

GHANA ARTISANAL AND SMALL-SCALE GOLD MINING - SCOPING MISSION REPORT

ARTISANAL MINING AND PROPERTY RIGHTS (USAID
AMPR) TASK ORDER UNDER THE STRENGTHENING
TENURE AND RESOURCE RIGHTS II (STARR II) IDIQ



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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

LIST OF ACRONYMS.....	ii
1.0 Background, Purpose and methodology.....	1
1.1 Background and Purpose.....	1
1.2 Methodology and Limitations	1
2.0 Literature Review	3
2.1 Review of Media and General Literature on <i>Galamsey</i>	3
2.2 Review of the MMIP Project Document.....	5
3.0 Summary of Observations	7
3.1 Observations from ASM Conference.....	7
3.2 National Stakeholder Interviews	8
3.3 Field observations from West Amenfi District.....	9
3.3.1 Types and extent of ASGM.....	9
3.3.2 Supply chain organization	13
3.3.3 Community attitudes around ASGM.....	15
3.3.4 Mercury and environmental concerns.....	15
3.3.5 Regulation by customary authorities	17
3.3.6 Regulation by government	18
3.3.7 Links to cocoa economy.....	20
3.3.8 Land tenure dynamics of ASGM	22
4.0 Donor Gap Analysis and Recommendations.....	24
4.1 Gap Analysis of MMIP.....	24
4.2 General Recommendations.....	25
ANNEX A: BIBLIOGRAPHY	26
ANNEX B: ASM Conference Program.....	27
ANNEX C: Slides from Conference Presentation	30

LIST OF ACRONYMS

AMPR	Artisanal Mining and Property Rights
ASGM	Artisanal and Small-Scale Gold Mining
ASM	Artisanal and Small-Scale Mining
CAR	Central African Republic
COR	Contracting Officer's Representative
CSO	Civil Society Organization
EU	European Union
GNASSM	Ghana National Association of Small-Scale Miners
GPS	Global Positioning System
ILO	International Labor Organization
IMCIM	Inter-Ministerial Committee on Illegal Mining
KP	Kimberley Process
KPCS	Kimberley Process Certification Scheme
MMIP	Mining Multisectoral Integrated Project
OECD	Organization of Economic Cooperation and Development
PM	Project Manager
PMMC	Precious Minerals Marketing Corporation
PRADD	Property Rights and Artisanal Diamond Development
SODEMI	<i>Société pour le Développement Minier en Côte d'Ivoire</i>
SSVD	Swollen Shoot Virus Disease
USAID	United States Agency for International Development
USG	United States Government
USGS	United States Geological Survey
WB	World Bank

I.0 BACKGROUND, PURPOSE AND METHODOLOGY

I.1 BACKGROUND AND PURPOSE

The USAID Artisanal Mining and Property Rights (USAID AMPR) Project's main purpose is to address land and resource governance challenges around the Artisanal and Small-Scale Mining (ASM) sector. Field activities of USAID AMPR take place mainly in the Central African Republic (CAR), with a primary focus on diamonds and a secondary focus on gold. The project forms part of assistance in implementing the Kimberley Process, the international mechanism that sets rules and norms for the trade in conflict-free rough diamonds. Through its activities USAID AMPR promotes legal, responsible supply chains and strengthens social cohesion in mining areas. The project's four components are:

1. Support the government of the Central African Republic to improve compliance with the KP requirements to promote legal economic activities
2. Strengthen community resilience, social cohesion and capacity to manage violent conflict in CAR
3. Assess and better understand the opportunities and challenges of establishing responsible artisanal gold supply chains in CAR
4. Improve USAID's programming through better understanding of links between ASM and major development challenges

As part of Component 4, USAID AMPR provides on-demand short-term technical assistance on development challenges associated with ASM to various USAID Operating Units around the globe, with an emphasis on sub-Saharan Africa.

The Ghana ASGM scoping mission was designed as a Component 4 activity in response to an expression of interest by the U.S. Embassy in Ghana on learning more about best practices and options for engaging with the ASGM sector. The Embassy has followed closely the recently lifted ban on illegal mining and the activities of the Inter-Ministerial Committee on Illegal Mining (IMCIM). In the past two years they have organized several roundtables and seminars related to ASGM, and have dialogued with key actors like the Ghana National Association of Small-Scale Miners (GNASSM). The scoping mission aimed at taking stock of the situation and identifying options for further engagement, either through the USAID AMPR Component 4 mechanism or other means.

In addition, the report responded to a need of the USAID Integrated Land and Resource Governance (ILRG) project which is setting up the Supporting Deforestation-Free Cocoa in Ghana initiative. The initiative is a collaboration with the private sector to rehabilitate small farmer-owned cocoa plantations with an emphasis on tenurial arrangements and land-use planning. A November 2018 evaluation carried out by the USAID Communications, Evidence, and Learning (CEL) project suggested that ASGM, often termed *galamsey* in Ghana, may affect significantly the long-term prospects of the cocoa economy in the pilot area in Wassa Amenfi West District. These impacts include environmental damage from ASGM but also the potential to undermine investments in cocoa production due to high returns from gold. The ASGM scoping mission therefore was intended to contribute additional information on ASGM for use by ILRG as they prepare for additional field activities.

I.2 METHODOLOGY AND LIMITATIONS

The main methods used were direct observation, key informant interviews and review of relevant literature / documentation. The week-long mission was organized around the following activities:

- 1) **Literature Review.** The consultant prepared a partial bibliography of documents (academic literature, project documents, reports) relevant to ASGM in Ghana, especially in cocoa-growing regions, and read these documents to identify key issues and trends.
- 2) **Attendance of the “Africa Conference on Artisanal and Small-Scale Mining and Quarrying”** organized by a local professor with Australian government support on the 28th and 29th of March. The consultant gave a presentation on best practices of ASM formalization (see Annex C), observed discourse and dynamics among actors, and held conversations / interviews with conference participants.
- 3) **Field Visit to Wassa Amenfi West District.** The consultant traveled to Asankrangwa to interview stakeholders, visit gold mining sites and cocoa-producing villages/towns of Kwabeng, Amoamang, Domeabra, and Sikayeakona. In addition, the consultant visited a gold-mining concession north of Akropong in Wassa Amenfi East District.
- 4) **Key Informant Interviews.** The consultant conducted formal and informal stakeholder interviews in Accra, in addition to an out-brief with Maurice Jackson, an Economic Officer at the U.S. Embassy.

The consultant was assisted by an experienced logistician, Mr. René Dogbe, who also had in-depth knowledge of the land tenure dynamics in the communities visited, having worked with the ILRG project previously.

During site visits and key informant interviews, the consultant focused questions around the following:

- Organization of production and trade, both in theory and in practice
- Economics of production and trade, including pre-financing and income streams
- Political economy of ASGM at local and national level including role of elites and foreigners
- Role of customary chiefs and local communities in mining management
- Role of government technical institutions at national and local level
- Perceptions/attitudes of stakeholders about legal and illegal mining
- Environmental impacts, including destruction of cocoa plantations and use of mercury
- Land tenure dynamics, including compensation mechanisms between miners and land owners

The key limitation of the scoping mission was its short duration (2.5 days in the field, 2.5 days in Accra). While an effort was made to learn the maximum amount of information, there was insufficient time to triangulate and nuance findings. The recommendations section identifies areas that merit further in-depth research.

Finally, regarding terminology, this report will avoid using the politically charged term *galamsey*, generally referring to illegal artisanal miners. Due to the negative connotations of this term, as well as its lack of precision, the more neutral term ASM or ASGM is preferable, except when talking about national policy and discourse on the issue. Using the term ASGM also allows an examination of existing practices irrespective of their legal status or political debates.

In addition, while Ghanaian law lumps together small-scale and artisanal mining, which is common practice, this report will generally differentiate between artisanal and small-scale, even if they often occur in symbiosis. Small-scale mining refers to semi-mechanized or fully mechanized ore extraction and treatment in well-defined concessions owned or operated by relatively wealthy individuals or small companies and in which workers are generally employees. Artisanal mining refers to non-mechanized or semi-mechanized mining by highly mobile self-employed individuals or small groups who are often financed by buyers and often from poorer backgrounds. Mechanized mining includes the use of earth movers and fixed installation wash plants, whereas semi-mechanized includes portable machines like water pumps and small crushers / sluices while relying heavily on manual labor.

2.0 LITERATURE REVIEW

2.1 REVIEW OF MEDIA AND GENERAL LITERATURE ON GALAMSEY

The following observations summarize key take-aways from the partial literature review. (See bibliography in Annex A for sources and works consulted.)

ASGM has existed for centuries in Ghana, and since independence has co-existed with large-scale mining, though largely unregulated until 1989. The rise in world gold prices that began in 2008 set off a rush that attracted a variety of outside actors and financing. For example, an estimated 50,000 Chinese have worked in Ghana since 2005 (Hunter, 2019) many from Shanglin County in Guangxi Province (Hess, 2016) who changed the way gold is mined and financed. The boom contributed to the growth of ASGM as a proportion of gold export sources. In 1989 when small-scale mining was legalized the proportion of exports from ASGM was 2% but by 2016 it represented 30% of the country's 116 tons of gold exports (Government of Ghana, 2019) and in subsequent years it has increased above 40%.¹ In reality it is probably more, when smuggled gold is taken into account. A recent study based on analysis of UN Comtrade statistics of gold flows through Dubai estimated that Ghana's smuggled gold to the UAE has averaged 7 tons per year since 2014 (Hunter, 2019, p. 14). Indeed, the UAE is the primary destination for Ghanaian ASGM, with some 54 tons imported in 2016, or 19 tons more than the government's estimate of small-scale production for the same year (Hunter 2019).

Despite evidence of elites and politicians enabling the Chinese presence (Hess, 2016), negative media coverage and local conflicts forced the government to act, and in 2013 a presidential task force began a crackdown, including the deportation of around 5,000 foreigners (Hess, 2016) with another crackdown in 2017 (see below). Today the Chinese remain present in gold mining towns, but one of their most lasting impacts was the introduction of new technology, notably the ubiquitous small crushers called "Changfa" named after the company that manufactures them. Field-hardy and easily maintained locally, they enabled the intensification of gold mining by making mechanized mining accessible, and today are standard tools in most ASGM operations throughout the country.

