is suspected to be smuggled to Guinea, which has a royalty of 0.5 per cent – compared to 3 per cent in Sierra Leone.¹²³ There were reports that some businesspeople believed to be money launders are stationed at the borders with Guinea and buy gold at a rate higher than the world market price and they pay in dollars, which is preferred by most sellers.¹²⁴
- **Togo:** The country is thought to be a major recipient of intra-regional flows, especially from or through Burkina Faso.

Regardless of the source or transit state in the ECOWAS region, the lion's share of ASGM production is reported to be exported to Dubai in the UAE. Since the Dubai Multi Commodities Centre, the quasi-private regulatory body for precious metals and gems, was established in 2002, Dubai has exponentially increased its market share of global gold flows. In 2013, 40 per cent of the world's gold trade, worth an estimated \$75 billion, passed through Dubai, a 12-fold increase in value compared with a decade earlier.¹²⁵ A major driver of this growth has been gold sourced from Africa, including gold produced by ASGM in the ECOWAS region. In every state, it was reported that most of the gold exported from the region is destined for Dubai.

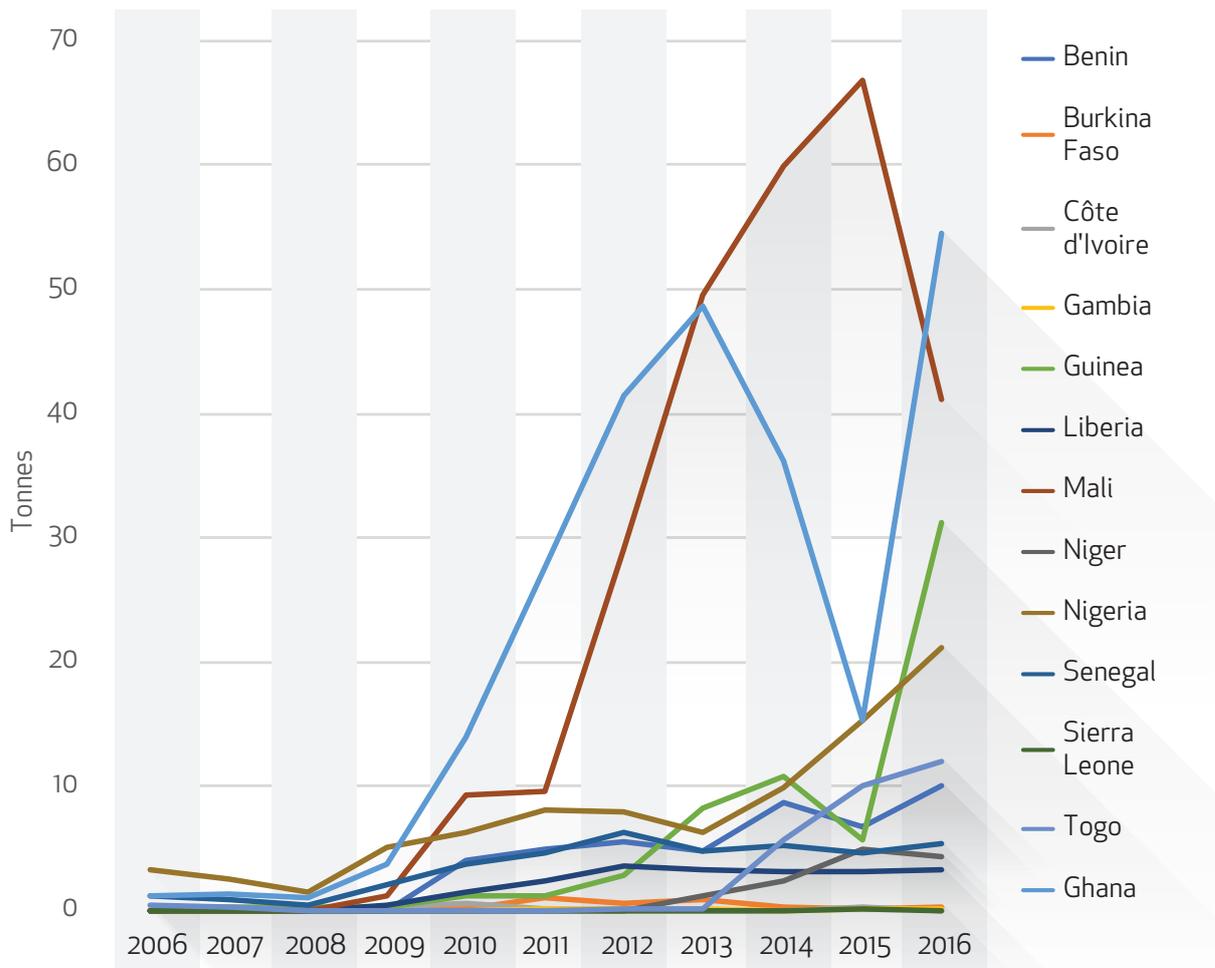
Most of this gold is thought to be exported by plane; gold is thought to be smuggled, for the most part, out of the region through airports.¹²⁶ For example, the 2014 UN Group of Experts on Côte d'Ivoire cited a high-risk of gold being smuggled out of the country via Abidjan airport, as there is no process or risk assessment system in place there to prevent the illicit trafficking of natural resources.¹²⁷ Likewise, in Lomé, it is reported that most gold is exported by plane.¹²⁸ Gold may also be smuggled by under-declaring the amount or value of gold exported by using false receipts and undervaluing the quality of gold being exported.