Indeed, the environmental impacts of this semi-mechanized intensification have reached crisis proportions, especially with respect to water quality. Alluvial mining by barges or portable wash plants have led to high turbidity in water ways, which has affected drinking water throughout gold mining areas. In addition, the increased use of excavators and bulldozers has also heightened impacts, including creating dangerous pits and affecting the flow of streams and rivers. During the most recent crack-down in 2017, the government confiscated 614 large earth excavators and 5,739 Changfa crushers, showing the extent of the problem (Government of Ghana, 2018). Mercury amalgamation is also widespread in ASGM, and is the leading source of Ghana's mercury emissions of around 355,460 kilos per year, according to the Minamata Initial Assessment.² A key justification of the government's ban on all small-scale mining and the mobilization of popular opinion against *galamsey* were the environmental impacts.

The 2017 small-scale mining ban, which saw the creation of the presidential Inter-Ministerial Committee on Illegal Mining (IMCIM) and the launch of Operation Vanguard, was the latest in a history of repressive campaigns by different administrations. The literature documents a number of these campaigns against *galamsey*, a term that has largely derogatory connotations, often accompanied by words like menace or scourge, and with media articles taking a moralizing tone (Hilson, 2017).

¹ According to a conference presentation, see below.

² See <http://www.faapa.info/blog/ghana-minamata-initial-assessment-launched/>



Photo by Terah DeJong

Figure 1: Photograph taken from commercial airplane on May 18, 2019 showing just some of the ASGM environmental footprint in the Western Region of Ghana. Approximate location: north of Tarkwa.

This history and context makes it difficult to have an objective discussion on the extent and the potentially legitimate place of artisanal mining, and in some sense condemns artisanal miners to “perpetual informality.” (McQuilken and Hilson, 2016). It also lumps together semi-mechanized or fully mechanized illegal mining operations and artisanal miners, and repressive campaigns have affected weaker artisanal miners as opposed to illegal small-scale miners who can pay off authorities (Hilson, 2017). As with other repressive policies, corruption and abuses quickly become issues, such as the recent scandal of the IMCIM head getting caught by an investigative journalist taking bribes.³

The literature documents the rural farming-mining interface whereby farmers become miners, miners become farmers, and many practice both. Indeed, artisanal mining in Ghana is often marked by seasonal dynamics as well as a fluid relationship between the two (Okoh et al, 2011). For these reasons, ASGM policy must holistically look at the rural context, especially farming (McQuilken and Hilson, 2016). The role of ASGM in cocoa producing regions has not been extensively documented, but it is clear that as cocoa farmers face static or falling prices⁴, more expensive inputs and diseased trees, gold mining has become an attractive alternative and a major feature of cocoa producing regions. For example, a 2014 survey of cocoa farmers showed that 86% believe it has impacted cocoa production (Boateng 2014). A vicious cycle of competing land use activities, lack of investment and reliable inputs, destruction of land and water bodies and decreasing production is leading to unsustainable livelihoods (McQuilken and Hilson 2016). However, given that an estimated 1 million people are involved in ASGM (McQuilken and Hilson 2016) and at least 800,000 households in cocoa farming⁵, often in the same geographic areas, sound policy and regulations are needed to deal with the inevitable conflicts and overlaps.

These laws and policies have struggled to create a favorable environment for formalizing ASGM (McQuilken and Hilson 2016). The latest version of the Mines and Minerals Law (2006) reasserts that all minerals are vested in “the President in trust for the people of Ghana” (Article 1). Licensing regimes lump together artisanal and small-scale mining even though the scales and modes of operation are vastly different. Indeed, the complexities of the licensing process are a key barrier to formalization, as is a “large-scale mining bias” (Hilson 2019). Moreover, the role of chiefs and local communities creates contradictions. Despite managing a portion of revenues derived from industrial mining—the chiefs control around 1% of royalties⁶—they are widely perceived as corrupt and in connivance with illegal miners (McQuilken and Hilson 2016). Indeed, over the years a number of policy dialogues and priorities have been identified, foremost being the need for geological prospecting and land allocation, improving access to finance, and streamlining licensing (McQuilken and Hilson 2016). Many of these are included in the upcoming World Bank support MMIP project, a review of which follows.

2.2 REVIEW OF THE MMIP PROJECT DOCUMENT

Prior to the 2017 ban, the Ministry of Lands and Natural Resources (MLNR) began preparing the Multilateral Mining Integrated Project, recently changed to Multi-Sectoral Mining Integrated Project (MMIP). The project aims at mobilizing donor resources and taking a holistic approach to ASGM. The ban slowed the project’s development, in part because the IMCIM sidelined existing institutions like the

³ See “IMCIM member Bissie steps down for corruption investigation” (March 2019).

<http://www.ghananewsagency.org/social/imcim-member-bissie-steps-down-for-corruption-investigation-146217>

⁴ While the official price set by the Cocoa Board (COCOBOD) has been relatively stable, the Ghana cedi has lost 40% of its value in the last five years. In other words, in terms of purchasing power a stable price is not necessarily stable for rural household economics.

⁵ See <https://www.nbcnews.com/nightly-news/chocolate-bittersweet-way-life-ghana-n212741>

⁶ Ghana’s royalties vary but are around 5%. 20% goes to the Mineral Development Fund, and of this 10% goes to the Office of the Administrator of Stool Lands, and of this 55% is managed by the chiefs. This amounts to approximately 1% of the royalties received by the government that are managed by the chiefs.

Minerals Commission. The final version of the MMIP Project Appraisal and Implementation Document (PAID) integrates key priorities of the IMCIM, and the government insists on complementarity, but the IMCIM appears reluctant to back away from its central role in ASGM policy-making. For example, it is now trying to organize cooperatives, which would normally be the purview of other institutions. In its draft roadmap that accompanied the lifting of the ban in 2018, the IMCIM moreover noted its intention to set up 15 satellite offices, deploy 540 mining guards, supervise the entire licensing process and even supervise the purchase and export of gold (Government of Ghana, 2018). Despite this apparent over-reach, the MMIP is moving forward, with an imminent launch and an expected mobilization of up to \$80 million in World Bank support.

The MMIP consists of five components:

- Review and enforce the legal and regulatory regime
- Reclamation of degrade lands, dredge silted estuaries and waterways and free lands for agribusiness
- Implementation of social interventions to facilitate sustainable livelihood creation in mining communities
- Adoption of technology to ensure efficient mining, processing, environmental and monitoring activities
- Capacity-building of ASMs, regulatory institutions and project management

In reviewing the document, the project's technical approach is appears sound with respect to ASGM. Some key positive aspects include the emphasis on participatory and multi-stakeholder policy-making processes and an openness to regulatory reform. In addition, the document does not treat ASGM as a criminal activity, but rather one that requires formalization and support, in addition to effective law enforcement. Significant resources are foreseen for training, business incubation, technology transfer, behavior change communication, and geological research. In addition, the project will be implemented through existing institutions, which will also benefit from additional resources and capacity-building.

Despite the comprehensive nature of the project and alignment with many best practices, several gaps and potential weaknesses include the following:

- A significant portion of the budget will remain focused on repression and law enforcement in alignment with current policy. Investment in drones, GPS tracking for mining equipment and other "high tech" solutions will unlikely improve the situation, though they are becoming popular in a number of countries, including Sierra Leone. While effective law enforcement is essential, sound laws and policy is a prerequisite, and less flashy approaches that rely on local informants, crackdowns on protection networks and community sensitization are key.
- Indeed, the project lacks a clear vision for how to involve communities in mining monitoring and management. The lowest level is at the district, but these are still vast areas, and involving traditional and community leaders is a best practice and necessity.
- A major part of the budget is allocated to land reclamation included desilting estuaries and rivers. This is a positive action, though in practice will unlikely cover a large portion of affected areas. More importantly, there is little attention paid to preventive tools, notably with respect to land-use planning, or incentivizing rehabilitation by rural landowners through property rights clarification and technical support.
- The project envisages alternative livelihoods, which is outdated in the context of mining, where no livelihood can compete in terms of income potential. Framing as complementary livelihoods recognizes this fact, and also forces practitioners to look at the complex relationship between mining and other activities of the rural economy rather than viewing mining as something inherently dirty, in the same category as wildlife poaching or drug production.

- There is very little emphasis on the supply chain, leaving the impression that mining is occurring in a vacuum. In reality, buyers and exporters are key sources of capital and also influence how and where mining occurs. While the project does look at access to finance, it could benefit from a more holistic supply chain approach, which is also vital for compliance with international norms such as the OECD Due Diligence Guidelines⁷ and the EU Conflict Minerals Legislation.⁸

3.0 SUMMARY OF OBSERVATIONS

3.1 OBSERVATIONS FROM ASM CONFERENCE

The Africa Conference on Artisanal and Small-Scale Mining & Quarrying⁹ was organized by a young professor at the University of Mines and Technology named Ishmael Quaicoe. The conference coincided with a study tour in Ghana for young policy-makers from 7 African countries organized by the University of Queensland as part of the Australian government's Australia Awards program. Around half the conference's attendees were the 30 participants in this course, though the speakers represented most major ASM stakeholders in Ghana. As such the conference was an excellent opportunity to network and to get a sense of the official/unofficial discourse around ASM. The following observations are organized around presenters or key stakeholders.

The Australian High Commissioner delivered an address noting that the sector was in crisis and that their government was a strong supporter of the "End galamsey now" campaign and activities of the IMCIM. The Australians have also provided other support, including funding the development of the MMIP project document (the PAID), funding trainings at the University of Mines and Technology (UMAT) in Tarkwa, and financing the cadaster and licensing management system of the Minerals Commission using the Revenue Development Foundation (RDF) open platform called MCAS. The Australians will also fund a regional \$20 million program called CSIRO that will make available high-resolution satellite images for studying land use change in the forestry, mining and environmental sectors. The Commissioner noted that with the ban's lifting, the challenge moving forward will be to pay attention to monitoring and accountability.

The International Labor Organization (ILO) delivered an address that spoke in general terms about ASM globally, noting revised figures often cited in ASM reports. The latest estimate is 40.5 million artisanal miners, up from 30 million in 2013. This compares to 7 million workers in industrial mines. Some 150 million people in 80 countries depend on ASM. In gold, 50% of production comes from ASM, and 90% of workers in the gold industry are artisanal. Between 70% and 80% of ASM is informal. In Ghana, the ILO runs the Caring Gold project which focuses on child labor and working conditions in 4 communities, but also touches other aspects such as financial management training. The ILO also works with the U.S. Department of Labor.

A representative from the IMCIM spoke briefly and participated in an animated discussion. The representative spoke of recent committee activities, including setting up ad hoc sub-committees at the district level with each having a drone, and looking at the long times in processing licenses. The representative also spoke of a new initiative to do "community mining" which could include demarcation of areas, set a maximum number of people per concession, and connect with financial institutions. The representative made no mention of the MMIP, giving the impression of a parallel set of activities. Some small-scale miners in attendance openly accused the IMCIM and military operation of being corrupt and ineffective. The representative responded that the miners are armed so they need weapons to confront

⁷ See <https://www.oecd.org/daf/inv/mne/mining.htm>

⁸ See <http://ec.europa.eu/trade/policy/in-focus/conflict-minerals-regulation/regulation-explained/>

⁹ See <http://www.asmconf.org/>

them, and noted that they are also acquiring speedboats to patrol rivers. A diamond miner from Akwatia urged the IMCIM to involve local chiefs and land owners. Another miner complained that the vetting process of all licenses by the committee during the ban has not been completed and is not transparent. In addition, license fees have apparently increased since the ban's lifting, including a new 2,000 GHS (\$400) for an obligatory tracking device, making it too expensive to work legally. The debate offered a glimpse into discontent by miners with the government's policy.

A representative from the Ministry of Environment spoke about the government's efforts with respect to mercury. As per the Minamata Convention, which was ratified by Ghana, a Minamata Initial Assessment began in January 2017 to take stock of mercury use. The assessment took place under the auspices of the Minamata Convention Implementation Committee, and a technical working group includes partners like the ILO and the NGO Friends of the Nation, which has been doing much of the field mercury testing, including in Asankrangwa. The presenter estimated between 30-40 tons of gold from ASM per year in Ghana, which would amount to potentially 50 tons of mercury being used, if the typical ratio of 1.3 grams of mercury to 1 gram of gold is applied, but they lack exact estimates. The Artisanal Gold Council reportedly estimated 70 tons of mercury being used in Ghana. Most of the mercury is apparently imported through Togo and then passes over land borders in Burkina Faso and Côte d'Ivoire. The next step after the initial assessment is the development of the Minamata Action Plan.

A representative in charge of small-scale mining at the Minerals Commission spoke about their activities since being created in 1990. The Commission has 9 district offices and hopes to increase that number to 13 and add sub-district satellite offices. They are also creating an office devoted to development minerals like sand and granite quarries. Most of the licensing delays occur at the District Assemblies, according to the representative. Their vision is to block out concession areas before attribution of individual concessions to reduce processing time and to get pre-approval from the EPA. He said that of 123 areas identified, around 9 have undergone geological assessments. The Commission has also experimented with cooperatives by allowing a minimum of 10 miners to apply for a license as a group.

Several presentations focused on gender in ASM. The Ghana National Association of Small-Scale Miners (GNASSM) has a sub-group of its women members. Particular challenges for women miners include requiring permissions from husbands for administrative documents and difficulties in accessing sites. One woman miner described her ore reserve being stolen overnight while she was traveling; someone sent an excavator and a truck, and when she complained there was nothing done. Compared to other contexts, the engagement on gender in ASM in Ghana is well-developed and the women miner groups dynamic. The Dutch supply-chain NGO Solidaridad runs a program called "Golden Line" that specifically supports women miners. Additional presentations focused on general best practices with respect to ASM formalization, as well as experiences from other countries such as Cameroon and the Democratic Republic of Congo. The program for the conference is in Annex C and the slides from the consultant's presentation on formalization in Annex D.

3.2 NATIONAL STAKEHOLDER INTERVIEWS

In addition to the conversations and observations during the conference, several individual stakeholder interviews were held in Accra, including with the Operations Manager for the Ghana National Association of Small-Scale Miners (GNASSM), the director of the gold program for Solidaridad, and the MMIP Coordinator. The following summarizes highlights from these exchanges.

- **Solidaridad:** As mentioned the Dutch supply-chain NGO Solidaridad has a gender-focused "Golden Line" program, in partnership with another Dutch NGO, that supports 13 women miner groups. Solidaridad will also soon pilot the CRAFT code in collaboration with the Alliance for Responsible Mining (ARM). The set of norms launched at the OECD last year creates an entry-level and progressive standard for mining cooperatives to prove compliance with basic

standards and access international markets and technical assistance. Solidaridad also plans on looking at the nexus between cocoa and mining, given that they also work on cocoa supply chains. Along with the ILO, Solidaridad is a key outside stakeholder in Ghana engaged on ASGM. Besides recent field activities, they have also participated in regulatory studies, including a 2015 analysis of licensing categories that suggested the creation of small and medium-scale at 10 and 15 acres respectively. The study was completed in 2015 but lost momentum after elections.

- **Ghana National Association of Small-Scale Miners (GNASSM).** GNASSM is an important and dynamic organization in the small-scale mining sector. The ban galvanized them to become more organized, though some members noted that they were not immune from political interference. GNASSM is well-connected to the national policy dialogue underway, sitting regularly in IMCIM meetings as well as liaising with the Minerals Commission. Compared to other countries, they effectively represent the interests of small-scale miners, even if it is not easy to be heard. They have also developed a strategic plan for their organization, including a comprehensive database of all their members and correlated data. Indeed, GNASSM is urging the government to embrace a “self-policing” model whereby GNASSM can play a role in educating, sensitizing and promoting compliance among its estimated 800 members. They are well-organized with district chapters as well as sub-district area zones. Even though they have member dues, most of their financing comes from a handful of wealthy members.
- **MMIP Coordinator.** In a meeting with the MMIP Coordinator, the consultant discussed the PAID as well as the project timeline. The World Bank plans on advancing \$3 million for pilots and studies in preparation for implementation. These are still being development but will likely include:
 - Strategic Social and Environmental Assessment (SSEA) pilot and safeguards
 - Feasibility on demonstration sites
 - Incubator for small-scale miners
 - Land reclamation pilot
 - Study on the turn-around time for licensing
 - Geological survey for a selected number of blocs
 - Alternative livelihoods
 - Land-use change study on the devastation
 - Study on the process of auditing licenses

During the OECD Responsible Minerals Forum between April 23-26, the consultant also participated in an informal lunch on Ghana which included the Deputy Minister of Lands and Mines, the MMIP Coordinator, the World Bank, OECD and a number of other donor representatives. The MMIP Coordinator presented the MMIP program of activities, and the World Bank confirmed that the initial assessments and study phase will soon be underway.

3.3 FIELD OBSERVATIONS FROM WEST AMENFI DISTRICT

3.3.1 TYPES AND EXTENT OF ASGM

As noted in the literature review, ASGM has existed in Ghana for centuries, but it was not until 2010 when it took off like a “bush fire,” according to one village chief. The external driver was of course the explosion in world gold prices and the associated increase in outside actors like the Chinese and Indians. The outsiders changed the situation through capital and technology. A few observations on these dynamics can help understand the context of ASGM today.

While the boom in mechanized mining from 2010-2013 may have appeared as a “wild west,” as with all rush situations it was not disorganized. Chinese used Ghanaian intermediaries to negotiate deals with local concession-holders, either delivered by the government or informally by local chiefs. This was



necessary because the law does not allow foreigners to engage in small-scale mining but also because it facilitated access to land. Local concession-holders who did not have capital to buy a bulldozer and or other equipment suddenly could go into partnership with actors who had the capital and material. Often these partnerships were unequal; locals received 15 or at best 20% of the proceeds, or are paid in-kind with a certain number of grams per day.

The initial wave of Chinese mining involved mid-size alluvial wash plants; today there are many “graveyards” of these machines. The best ones were seized by the government and sold after the 2013 raids. However, the machine that changed everything was the ubiquitous portable rock crusher manufactured by the company Chang fa, which is also the name locals use for that type of machine. The *changfa* consists of an electric motor and a crusher with easily replaceable hammers. Mid-size ore is fed into it with running water from a commonplace 20 or 30 horsepower pump, and then the crushed wet ore is passed over an artisanal sluice and carpet to trap the gold.

This background is important in understanding the different types of ASGM today, which combine different actors, geological formations and levels of mechanization. First, there are those that are after gold nuggets in shallow terrace deposits. Teams move around with metal detectors and dig where signs are positive. This is a common configuration in cocoa farms where there are shallow holes between trees. In this model, proceeds are split into thirds and shared between the landowner, owner of the metal detector and the diggers.

These types of terrace deposits could evolve into deeper excavations, either through shaft and galleries/tunnels called “ghetto,” presumably mining primary deposits along quartz veins. During the visit the consultant did not observe the shaft/tunnel type, but was told it exists in other parts of the district.

Next there are the *changfa* operators. These consist of teams that are generally processing colluvial deposits, meaning hard rock that has degraded in situ. The teams use sledge hammers to manually crush bigger stones, then mid-size gravel is crushed in the machine and it passes onto the sluice. On average there are 3 workers per machine. The machines usually belong to the supporter, and cost around 3,500 Ghs (\$700). Each town has a few repair shops that service them.

The next type of mining is manual or semi-mechanized *dig-and-wash*, which refers to alluvial deposits that do not require crushing. Methods range from individuals panning, sluices with manual water flow, sluices with water fed by a pump, and fully mechanized sluices either as portable or fixed wash plants. The Chinese in 2013 operated portable alluvial wash plants; today they likely continue to do so, but in more remote forest areas.

Finally, there are operators who use excavators in or along marshy areas to extract large volumes of alluvial or colluvial ore. This can be treated with large crushers / wash plants or by teams using *changfa*. The mission did not observe shaker tables or other forms of ore concentration beyond sluices. Indeed, the sluices were for the most part artisanal with two grades of carpet to catch the heavier material. The carpets were periodically washed in bins to separate out the concentrate.

Despite this variety in practice types, the law has only one category of license that aims at small or medium-scale operators. A bloc is 25 acres in size and acquiring it requires an environmental impact assessment and various fees paid at a national and district level. These fees per bloc can easily reach \$5,000, according to one small-scale miner, which is naturally outside of reach for most artisanal miners. In addition, these fees have reportedly increased since the lifting of the ban, with new requirements such as 2,000 Ghs (\$400) for a tracking device for excavators.

To better understand how these configurations work in practice, here are two examples observed during the consultancy. The first was a semi-industrial operation consisting of 6 adjoined blocs. The concession-holders are relatives, one of whom had access to the land through customary ownership, and the other who brought capital. The company they created owns 5 earth movers and rents several others at a cost of 2200 Ghs per day plus 1300 for gas. They have a centralized fixed wash plant which they built locally consisting of a conveyor belt leading into a hammer mill and then a large succession of sluices. During the ban they stopped the main wash plant but continued to operate *changfa*, paying off officials to do so. Such practices continue: the consultant observed municipal “environmental inspectors” receiving a cash payment during the visit.