Figure 8: Estimated gold production by country



Source: USGS, 2015 Minerals Yearbook: Gold, 2017; *Carsten Lassen et al, Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa. World Bank and COWI, 2016; ** Bertrand Laporte et al, Mining taxation in Africa: The gold mining industry in 14 countries from 1980 to 2015, CERDI: 2017.

Figure 9: Reported imports of gold to UAE from West African countries (2006–2016)



Source: UN Comtrade

Another prominent destination for ECOWAS gold is Switzerland. According to official Swiss import figures, from the region, Ghana is the biggest exporter of gold to Switzerland. However, exports to Switzerland have declined in recent years. It was reported in Togo that Switzerland accused the country of supplying gold from organized crime.¹²⁹ Other reported destinations of gold exported from Togo are Lebanon and Belgium.¹³⁰

Conclusion

A misalignment between regulatory frameworks and lack of coordination amongst relevant actors frustrates attempts to curb mercury supply and use in ASGM in the ECOWAS region. Efforts to curb the mercury flow would benefit from greater coordination at the state level and by including various actors in mercury discussions and capacity building. For example, in Togo it was admitted that cooperation could be improved.¹³¹ As such, harmonization of trade and taxation regulations, and improving coordination in the ECOWAS region, both amongst and within member states, will improve stakeholders' ability to regulate and to disincentivize the trade of mercury between targeted countries, and thus meet their obligations under the Minamata Convention.

To better achieve these aims, the following recommendations are made:

Improve knowledge of mercury flows

Assessments of mercury flows ought to be conducted in order to establish the baseline knowledge necessary to facilitate regional cooperation. For example, MIAs could be supplemented by an examination of sources and flows of mercury and gold, as well as financial flows. Further investigations into cross-border flows will be valuable to informing dialogues around harmonizing regional frameworks and facilitating cooperation. In particular, by generating greater understanding and awareness of the gravity of the impacts and challenges to combating the trade and use of mercury in ASGM, ECOWAS member states will be in a better position to develop a common approach to addressing the threat. Also, further investigation into beneficial ownership of companies importing mercury, and gold companies exporting gold, and any cross-border business relationships may be helpful in identifying vested interests. The establishment of regional knowledge networks can aid in ensuring continued research and knowledge sharing.