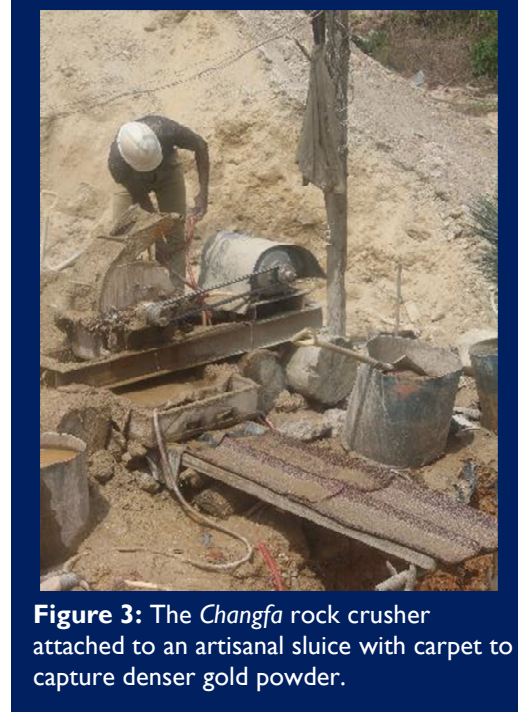


Figure 3: The *Changfa* rock crusher attached to an artisanal sluice with carpet to capture denser gold powder.

Photo by Rene Dogbe

The operation is multi-tiered, as besides the central wash plant and excavation from an open pit over 100 feet deep, numerous teams of changfa operators work alongside an artificial dam created for water supply. There were at least 30 changfa in operation in multiple locations. The changfa operators work in shifts and are paid negotiable salaries per week that work out to around 80 Ghs (\$16) per worker per day depending on productivity, plus on average 5 Ghs per day per worker for food cooked by about a dozen women. This category of worker does not share in production.

In contrast, the company also allows others to work on their concession. Teams of independent sluice and changfa operators are also present. These operators must sell their gold amalgam to the claim-holders; in addition, they focus on rewashing the rejects that pass over the main fixed wash plant. There were around 10 teams of such workers observed during the site visit. Finally, there are the “opou” who are women who come and pick the scrapings around the machines at the end of the day. They are generally relatives of the workers and are allowed to keep any earnings.

Allowing these other teams on the concessions is described first as a form of “social license” by allowing more opportunities for local youth to work than a full mechanized mine, but also as a way to increase earnings faced with barriers to capital investment. Indeed, many operators said they lost a lot of capital during the recent ban, and allowing other teams is a way to slowly reconstitute the capital needed to invest in more equipment and mechanized operators.

In contrast to this model, there are artisanal miners who work independently. The team interviewed one such miner, a young cocoa farmer named Ishmael from the village of Sika-ye-Akono (“Money is sweet”) who managed to buy his own water pump, which cost him 850 Ghs (\$170). Though he was earlier pre-financed by a local buyer, Ishmael managed to save enough capital to invest in mining himself. He mobilizes teams of workers and promises to pay them their “chop money” (for food) of around Ghs 5 per day (\$1). He provides them with the artisanal sluice, the water pump, money for gas (Ghs 20 or \$4 per day). He also provides mercury, which costs around 50 Ghs (\$10) for a small bag which lasts 2 to 3 weeks.

Ishmael buys the gold from his workers, paying 110 Ghs per blade, and then reselling to his buyer at 1570 Ghs per pound, meaning his gross margin is 460 Ghs per pound. He says his gold is 21k purity (87.5% gold) suggesting that he sells it unrefined but after having burned off the mercury. Indeed, the smaller operators like Ishmael tend to burn the mercury off themselves, whereas larger operators will take the amalgam to a buyer in town who will do the burning and refining (see next section).

In recent weeks, Ishmael has worked with 6-8 people and has averaged 3 pounds of gold per week. Taking into account the cost of labor and gas, he is averaging over 1000 Ghs in profit (\$200) per

GOLD MEASUREMENTS

The following units are used to weigh gold in Ghanaian ASGM communities:

1 pound = 7.75g for refined gold or 8.1g if gold quality is unrefined. In fact, 7.75g per pound is the ratio, but 8.1g is used to account for loss from lower purity gold.

1 blade = 1/10th of a pound

1 match = 1/10th of blade or 1/100th of a pound

Prices are generally expressed per blade, with 1.3 corresponding to 130 Ghs (\$26)

At the time of research the world market price for gold was around \$42 per gram for 24k (100% purity), which corresponded to 1720 Ghs per pound.

Local prices in Asankrangwa were 1650 Ghs per pound for 22k gold (91.6% purity), with prices up to 1700 in Tarkwa, suggesting that the local market is on par or even slightly higher than world market.

This is often a sign of gold being used for money laundering, tax evasion, speculation or as currency for foreign trade. Further research is needed.

week. In comparison, Ishmael's total earnings from cocoa last year was 2,850 Ghs, not taking into account money spent on fertilizer, pesticides and other inputs. In net terms, Ishmael makes more in two weeks from gold mining than in a whole year from cocoa. In addition, Ishmael's workers earn on average 110 Ghs (\$22) per day, which is higher than the average of 80 Ghs (\$16) earned by salaried workers at the larger operation, but with less income stability and more risk. Both rates are many times higher than average daily wages for farmers or construction laborers.

3.3.2 SUPPLY CHAIN ORGANIZATION

The consultants met with several buyers and government officials to better understand the organization of the supply chain. The number of actors met was insufficient but still allowed a basic overview of the situation, though further research is needed. Starting from the exporters, these are called Licensed Buying Companies. The Precious Minerals Marketing Corporation (PMMC), often called “diamond house” by buyers given that is the name of its building in Accra, delivers these licenses. PMMC had previously attempted a monopoly central buying scheme in 1989 but this failed due to difficult competing with the private sector due to poor management among other factors (Hunter, 2019). While it was not possible to meet with someone at the PMMC, according to GNASSM the number of exporters is currently 19.

The exporter works through the PMMC to move gold out of the country. A laboratory in the airport is used to determine the assay (quality) of the gold. A complex basket of taxes is then applied, including 0.176% to the PMMC, 0.2% to the Minerals Commission, and other fees for insurance and to the Bank of Ghana, amounting to approximately 3% total. However, these fees and taxes can change from time to time. In addition, exporters are technically supposed to present proof that an additional 3% royalty has been paid by the miner or by the upstream buyers through proof of “withholding,” without which they have to pay that royalty themselves. As the mission could not meet with any exporters or the PMMC, these aspects need to be confirmed, as it is unlikely that exporters are paying 6% (which would be both the royalty withholding and the other fees). However, the mission was left with the impression that the tax regime and registration of exporters was somewhat fluid. The PMMC can also facilitate exports for individual buyers who present a minimum of 50 kilos for export, which means that in principle to export one need not necessarily go through an LBC.

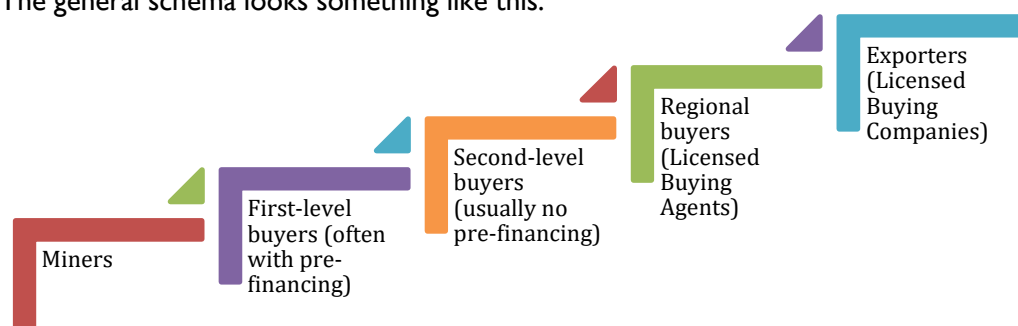
The PMMC also authorizes licensed buying agents (LBAs) who act on behalf of the LBCs, located in regional towns like Tarkwa. The consultants were unable to obtain information on the current number of LBAs in Ghana, nor how much they need to pay. Upstream buyers will often claim some kind of affiliation to these LBAs but will not be licensed themselves from the national government. For example, buyers in Asankrangwa were unable to show a license from the PMMC despite saying they were licensed by them. Instead they showed a tax payment of 300 Ghs (\$60) paid to district revenue officials. The buyers in Asankrangwa generally do not pre-finance mining, only purchasing, meaning that they wait for



Figure 4: Observing an artisanal gold refinery in a market in Asankrangwa. The gold is heated with a coal fire (right); the blue jerry can contained sulphuric acid.

Photo by Rene Dogbe

product to come to their offices or will advance funds to trusted first-level buyers for purchasing gold. It is these first-level buyers located in villages or at mining sites who will often pre-finance depending on the needs of the miners. Miners like Ishmael, for example, do not currently need pre-financing but due to bad luck could run out of cash, in which case he could get some pre-financing from his preferred buyer. The general schema looks something like this:



However, it is important to note that it is possible to jump steps in the supply chain. As noted, individuals can in theory export with PMMC facilitation without going through a licensed exporter. In addition, the position of “second-level buyer” can be made vulnerable by LBAs directly linked to exporters. In Asankrangwa, the association of buyers used organizing and forceful tactics to maintain their control of the trade in town. For example, when an Indian or Chinese buyer tried to establish themselves, they organized to intimidate and forced them to leave. This is a common role in supply chains for the local buyers who do not generally export, but one that is often contested by foreign buyers who can pay more and export more easily. In Akropong and Bogoso, for example, local buyers could not resist and the trade is dominated by Indians.

Indeed, Indian buyers are by all accounts the major players in ASGM trading in Ghana. It was not possible to review the 19 exporting houses to confirm, but publicly available trade statistics show India (via Dubai) as the key destination for much of Ghanaian gold. As noted earlier, Indian buyers are often paying at or even higher than world market prices, which puts pressure on the margins at all levels.¹⁰ Indeed, these margins are generally small. Second-level buyers like those in Asankrangwa say they make between 10-15 Ghs (\$2-3) per pound as profit on refined gold. A difference of 5 Ghs can be enough to pull in sellers, as gold is very price-sensitive.