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Standardize mercury-specific regulatory frameworks

Regulatory frameworks that are mercury-specific and standardized across the ECOWAS region are necessary in order to enable more effective coordination and responses, both domestically and regionally. Domestically, trade, mining and environmental regulatory frameworks need to be aligned in order to enable a cohesive national response to mercury trade and use. The same needs to be done on the regional level. Regional organizations, especially ECOWAS and WAEMU, can take the lead in drafting and adopting harmonized codes. Both organizations have already taken action, and this momentum should be maintained and supported as implementation of the Minamata Convention moves forward.

Specific action that would be of value includes identifying and defining mercury in legislation and regulatory frameworks, rather than relying on language that targets hazardous chemicals in general; adopting a common HS code or other mechanism to measure mercury imports; and agreeing on whether a total ban on mercury imports should be put in place or whether another regulatory strategy should be pursued. For example, by adopting a common mercury tracking scheme, ECOWAS member states can take action such as requiring specific receipts or stamps for the import or transit of mercury through their borders.

Increase engagement with and capacity of customs organizations

Customs bodies, as well as financial ministries in general, can play a pivotal role in regulating mercury trade flows. As such, greater knowledge sharing between ministries and capacity building are needed. Mercury reduction will require developing communication strategies between government bodies at the state level in order to close coordination gaps. Customs and finance ministry officials ought to be included in dia-

logues around mercury trade and use, not only to increase awareness but also so they may share insight on challenges and opportunities to better regulate and curb the trade. Also, greater investment is needed in delivering mercury-specific training to customs officers, including training officers on how to detect mercury and ensuring they have the appropriate tools and resources to do so. A partnership between environmental ministries and customs agents would be very valuable in this regard. A regional strategy would be valuable as standardized, group training could be delivered to not only increase capacity, but also foster stronger connections between member state customs bodies. More developed states and regional organizations may be called on to develop a structure to monitor progress and offer assistance where required.

Focus regional efforts on hubs

Land borders are incredibly difficult to police and the geographically remote and dispersed nature of ASGM makes it a challenge to regulate mercury use at mine sites. As such, enforcement efforts must look further upstream and focus on regional hubs. It will be a more effective and efficient use of resources to focus on these chokepoints rather than by attempting to tackle flows after they have been dispersed throughout the region.

However, such action will require accounting for the sovereignty and priorities of countries that are mercury import hubs, but do not experience high levels of mercury use within their borders. In particular, Togo falls into this category. While it is important to target seaports that serve as pivotal chokepoints in the mercury supply chain, transit countries may see the action as a huge investment of resources while reaping little benefit. This is especially the case if increased enforcement may reduce state revenue from the mercury and gold trades. As such, negotiations may need to look beyond mercury and gold to identify levers that can be used to lure neighbours to the negotiating table and expend the resources to target mercury imports at seaports. Again, group training or regional support for capacity building may be useful. In this way, landlocked member states may be better able to support the efforts of member states with seaports, which currently act as chokepoints in mercury supply chains.

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Reward miners who extract gold without mercury or by using improved technology

If the licit import and sale of mercury is heavily restricted without also reducing demand, it is likely that mercury will become a valuable commodity on the West African black market. Trade and taxation policies can be leveraged to influence markets and the behaviour of individuals.¹³² Tax incentives could be offered to dealers who can prove gold was extracted without the use of mercury or to mining operations that take part in mercury-reduction programmes and make use of cleaner technology.

Harmonize gold export regimes

Key to reducing mercury use in ASGM is formalizing the sector. However, gold smuggling frustrates formalization efforts, perpetuating informality and illicit activity. Due to the ease of crossing the borders in the ECOWAS region, gold buyers are known to shop around and smuggle gold to the country with the lowest royalty rate. While a number of different factors influence regional flows, harmonizing regional gold export policies, including royalty rates, will increase member states' control over drivers of gold smuggling.

Harmonization in the ECOWAS region will require not only the adoption of equal tax rates, but also the uniform application of agreed rules. Three elements describe tax harmonization: an equalization of tax rates, a common definition of national tax bases and a uniform application of agreed rules.¹³³ In addition, a standard fee should be applied to all gold exports, regardless of whether it has been mined in the state or is in transit.

Other fees and processes also need to be accounted for. Specifically, assay fees, licensing fees and export processes. Also, while largely out of state control, payments to traditional authorities ought to be considered when determining reasonable rates to charge miners and buyers for gold exports.

Until a regional system is in place, it is likely that royalty rates will continue to fall, which will result in a 'race to the bottom' and deprive West African countries of the economic benefits of their mineral wealth. As such, ECOWAS member states may consider making harmonization compulsory, with penalties for non-compliance, although voluntary systems would be more desirable.

Strengthen regulatory oversight of gold imports in destination hubs

Efforts to formalize ASGM and reduce mercury use are thwarted by illicit flows, which are enabled by minimal regulatory oversight in destination hubs. As such, ECOWAS member states and other international actors can conduct outreach to neighbours and key trade partners in an effort to apply pressure further downstream. Specifically, the UAE (a party to the Minamata Convention) can assist by tightening and fully implementing regulatory controls on gold imports in Dubai. As advocated for in Martin and Helbig de Balzac, this can be done by increasing controls over imports of hand-carried gold and requiring additional information from importers of gold, including the authentication of the certificates of origin or export permits and official documents, such as tax receipts in the country of export.¹³⁴

Endnotes

- 1 The Minamata Convention opened for signature on 10–11 October 2013 in Kumamoto, Japan, and entered into force 16 August 2017.
- 2 The Minamata Convention defines ASGM as ‘gold mining conducted by individual miners or small enterprises with limited capital investment and production’ (UNEP, 2013). However, there is no universally accepted definition of artisanal and small-scale mining (ASM), nor uniformity in national legislation. Additionally, the definition of a miner was also found in need of clarity in the COWI report, as it impacts on mercury calculation rates per miner and there is inconsistency in estimations across countries. See Carsten Lassen, Marlies Warming, Jakob Maag and Jesper Bosse Jønsson, Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa. World Bank and COWI, 2016.
- 3 UNIDO, Technical guidelines on mercury management in artisanal and small-scale gold mining. Vienna: UNIDO, 2008.
- 4 Conference of Plenipotentiaries on the Minamata Convention on Mercury, Art. 7
- 5 Cape Verde, Côte d’Ivoire, and Liberia have signed, but not ratified, the convention. (UNEP, Minamata Convention on Mercury, Status of signature, and ratification, acceptance, approval or accession, <http://mercuryconvention.org/Countries/Parties/tabid/3428/language/en-US/Default.aspx>.)
- 6 Richard J Goldfarb et al, West Africa: The world’s premier paleoproterozoic gold province, *Economic Geology*, 112, 1 (2017): 123–143.
- 7 Carsten Lassen, Marlies Warming, Jakob Maag and Jesper Bosse Jønsson, Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa. World Bank and COWI, 2016.
- 8 Marcena Hunter, Asher Smith and Estelle Levin-Nally, Follow the money: Financial flows linked to artisanal and small-scale gold mining, Global Initiative Against Transnational Organized Crime and Estelle Levin Ltd, 2017.
- 9 ‘The ECOWAS Vision 2020 is aimed at setting a clear direction and goal to significantly raise the standard of living of the people through conscious and inclusive programmes that will guarantee a bright future for West Africa and -shape the destiny of the region for many years to come.’ (ECOWAS, Vision 2020, <http://www.ecowas.int/about-ecowas/vision-2020/>)
- 10 UNECA and ECOWAS, An assessment of progress towards regional integration in the Economic Community Of West African States since its inception, Doc ECA-WA/NREC/2015/03, May 2015.
- 11 AfDB, Regional integration strategy paper for West Africa 2011–2015, March 2011, <https://www.afdb.org/en/documents/document/2011-2015-western-africa-regional-integration-strategy-paper-risp-25064/>.
- 12 WAEMU consists of the eight countries that share the West African franc (CFA): Benin, Burkina Faso, Côte d’Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo.
- 13 Interviews in Ouagadougou, September 2018.
- 14 In April 2017, the Ministry of Lands and Natural Resources instituted a six-month ban on all small-scale mining in Ghana, which was subsequently extended. During the suspension, the national security authorities carried out Operation Vanguard, targeting illegal miners for arrest and confiscation of their equipment. The government has also begun training small-scale miners and has engaged in dialogue with the national small-scale mining association to discuss reforms for the sector. The government has also approached traditional leaders to engage them in the fight against illegal mining and has begun to establish ad hoc district committees against illegal mining to help with surveillance and monitoring, and to assist with the vetting of licences and permits. The government is now preparing a long-term response to improve and manage the ASM sector, once the ban is lifted. The main vehicle for this response will be a new programme called the Multi-sectoral Mining Integrated Project. (Interviews in Accra, September 2018.)