Those who are pre-financed appear to be re-paying in two ways: via a lower price and through deducting the pre-financing amount. It is unclear which is more common, though it seems that direct deduction of actual expenses appears more common. The price per pound for independent miners appears to vary widely with an average at around 1300 Ghs per pound, and up to 1500. Margins for first-level buyers are therefore higher, though volume is much less than second-level buyers who can manage to clear hundreds of kilos a week depending on demand and supply. Indeed, there is a lot of inter-buyer trading. For example, if a one-time buyer comes in prepared to buy 500 kilos, second-level buyers will then mobilize first-level buyers and even offer a 5 Ghs premium in order to draw in the needed supply quickly. Speculation is also key as prices change daily.

While further research is needed regarding the supply chain, the arrangement appears typical of many ASGM producing countries. In addition, the disconnect between the limited categories of actors in the law and the reality in the field is also typical. The need to design a flexible system but also one that

¹⁰ The reason for this is complex, but one factor is special economic zones for Indian refineries created in 2014 which makes the import of partially refined *doré* gold bars duty free under certain conditions. This incentive created strong pull for African ASM gold. See Hunter 2019.

reduces taxes and other burdens is key, given that margins are generally tight among midstream traders. Further research is also needed on the role of the Indians, the origin and monitoring of cash flow and chain of custody / due diligence measures at all levels.

3.3.3 COMMUNITY ATTITUDES AROUND ASGM

This section includes a few observations on community attitudes around ASGM. In general, due to the national negative discourse around galamsey, communities were “primed” to talk about the negative aspects of the phenomenon. However, when pressed, many admitted to positive impacts as well. For example, villagers in Amoamang noted that ASGM has enabled the village’s population to grow (which enables access to public services) and has also helped bring in commerce and employment. The village chief estimated that 40% of youth in his community is involved in mining either seasonally or year-round.

In addition, many communities seemed to prefer to talk only about mid-scale operations when it comes to galamsey. For example, in Domeabra when asked about galamsey in their area they spoke about a Burkinabe company that operated during the ban. It took some probing to get the villages to admit that artisanal mining is happening all the time in their area as well, but it was almost as if they did not wish to consider that kind of illegal mining as galamsey, perhaps due to fear that talking about it openly would lead to its repression.

Despite a tacit “protection” of mining activities through not talking too openly about them, village chiefs are often vocal about what they perceive as the moral decline and the increased conflict associated with the activity. Leaders complain that mining has led to school drop-outs, teen pregnancy, involvement of children and teenagers in mining, and a general “get-rich-quick” attitude that leads to a lack of respect of traditional leaders and elders more generally.

For their parts, customary leaders often do not help their position when they accept payments from semi-industrial operators, as it weakens their moral authority. Indeed, several small-scale operators complained about constant demands from chiefs for this and that payment. These demands are often followed by protests by community members that can even lead to blocking of production. As one small-scale operator explained, there is mounting frustration by communities against their chiefs for not being transparent about payments received from mining. Because communities cannot rebel easily against their chiefs in their cultural context, they often express their anger to the small-scale operators. Sometimes the chiefs even encourage this kind of displacement because it allows them to more easily justify what they received and avoid dealing with thorny governance issues in their villages.

3.3.4 MERCURY AND ENVIRONMENTAL CONCERNS

Despite issues of corruption and politicization of the mining ban, there is little doubt about the legitimacy of its pretext: the unprecedented environmental impacts of ASGM. The largest and most visible impact has been on water quality. The industrialization of “dig and wash” through wash plants as



Figure 5: Artisanal miners are often allowed to mine on small-scale concessions a way to “keep the peace” with local youth, according to one operator.

Photo by Terah DeJong

well as the colluvial and *changfa* operations has led to siltation of rivers and high turbidity. In many communities this has led to the disappearance of drinking water, and has undoubtedly had a large impact on aquatic life, though this has not been studied scientifically, to the consultant's knowledge.

While the ban publicized certain cases of water quality returning to normal, the negative impacts on water quality have not decreased in areas where mining is ongoing. The upcoming MMIP focuses on environmental rehabilitation of many affected areas, but little attention is apparently being paid to mitigation measures. For example, the construction and use of soak pits and the use of certain aquatic plants should help reduce runoff into rivers.¹¹ In addition, land-use planning at the community level should designate certain waterways as off limits for certain periods. A collaborative relationship between environmental experts and communities is needed.

Meanwhile the other major environmental threat stems from the use of mercury amalgamation. All operators met during the trip use mercury. As noted above, it is sold in small bags of around a tablespoon that cost around 50 Ghs (\$10). Some larger operators will only use mercury at the end for finer particles that cannot be separated by gravity concentration.¹² Smaller operators will use mercury for all their ore recovery. The technique is widely documented in West Africa involving rolling the concentrate with the mercury so that the gold bonds with it. Artisanal miners will often burn off the mercury leaving semi-refined gold dust or gold flakes.

Mid-level miners with semi-mechanized operations will often bring their amalgam (mercury bound to gold dust) for the week to their preferred buyers in a regional town. These buyers will then process the mercury for them in their artisanal refineries. These refineries are often just shacks on the roofs of houses with rudimentary equipment. In Asankrangwa there are an estimated 60 of these operations. The mercury is first combined with sulphuric acid and then heated to burn off excess acid. Some are able to recover mercury from the acid to re-cycle, but part of the mercury gets burned off. The use of retorts which distills and collects the mercury is rare; the mission did not observe any. The gold is then melted, using borax to help burn off impurities and decrease the melting temperature, and then poured into a mold for a result that is usually above 22 karats quality (91.67% gold). The quality is measured by the buyers using a special scale that allows comparing the weight of the gold suspended in water with the weight of the gold while in the air. A formula allows for this difference in weight in relation to the specific gravity of pure water and pure gold to calculate the concentration of gold in the refined ore.

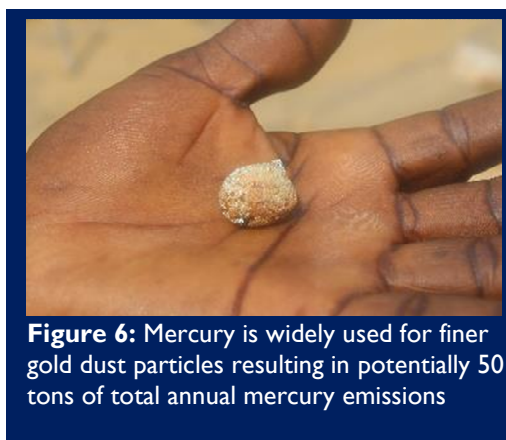


Photo by Rene Dogbe

Figure 6: Mercury is widely used for finer gold dust particles resulting in potentially 50 tons of total annual mercury emissions

As noted in the section above on the conference, Ghana is currently elaborating its National Action Plan under the Minamata Convention with respect to mercury. Particular attention should be paid to the network of artisanal refineries that operate with no oversight in the middle of urban areas that expose people not only to mercury but also to acid. While this practice is of particular concern, it also presents an opportunity because to a degree the mercury processing is centralized away from villages rather than burned on site. Funds that would allow associations of gold buyers to set up more modern refineries in these urban centers under controlled conditions could help alleviate the worst impacts. In addition, the

¹¹ Soak pits allows the suspended particles in the water to settle before being discharged or seeping into river systems, reducing risks for aquatic life and drinking water quality.

¹² Gravity concentration uses the fact that gold is heavy to separate it out from other metals; this is the principle behind traditional gold panning. More advanced machines similarly will shake, spin or wash gold-bearing gravel or crushed rock in such a way that the gold particles concentrate because of their relative weight.

plan should look at how to promote the use of non-mercury concentration methods in these urban centers. For example, instead of using mercury on the concentrate, operators can be encouraged to transport their concentrate – which includes gold but also other dense material like iron – to a central facility managed by buyers where it can be processed on a shaker table. Small-scale operations with fixed wash plants should also be using shaker tables as part of their operations, which allow for gravity-based ore recovery without that much more cost compared to existing operations.

In summary, the environmental impacts of ASGM are alarming and should be addressed through a combination of community-government collaboration with respect to zoning / land-use planning and monitoring of operations. In addition, the government should collaborate with GNASSM and local universities to promote education, awareness and technology transfer. Finally, the policy should focus on key “choke points” with respect to environmental hazards, especially second-level buyers operating in urban centers. Given that these buyers are often the providers of mercury and other toxic materials, they play a fundamental role in adopting new technologies and improving ore processing conditions.

3.3.5 REGULATION BY CUSTOMARY AUTHORITIES

The role of chiefs in ASGM is paradoxical, as they are at once very strong and very weak. On the one hand, it is impossible to mine as a small-scale operator without getting permission from the chiefs. Chiefs also wield political power at the district or regional levels, playing key role in party politics. On the other hand, however, chiefs are easily corrupted by the easy cash brought in by the gold boom, and they claim to have little clout or recognition by the government when it comes to licensing.

Indeed, chiefs are not formally consulted as part of licensing decisions. An announcement is posted at the district level and there are other publicity requirements, but there is no formal process for community consultation and for village chiefs to sign off before a concession is attributed in Accra. As such, chiefs feel shut out of that process, and some go so far as to characterize outsiders as “colonizers” who come in without their permission.

Some chiefs will use the fact that elites control concessions as a way to justify allowing illegal mining or other forms of mining so that they can gain some control and benefit from a piece of the pie. As such many describe how it is “easy” to get a nice site that will give you a kilo of gold a day just by bypassing the state entirely and working directly with the chiefs. However, in the absence of a community development framework for mining, this can lead to conflicts and disenchantment. Some note that chiefs ask companies for “social responsibility” but due to greed or lack of education, this usually translates into a new “palace” (house for the chief) rather than support that truly benefits all. As noted in the previous section, communities then lose respect for the chiefs because they are perceived as corrupt, and this creates a vicious cycle that further weakens customary control.

Indeed, chiefs felt that they were largely powerless to control what is going on, as the government does not respect them and their communities do not either. Some described using local radio stations to urge against child labor to no avail. Others tried to impose local taxes but no one listened. Indeed, in the absence of the government actively supporting community authority, it is difficult for them to swim against the tide, so most opt to just flow with it. When the team asked one chief who had just finished



Figure 7: Customary authorities in Amoamang discussing galamsey in their community.

Photo by Rene Dogbe

complaining about the Chinese why he rented his second house to Chinese who had just driven by, he smiled and noted that “We are all after money.”

There have been some limited attempts by chiefs to impose their authority locally and to resist nationally, but these have had limited impact. Locally, only one village succeeded in banning mining, for example. This small village called Nyamennae (“God never sleeps”) was founded in the early 1960s and the current chief is the son of the founder, a cocoa farmer. He decided to not allow ASGM at all. While in other villages this led to revolt and disobedience especially by youth, the chief described how he derived his authority to enforce the ban. First, he himself was not corruptible, and he continues to farm for a living, which increases his moral authority. Second, he has used his power to banish people – generally outsiders who moved in to cultivate cocoa – which means that he is sufficiently feared.