- 15 Interviews in Abuja, September 2018.
- 16 Gavin Hilson et al, Formalizing artisanal gold mining under the Minamata Convention: Previewing the challenge in sub-Saharan Africa, *Environmental Science and Policy*, 85, 2018, 123–131.
- 17 Interview with Mohammed Abdulai Kamara, Environmental Protection Agency, Sierra Leone, August 2018.
- 18 Interview with Minamata focal point (Ministry of Environment), Sandra Gonou, Cotonou, 3 September 2018.
- 19 Interviews in Cotonou, September 2018.
- 20 Interviews in Lomé, August 2018.
- 21 Interview with Minamata focal point (Direction Générale de l'Environnement), J Meba, Lomé, 27 August 2018.
- 22 UNITAR, Mercury Platform: Gambia, <http://mercury.unitar.org/site/country/GMB>.
- 23 Groundwork, The development of Minamata Convention on Mercury Initial Assessment in Africa, October 2018, http://groundwork.org.za/Documents/mercury/MIA_1_-_Lessons_Learnt_booklet_-_%20Oct_2018_v1.pdf, p 6.
- 24 Carsten Lassen, Marlies Warming, Jakob Maag and Jesper Bosse Jønsson, Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa, World Bank and COWI, 2016.
- 25 Interviews in Lomé, August 2018.
- 26 Interviews in Accra, September 2018.
- 27 Interview with Minamata focal point (Direction Générale de l'Environnement), J Meba, Lomé, 27 August 2018.
- 28 Interviews in Cotonou, September 2018.
- 29 Interview with National Director of Mines, Ouagadougou, 10 September 2018; interview with General Director of Environmental Protection, Ouagadougou, 13 September 2018.
- 30 Friends of the Nation, Baseline information for the national action plan on artisanal small-scale gold mining: Ghana. Accra: Friends of the Nation, 2017.
- 31 Carsten Lassen et al, Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa. World Bank and COWI, 2016.
- 32 Interviews with General Directorate of Customs with the officer in charge of precious metals exports and the officer in charge of chemicals imports, Conakry, 23 August 2018.
- 33 Interviews in Monrovia, August 2018.
- 34 Interviews with the Deputy General Director of Commerce and his staff in charge of chemical imports, Bamako, 28 August 2018.
- 35 Interviews in Freetown, August 2018.
- 36 Interviews in Lomé, August 2018.
- 37 Alan Martin and Bernard Taylor, All that glitters is not Gold: Dubai, Congo and the illicit trade of conflict minerals, IMPACT, 2014; Alan Martin and Hélène Helbig de Balzac, The West African El Dorado: Mapping the illicit trade of gold in Côte d'Ivoire, Mali and Burkina Faso, Partnership Africa Canada, 2017; interview with refinery industry analyst, Johannesburg, 27 June 2018, by phone.
- 38 Carsten Lassen et al, Mercury trade and use for artisanal and small-scale gold mining in sub-Saharan Africa. World Bank and COWI, 2016.
- 39 Gavin Hilson et al, Formalizing artisanal gold mining under the Minamata Convention: Previewing the challenge in sub-Saharan Africa, *Environmental Science and Policy*, 85 (2018), 123–131.

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Vienna International Centre · P.O. Box 300 · 1400 Vienna · Austria
Tel.: (+43-1) 26026-0 · E-mail: info@unido.org
www.unido.org