In other communities villages have attempted to extract some funds for community development. In Domeabra the village set up a road block during a boom period to tax 5 Ghs per worker per week, but this was quickly abandoned when buyers and other villagers complained. It is easier to impose such fees on locals, however, they noted. In Amoamong the village is half-way through building a 6-room school extension. It started 4 years ago and they received ad hoc contributions from miners and local buyers. They have been unable to raise enough funds to complete the school, however.

Some chiefs have also tried to protest against illegal miners by raising the issues of incursion with the paramount chief or with the district assemblies. However, according to those close to the paramount chief in Akropong, the national government instructed chiefs not to get involve or raise their voices on ASGM. When the paramount chief tried to object, he was asked “who he was,” which was a way of saying that he should not interfere.

In summary, there is an opportunity amidst the current dysfunctions to rethink the role of customary leaders, both village chiefs but also community leaders, in how mineral resources are managed. A collaborative approach with the state is the only way given the interests and the outside actors. In other words, the legal and regulatory framework must empower local communities and give them a greater consultative voice. This is one of the key lessons from other countries: while communities have many “weapons of the weak” to resist and organize, they will often fold in the face of outside economic and political interests. A co-management approach is difficult to institute but the overtone must come from the government who must be prepared to act in good faith with these leaders.

3.3.6 REGULATION BY GOVERNMENT

A comprehensive review of regulations was not possible in the framework of this study, but several preliminary findings are worthy of mention. First and foremost, with respect to the now lifted small-scale mining ban, it appears that the IMCIM is solidifying its role as the primary regulator, which is weakening existing institutions like the Minerals Commission through “mission creep” away from law enforcement to general licensing and management and even setting up cooperatives. A review of the continued relevance of the IMCIM or a clarification of its role will be key moving forward.

In the field, perception of the ban and its aftermath was overwhelmingly negative. As noted above, many legitimate operators lost capital saved over decades



Photo by Rene Dogbe

Figure 8: The increased mechanization with excavators has proved challenging for regulators of small-scale mining.

while illegitimate operators just bribed their way through. The military raids as part of “Operation Vanguard” were and still are known in advance and have led to added corruption. The military campaign has also weakened law enforcement agencies like the police. Many small-scale operators perceived the ban as more about a new government being able to use the license vetting as a way to reward party faithful. While not possible to prove, this widely held perception is damaging to the overall governance framework, but is also not new given similar bans exercised by other leaders in the past. In short, the politicization of the small-scale mining sector is a key barrier to improving its regulation and outcomes. Until the technicians are given the autonomy to organize the sector with little or reduce political pressures, meaningful progress will be difficult.

The government benefits from strong human resources at its disposal as part of the Minerals Commission, PMMC and several universities specializing in mining education and technology. However, these services are highly focused on Accra and on licensing. In Asankrangwa, there is only one person from the Minerals Commission at the district level covering a vast area with thousands of miners and hundreds of buyers. This means that miners and communities do not receive regular visits from field technicians and engineers, and data and information on what is really happening is scarce. Similarly, the local buyers are almost entirely unregulated by national authorities.

Compared to other countries, district authorities play a more active role in monitoring and in local tax collection. However, it is unclear if they offer strong technical oversight or rather if they are focused on local revenue generation. A detailed study on comparative roles between national agencies like the Minerals Commission and decentralized officials will be an important part of a policy review.

In terms of key priorities for improvement, the management of statistics and production trade / data is essential for ensuring due diligence and a reliable chain of custody. A review and reform of the licensing regimes is also a key priority. From all appearances, the government does not seem to be using its MCAS cadaster and licensing system designed by the Revenue Development Foundation. Understanding the reasons why will also be important as part of policy reform. Meanwhile, there were reports of individuals being able to hold onto prospecting licenses for over 20 years, and as noted above, the current licensing framework lumps together artisanal and small-scale mining, and creates high barriers to obtaining small-scale licenses.

Creating separate categories for artisanal and small-scale could be positive, but it will require deep analysis and broad consultations. In other countries the creation of an artisanal and a separate small-scale category has not led to an increased formalization of artisanal miners but rather a migration from more expensive small-scale licenses to “fake” artisanal claims. The reason is that the artisanal categories do not significantly reduce the red tape and so they remain expensive but just slightly smaller in surface area. In addition, licensing regimes often mix together geological, technical and mechanical criteria. Usually the small artisanal licenses can only use manual techniques, but this creates an added barrier for an artisanal miner seeking to improve or modernize his or her operation.

Instead, the government should consider a flexible licensing framework that separates and allows maximum decentralization for certain aspects. For example, one could maintain small-scale concessions as the main unit for ASM licenses, but reduce costs significantly and allow concession-holders to sub-contract with artisanal miners on their concessions, as is the current practice. Special fees and permits should be linked to the specific machinery used on a concession due to environmental risks but also capacity to pay. For example, permits for earth-movers and fixed wash plants, as well as a certain number of changfa, could help increase environmental oversight while also creating a progressive tax framework where the cost of a license increases based on the scale of activity. This will reduce the barriers to entry but also ensure adequate taxation of mid-size operations as they grow.

Moreover, the government might consider experiments with village-based management for ASM. The current “community mining” idea focuses on grouping together artisanal miners into cooperatives.

Currently 10 artisanal miners can band together to receive a license without creating a legal entity, and the idea is to formalize that experiment. Attention will need to be paid to if and how this is feasible in practice, especially as there is a risk of an increase in “fake cooperatives” if licensing and taxes end up being significantly lower than small-scale mining concessions. The government might instead consider a “village-based cooperative” model whereby miners in a given territory will work through an association or cooperative with a formal agreement signed with chiefs and government officials, or with some kind of community mining committee which would be more representative and therefore legitimate compared with the chiefs alone. This would also allow for local revenue generation for the village and for community monitoring. From a legal perspective, the village-based cooperative can either acquire a small-scale mining license for areas that it wishes to open for mining, or else a special “zoning” arrangement can be created whereby the cooperative, with permission from the Minerals Commission / EPA and local leaders, can open a designated area in their communal lands for artisanal (including semi-mechanized) mining.

3.3.7 LINKS TO COCOA ECONOMY

A key objective of this study was to better understand linkages and risks with respect to the cocoa economy. The key conclusion of this scoping mission was that in the communities visited around Asankrangwa, and in Asankrangwa itself, gold is a very important economic activity—perhaps as important as cocoa, though more research is required. Despite being less widespread and intense compared to neighboring districts, it is more common to see gold-mining equipment than fertilizers and pesticides for sale, there are more gold refineries (60) in town than cocoa depots, and the visual effects of gold mining are everywhere.

A more in-depth socioeconomic study would determine what households are earning from gold mining compared to cocoa farming, which in many communities remains the main source of income according to a recent USAID mission as part of the ILRG Project (USAID 2019). However, because of the discourse around *galamsey*, it can be difficult to get accurate information. During interviews on the subject during the current trip, in some villages like Domeabra the chiefs denied that *galamsey* is a major problem, but then miners were seen from the side of the road, and when pressed they all knew the daily price of gold and admitted to taking percentages. In other words, the taboo nature of gold mining is an impediment to understanding its true impacts, both direct and indirect.

Besides the challenge of getting reliable information, it is also important to note that even if cocoa remains the primary source of income, the effects of gold mining on the overall economy—including cocoa farming—are generally much higher than just those specific households that earn from gold. ASGM mining in a poor policy environment leads to a culture of corruption and “quick money” at all levels, and this can affect livelihood decisions and the capacity of communities to manage complex land tenure and land use planning issues.

To be clear, this does not mean that “gold is bad” in and of itself. Indeed, a key lesson learned from decades of ASM policy-making is that repressing ASM rarely works and usually makes bad situations



Photo by Terah DeJong

Figure 9: Shallow gold mining pits in a cacao farm, one of the direct ways in which cacao is impacted by mining

worse. Part of this is due to the simple fact that gold mining is lucrative and communities are poor. This is likely a key factor in and around Asankrangwa. In such contexts, it makes little sense to promote “alternative livelihoods” to gold, whether cocoa or anything else, because no other activity could compete with gold in terms of quick short-term earnings.

As noted above, the example of Ishmael who can earn in two weeks what he earns in a year from cocoa is telling. In addition, laborers are also earning much more than they would laboring in agriculture. An average gold worker who receives daily wages is earning \$16 per day whereas the workers who collaborate with Ishmael in an independent arrangement can earn \$22 per day. Further studies would need to confirm these figures which were based on insufficient interviews. However, if confirmed they are several orders of magnitude higher than average earnings for cocoa farmers and uneducated youth in Ghana. While it is true that earnings alone are not the only determinant of livelihood choices, in contexts marked by chronic poverty where farmers may not have the luxury of long-term planning, the allure of gold is undeniable. As such it is important to avoid falling into the trap of believing that gold mining is a temporary phenomenon that can be combatted by media campaigns or by promoting more sustainable but less lucrative traditional livelihoods.

Outside of this broader context, issues specific to cocoa are making negative practices of ASGM worse. The prevalence of the SSVD (Swollen Shoot Virus Disease) is a probable factor driving cocoa farmers towards gold. Based on anecdotal evidence, many farmers have at least a quarter of their trees that need replacement, echoing findings from the ILRG report (USAID 2019, p. 16). In addition, the static price paid for cocoa over the past 3-5 years in real terms has made cocoa even less appealing than before. The ILRG report found similarly pointed to the following four challenges: financial constraints, labor constraints, access to agro-inputs, and insufficient knowledge on approved chemicals. In this context gold mining is appealing.

As noted above, the link to gold should not be viewed solely in terms of direct destruction of crops. This does occur, either through the metal detector shallow terrace pits that weakens and kills trees, or complete destruction of trees through larger open-pit mines. However, the bulk of ASGM is occurring in flats or near them, where cocoa trees are not as abundant. As such lots of gold mining is not having a direct effect on the cocoa trees, though additional scientific research is needed to see if and how mercury contamination could be affecting the trees through the groundwater. The main effect is indirect given that farmers may be turning to gold mining as a primary activity which has many turning their back on cocoa as a viable livelihood.

It is not all bleak, however, and it is important to remember that mining and farming always exist in relationship to each other. Short-term and long-term movements between them are the norm, and there are positive synergies to also bear in mind. For example, the height of the gold mining season corresponds with the low season for cocoa, so with the right sensitization and organization, cocoa farmers involved in gold (or cocoa growing villages involved in gold) can mobilize funds needed for fertilizers and pesticides ahead of the next main cocoa season. In other words, gold mining if properly organized could actually help the cocoa economy by generating funds.

These funds could help build sustainability into initiatives aimed at helping farmers replace diseased crops. For example, village or cooperative funds (including mining cooperatives) could be used for funding tree replacement for members and/or providing some steady revenue during the 5-year growth period like a form of farmer insurance. Of course, there must also be conditionalities that dissuade farmers from sacrificing their trees for the short-term benefits of gold, such as by fixing higher compensation rates in the case of crop destruction for gold. While gold and cocoa may seem like adversaries locked in a zero-sum game, that is rarely a useful or accurate way of understanding their relationship.

3.3.8 LAND TENURE DYNAMICS OF ASGM

This study recommends a more detailed look at the land tenure dynamics around ASGM. There are a few preliminary observations that could help inform further investigations. First, it seems as in other countries that small-scale mining concession-holders are often land owners in the customary system. The small-scale concessions visited, for example, were both inherited from a father or grandfather. This is not atypical of small-scale mining elsewhere, and it is a reality that contradicts with the national law that vests mineral rights in the government. On the other hand, it also can facilitate the formalization of mining in cases where land ownership is already clear.

With respect to mining on land that is already occupied by farmers, that can become complex and depends on each instance. During the scoping mission several interviewees noted that buying the rights to mine a quarter acre of cocoa land costs less than buying rights to that land outright. Prices vary but the price appears to be around 5000 Ghs (\$1000) for a quarter acre in compensation. However, this compensation is not necessarily given to the farmer but rather to the land owner.

Indeed, there are often conflicts between the land owners and farmers with secondary land rights, especially when it comes to gold. Because most tenant farming arrangements¹³ do not include major annual contributions from the farmer to the landowner, many landowners see gold as a way to gain more from the land. Landowners are therefore the ones who may pressure tenant farmers to release the land for mining. In some cases, like with the replacement of trees infected by SSVD, the arrival of gold miners creates a risk for the tenant farmer that after the mining is complete he may no longer have the ability to access land. Regardless the key observation is the central role of the individual land owners on these key decisions, and the importance of involving these land owners in participatory research and decision-making around land use in both cocoa but also mining.

Indeed, there appears to be little in the way of collective participatory decision-making and land-use planning, something also observed by the CEL Project scoping trip (USAID 2019, p. 16). The chiefs are supposed to be the custodians of the land, but due to the settlement histories in the area, much of the land is already “privatized” into individual families though still nominally under customary control. As

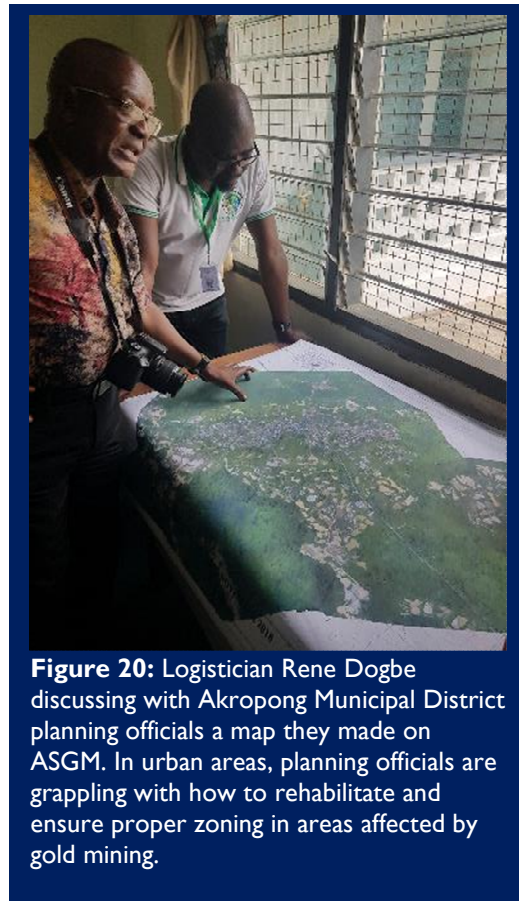


Photo by Terah DeJong

Figure 20: Logistician Rene Dogbe discussing with Akropong Municipal District planning officials a map they made on ASGM. In urban areas, planning officials are grappling with how to rehabilitate and ensure proper zoning in areas affected by gold mining.

¹³ In Ghana there are a number of land tenure arrangements. Asidee refers to outright purchasing of land for freehold tenure. The Abunu system “refers to land rights gained through a land agreement whereby a stranger or migrant or (in rare occasions) an indigene, acquires land for farming purposes only [and the] landlord provides uncultivated land to the farmer to grow agreed upon cash crops (generally cocoa), which are shared between the parties at a specified time” (USAID 2018). Abusa “is an additional approach to accessing land through a sharecropping arrangement where a caretaker is paid with cocoa beans.” Unlike abunu, abusa “does not create an interest in the land.” (Ibid.) There are many variations on these systems, including Abusa within Abusa for larger farms.

such a reflection is needed as to how to organize land-use planning in such a way that recognizes individual ownership but also attempts collective decision-making on key issues. Due to the general weak position of the chiefs, the decision-making on land-use planning should perhaps take place not at the level of village committees or at the level of chiefs but rather through associations of economic actors working in collaboration with the chiefs and accountable to the broader community. For example, a cooperative or an association of cocoa farmers could work with landowners on zoning and agreeing in principles for managing limited gold mining and replacing diseased trees. In these ways land-use planning should consider using organized economic actors rather than a centralized village-based system run by customary leaders as a way to tackle these complex issues.



Photo by Rene Dogbe

Figure 61: A young woman in Wassa Amenfi East district from a community near a small-scale mining concession allowed to gather gold at the end of the day from the Changfa machines



Photo by Terah DeJong

Figure 32: A supply chain approach is needed to better understand the push and pull factors behind the flow of artisanal gold.



Photo by Rene Dogbe

Figure 53: Understanding the motivations of miners/cocoa farmers like Isaac Quaisie (right) is key in assessing and mitigating the impact on cocoa



Source: Google Earth

Figure 44: Land-use planning and co-management between government and communities can provide a way forward for communities like Kwabeng

4.0 DONOR GAP ANALYSIS AND RECOMMENDATIONS

4.1 GAP ANALYSIS OF MMIP

The literature review above included several observations on the strengths and weaknesses of the MMIP from a technical perspective. What follows is a list of studies or short-term interventions that USAID or other agencies/donors might consider supporting. This list focuses on topics and areas not already covered by the World Bank in its preliminary list of studies to fund ahead of the MMIP launch.

- Study that focuses on the **ASGM supply chain in Ghana** including but not limited to a verification of the supply chain organization, profit margins and financial flows at each level, recommendations for regulatory reform, observations on the capacity to conduct due diligence at each level of the supply chain. The study should involve the Indians in particular, perhaps through being conducted jointly with the Indian bullion association that has been engaging with the OECD on applying due diligence to its supply chain. The study can also look at the extent of illicit financial flows such as those related to money laundering, tax evasion and other criminal activities.
- Study that focuses on **options for “community mining”** based on international best practices but especially based on Ghana’s existing experiences and resources. Attention should be paid to options for organizing cooperatives, options for flexible licensing regimes, options for creating formal government-private sector-community joint monitoring mechanisms, options for local revenue generation at the village level, options for land-use planning and options for formalizing community development agreements with mid-scale operators.
- **Support to GNASSM to develop an internal database and monitoring framework** for its members and their activities. GNASSM has already developed a basic scope of work for this endeavor which aims at strengthening its capacity for self-regulation and to prepare for applying due diligence and other standards such as FairMined and Craft. The database would need to be integrated into existing systems, such as MCAS, used by the Minerals Commission but would also be an experiment in collaborating with a private sector industry group to improve management and due diligence.
- A similar effort could be considered for **buyers – a form of a clearinghouse for information regarding transactions** that can help exporters and downstream actors conduct due diligence audits. It is unclear at present under whose auspices such a database could be developed, but the principle would similarly be a private-public partnership for data management and shared responsibility on due diligence and regulatory compliance.

4.2 GENERAL RECOMMENDATIONS

- Clarify the role of the IMCIM now that the ban is lifted and avoid further weakening of national technical institutions through a politicized approach to the mining sector
- Review the licensing regimes for ASGM and beyond considering separate categories to separate the equipment criteria from the permit size limits
- Support and empower groups like the GNASSM to favor a “self-regulation” approach that is in line with OECD Due Diligence Guidelines and other international trends
- Better understand the supply chain organization especially with respect to taxes and financial flows and adapt the regulatory framework as a result
- Support the organization of buyers associations or industry groups to create a platform for engagement and education around due diligence requirements
- Support improved data collection, data transparency and data usage in a collaborative framework between the private sector and the government
- Consider how centralized ore processing options, with or without mercury, can be used to reduce the worst forms of contamination risks and improve productivity
- Support journalists and civil society organization to expose corruption at all levels
- Increase the physical presence of field engineers from the Minerals Commission and clarify roles with respect to district officials and the provision of extension services
- Create a collaborative framework for community mining that empowers chiefs but also holds them accountable to local community members
- Consider carefully the pros and cons of promoting miner cooperatives with attention paid to the type of cooperative (association, village-based cooperative, etc.) and its purpose
- Recognize that gold-mining will not disappear from cocoa regions and focus instead on clarifying rules and leveraging gold’s resources to address some of the challenges in the cocoa economy
- Promote participatory land use planning as a tool for sustainable development in mining and cocoa communities

ANNEX A: BIBLIOGRAPHY

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ANNEX B: ASM CONFERENCE PROGRAM

The following is the program from the Africa Conference on Artisanal and Small-Scale Mining and Quarrying held March 28 and 29, 2019. The consultant heard the interventions and/or consulted with those people whose names are highlighted in yellow.

REGISTRATION AND NETWORKING

8: 00 am – 9:00 am	Registration and Networking
9:00 am – 10:00 am	Opening Ceremony Welcome Address - Local Organising Committee Open Remarks HE Andrew Barnes (Australia High Commissioner) Giovanni Soledad , ILO Representative Keynote Address : HE Vice President of the Republic of Ghana/Minister
10:00 am – 10:15 am	Tea break / Photo shoot with the Vice President/Minister/Rep

SESSION 1

10:15 am – 11:15 am	GOVERNMENT, GOVERNMENTAL INSTITUTIONS AND PUBLIC ADMINISTRATION REFORMS, POLICIES AND PRACTICES IN SHAPING THE ASM SECTOR-Case Studies The Hon. Vice Minister , Ministry of Land and Natural Resources The Chief Executive officer , Ghana Minerals Commission Director , Ghana Geological Survey Authority Project Manager , Inter-ministerial committee on illegal Mining (IMCIM)
12:15 pm – 1:00 pm	REDUCING CHILD LABOUR AND IMPROVING WORKING CONDITIONS IN ASM SECTOR *Mr Giovanni Soledad , Project Manager, Caring Gold, ILO, Accra, Ghana (Chair) Mr. Nelson Ahedor , Assistant Manager, Small Scale Mining, Minerals Commission Dr. Charles Kessey , Director of Research, Statistics and Information Management Local Government Services, Accra, Ghana
1:00 pm – 2:00 pm	Lunch Break / Networking
2:00 pm – 3:00 pm	DEVELOPMENT MINERALS AND SDGS: OPPORTUNITIES, CHALLENGES, SUPPLY CHAIN Mr. Lacina Pakoun – Technical Specialist, ACP-EU Development Minerals Programme, UNDP (Chair) Ms. Rosemary Okla - Principal Geological Engineering Technician / GIS, Ghana Geological Survey Authority Ms. Monique Beatrice Meyena Ekongolo - Head of Service, Artisanal and Small-scale Mining, Cameroon Ministry of Mines, Industry and Technological Development

Mr. Kwaku Osei-Yeboah, Founder/Director Gud Heart Quarry and Construction Ltd.

Mr. Emmanuel Yirenkyi Antwi - Operations Director, Ghana National Association of Small Scale Miners (GNASSM); Managing Director of Key Empire Resources Ltd

3:00 pm **END OF SESSION/NETWORKING**

AUSTRALIA AWARDS AFRICA ROUND TABLE DISCUSSION

OPPORTUNITIES AND CHALLENGES FOR WOMEN IN THE SMALL-SCALE MINING AND DEVELOPMENT MINERALS SUPPLY CHAIN

3:00-4:30pm **Round Table Discussion**

Moderator: **Mr. Fitsum Weldegiorgis**

Presenters:

Mrs Lynda Lawson

Mrs Amina Tahiru

Irene Owusu-Poku, National Programmes Coordinator, Golden Line Programme

Promoting Gender Inclusivity in the ASM Sector in Ghana- Case of The

Golden Line Programme

4:30-5:30pm **Networking and Light Refreshments**

DAY 2

8:00 – 9:00 am **Registration and Networking**

9:00 am – 10:00 am **ARTISANAL AND SMALL-SCALE MINING & QUARRYING SECTOR IN AFRICA: OPPORTUNITIES, CHALLENGES, CASE STUDIES**

***Prof Richard K Amankwa**, University of Mines and Technology, Tarkwa (**Chair**)

***Miss Sarti Makili**, Senior Geoscientist, Department of Mines and Energy, Namibia

***Mr. M. Samndong**, Mining and Geological Engineer, Ministry of Mines, Cameroun

Mr. Emmanuel Yirenkyi Antwi, Operations Director, Ghana National Association of Small Scale Miners (GNASSM) & Managing Director of Key Empire Resources Ltd

10:00 am – 10:15 am **Tea break and Networking**

10:15 am – 11:30 am **FORMALISATION OF ARTISANAL AND SMALL-SCALE MINING SECTOR: POLICIES, PRACTICES, CASE STUDIES**

***Prof Gavin Hilson**, University of Surrey, UK (**Chair**)

Prof Richard K Amankwa, University of Mines and Technology, Ghana

***Mr. DeJong Terah**, USAID

Mr. Yaw Britwum Opoku, Gold Programme Manager, Solidaridad Ghana

ASM Best Practices-Solidaridad

11:30 am – 12:45 am ROLE OF EDUCATIONAL INSTITUTIONS, RESEARCH AND INNOVATIONS IN SHAPING THE ASM SECTOR

***Prof Jerry S Y Kuma**, Vice Chancellor of the UMaT, Tarkwa, Ghana (Chair)

Presentations:

Mr. Bernard Ngalim, North Eastern University Boston, USA
Community Rights and Artisanal and Small-scale mining in Cameroon

Miss Cynthia Kuma, GIMPA, Ghana
Poverty and Rural livelihoods: The case of women in small scale mining in Ghana

Mr. Gad Amankwah, KNUST, Kumasi, Ghana
Effect of Artisanal and Small-scale mining on heavy metals level in soil at Konogo Odumase

12:45 pm – 1:45 pm Lunch Break / Networking

1:45 pm – 2:45 pm AFRICA MINING VISION AND ASM SECTOR: CURRENT STATUS

***Dr. Tony Aubynn**, Founder/President, Africa Institute for Extractive Industries

***Mr. Benjamin Nii Ayi Aryee**, Ministry of Lands and Natural Resources, Ghana

2:45 am – 3:45 pm LOCAL ECONOMIC AND SOCIAL DEVELOPMENT IN THE EXTRACTIVE

Mrs Lynda Lawson, University of Queensland, Australia

***Mr. Richard Ellimah**, Executive Director, CESiS, Obuasi, Ghana

***Mr. Fitsum Weldegiorgis**, University of Queensland

***Mr Daniel Bentwum**, WAGES Coordinator, World University Service of Canada

3:45 pm – 4:30 pm ASM LOCAL VOICES

Mr. Emmanuel Yirenkyi

Mr. Stephen Attah Okyere

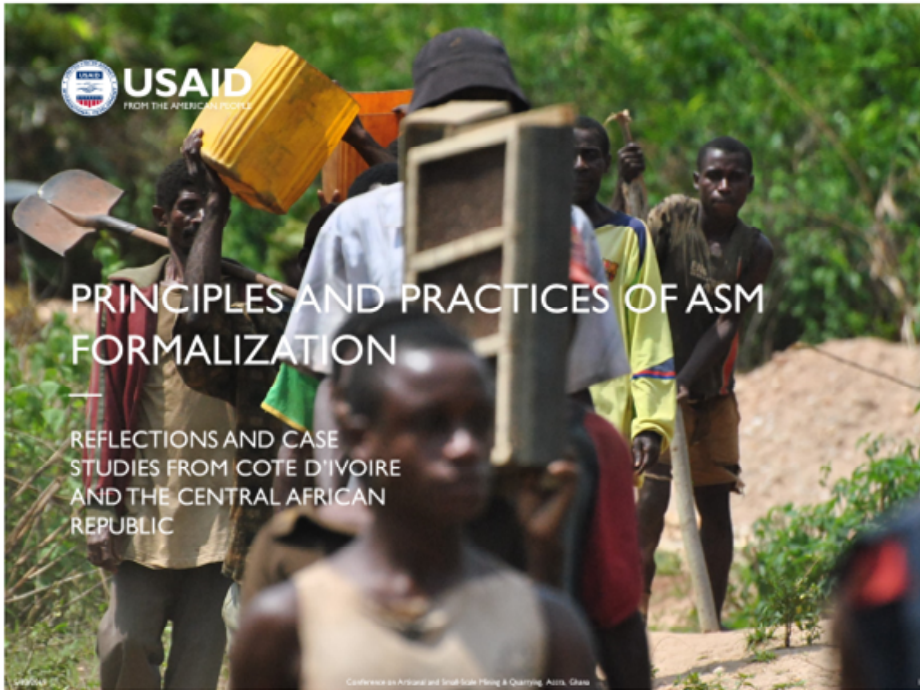
Mr. Ahmed Yusif Yonah

4:45 pm – 5:15 pm THE WAY FORWARD- ACTION PLANS, INITIATIVES, STRATEGIES,

Plans to Practically Shape the ASM Sector in Africa

5:15 pm – 5:30 pm CLOSING REMARKS

ANNEX C: SLIDES FROM CONFERENCE PRESENTATION



ARTISANAL MINING AND PROPERTY RIGHTS (USAID AMPR) PROJECT

- Five-year (2018-2023) project in the Central African Republic with a global cross-cutting component on ASM gold and diamonds
- Focus on strengthening legal chain of custody and formalization of ASM diamond supply chain, with secondary focus on gold
- Funded by U.S. Agency for International Development (USAID) and implemented by Tetra Tech, who also implemented USAID PRADD I and PRADD II projects



Reflections on ASM formalization (I)

- **Reflection 1: Know your objectives.** Why formalize? And for whose benefit?
- Need to identify and prioritize objectives, which can include revenue generation, environmental management, poverty reduction, reducing conflict, fighting transnational crime, improving industrial mining environment, and so on...
- Formalization is not just legalization



Reflections on ASM formalization (II)

- **Reflection 2: Participative and inclusive process to know everyone's interests and build ownership**
- Need for all actors to understand the motivations/interests of all actors. Why cooperate? Why cheat? What are people afraid of? What do they want?
- Importance of systems thinking (rules and roles; supply chain approach) and power dynamics in those systems (champions and spoilers)



Reflections on ASM formalization (III)

- **Reflection 3: Make it easy to be legal, hard to be illegal**
- Need for policy and its implementation to balance “carrot and stick” and find pragmatic solutions
- Look for opportunities for collaborative co-management with private sector (self-regulation, international standards) and with customary land owners / communities



ASDM CONTEXT IN CÔTE D'IVOIRE

- Sub-surface rights belong to State by law, but in practice sub-surface rights undistinguishable from customary surface regime
- In Côte d'Ivoire, co-management system started in 1986 with parastatal SODEMI
- SODEMI represents state and formally co-manages with customary land owners



ASDM CONTEXT IN COTE D'IVOIRE

- Villages monitor mining sites in collaboration with SODEMI and organize public sales sessions
- Village takes 12% for local development and 8% relinquished to SODEMI
- For customary owners, collaboration with state strengthened their economic and social power
- For SODEMI, leveraging customary owners made control and enforcement possible

5/20/2019



CONCLUSIONS

- Leveraging customary tenure managers for co-management applicable to other minerals
- In contexts with weak customary control, model would need to be adapted (Central African Republic)
- Communities have considerable power to contest state control but they also respect state's authority and means of law enforcement
- A tenure rights-sharing or co-management approach can lead to greater benefits and security for communities and the state

5/20/2019



What is formalization?

ASM formalization is the process of collaborative rule-setting and rule enforcement across supply chain actors, governments and communities with the aim of enabling ASM to contribute to local and national peace and prosperity, both now and for future generations.

5/30/2019



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5/30/2019

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43

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