

# How to Connect Artisanal & Small-Scale Gold Miners in Uganda to the International Market for Ethically Produced ASM Gold?

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## ABSTRACT

Four artisanal and small-scale mining organisations (ASMOs) producing gold in Uganda have been subjected to a value chain analysis, showing that they currently lack access to any legal market channels. Despite receiving high per gram prices for their gold on the illegal market, these organisations do not trust current trade partners regarding the measurements of weight and purity and end up making meagre profits due to high maintenance and production costs.

Opportunities for an alternative route-to-market model have been explored in an effort to improve the producer community's livelihood. The proposed system builds on; 1) an assurance and export mechanism utilizing blockchain traceability, 2) the provision of technical training and 3) on-the-spot payments. The most important aspect of making this system attractive to producer groups will be the provision of technical processing and mining equipment to boost efficiency, productivity and profitability. Through improved productivity and efficiency, ASMOs will benefit most from ethical sourcing ambitions.

## Keywords

ASM Gold, Ethical Production, Conflict-free Minerals, International Market Access

## INTRODUCTION

According to a recent study and official export statistics, Uganda has experienced a stark increase in gold production in past years (Mthembu-Salter, 2015). Artisanal and small-scale (ASM) producers account for all national production as there are currently no large-scale gold mines in operation, while "up to 50,000 artisanal gold miners, women, men and children" (Schipper, et al., 2016) make their living searching for and processing the precious metal that ends up in electronics, jewellery and bullion around the globe.

In an attempt to connect traditionally vulnerable producer groups with the international market for ethically produced ASM gold, an in-depth value chain analysis (VCA) has been conducted. The study focused on a community of four ASM groups located in the village of Tiira, Busia district, close to the Kenyan border. From this a model value chain has been developed to link producer groups logistically to downstream actors located in the global south.

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## METHODOLOGY

The research underlying this paper has been conducted following the academic framework of Trienekens' (2011) 3-Step Value Chain Analysis Approach: 1. Conducting a Value Chain Analysis 2. Identifying Constraints within the value chain 3. Formulating recommendations for value chain upgrades.

This effort built on analysis of existing academic research regarding market access of ASM producer organisations, voluntary sustainability standards' requirements, NGO reports and other grey literature.

Given the case-specific nature of this research and the informality of the sector, as well as the nature of the commodity and the fact that ASM gold trade is a topic yet to be fully explored in academia, interviews have formed the main basis for this research.

Furthermore, visits of the four mines, engagement with the Ugandan authority in charge of ASM and gold production, forwarding agents and insurance companies as well as with local capacity builders and traders located in Kampala have provided an insight to the local reality on the ground.

The interviews with experts and value chain actors have informed the design of the proposed assurance, aggregation and export mechanism. The field research underlying this synthesis report has been conducted January to April 2018.

## RESULTS OF THE VALUE-CHAIN-ANALYSIS

Producer groups were expected to sell their gold at a local level, as it is the case in the neighbouring Karamoja region, where ASM organizations (ASMOs) are receiving roughly 55% of the gold's value in reference to the global gold price set by the LBMA in London (Barreto et al., 2018). The miners interviewed for this study, however, expose themselves to high risk travelling to and from the capital, as Kampala traders offer up to 97% of the LBMA price factoring in both weight and purity.

Since national royalty payments for the gold are set at 5% of the gold's LBMA value, Kampala traders must either operate at a constant loss or, more likely, illegally. Despite the highly competitive buying prices officially paid, all producer groups voiced concerns about the accuracy of weight and purity measurements used to determine the final price. Inaccurate, rigged scales are one such tactic employed by Uganda's traders (Barreto et al., 2018).

## Price vs Profit

Public discourse about fair and ethical trade most often evolves around producers' prices and market access. This case study has found that the more urgent debate, in this case, should revolve around the producers' profit margins, as current production practices lead to a profit distribution, where, of the alleged 97% currently paid by the buyers, less

than 6% remained as profit to be distributed as wages for workers due to the high production costs.

With 44.5% of their revenue spent on fuel, lubricant and spare parts, running equipment is by far the most significant cost factor. The high-interest rate on working capital and investors operating under exploitative terms prevent the miners from accumulating wealth, and many miners live a hand-to-mouth existence.

An intervention attempting to connect ASM producers directly to downstream actors might not be able to outcompete Kampala trading prices, but should evolve around helping 1) decrease production costs, while 2) offering local buying and 3) immediate payments; building up 4) mutual trust through transparency.

One way of supporting ASMOs increase productivity is through the 5) provision of access to adequate equipment and 6) training on how to operate these machines.

#### **Efforts of legalisation – Applying for Mining Licenses**

Two of the four producer groups researched operate having their mining license in place, which allows them to extract the minerals from the plot registered in their name, under the condition of paying royalties on all its production.

The other two ASMOs reported difficulties receiving legal licenses, as the process of applying is exceptionally non-transparent.

The Ugandan government body in charge of gold mining and ASM, the Directorate for Geological Surveys and Mining (DGSM) stands accused of systemic corruption materialising in location licenses and mining permits being handed out not to the most suitable candidate, but patrons of both high- and low-ranking officials, in addition to not enforcing royalty payments from selected license holders. International watchdog Global Witness reports that even though allegations were brought to the attention of high-ranking officials, no action has been taken to bring more transparency into the matter (Global Witness, 2017).

The design of the organisational structure of the DGSM is such that preferential treatment and bribery can happen without fear of indictment from other departments. Many countries have separate institutions for the processing of license applications (usually done by the Ministry of Mining) and environmental inspections of the mining companies that have already received a license to operate (usually conducted by the Ministry of Environmental Protection). The DGSM, however, is responsible for both licensing and environmental inspections, and so there is no system of checks and balances.

#### **Current export through the African Gold Refinery**

A significant share of the gold officially exported from Uganda is processed by the African Gold Refinery (AGR), a Belgium-Ugandan business venture located near Entebbe International Airport. AGR received substantial foreign investment in early 2017 in an attempt to create government revenue through in-country value addition. Co-run by former high-ranking government officials and with ties to the president's family, "the company is able to out compete other legal traders on price because it enjoys a 10-year tax holiday from the government for adding value to Uganda's gold. This is an exemption granted to companies that add value on minerals in Uganda before exporting them" (Muhumuza, 2016).

Global Witness claims that the African Gold Refinery "has processed and exported over USD 200 million worth of

gold, paying only half a million dollars in tax", but does not disclose the origins of this gold (Global Witness, 2017). Global Witness accuses the refinery of deliberately failing to publish provenance information, because it sources from Sudan and the DRC, which are high risk areas, and should be subject to high levels of scrutiny. On top of these allegations, Global Witness quotes correspondence with the Commissioner of the DGSM dating back to January 2017, stating that the DGSM "has not issued any export permits" to the AGR.

#### *Contraband Gold & Illegal Exports*

While a small part of the increase in national gold production can be attributed to a gold rush in recent years (Schipper et al., 2016), the largest share is most probably the result of AGR processing and exporting gold originating from neighbouring countries, most of which is likely to be contraband gold from DRC, Sudan and Rwanda (Mthembu-Salter, 2015).

Much of the contraband gold that leaves the country illegally is said to be smuggled on to Dubai, where it is processed and often sold on to India. The most common route for contraband gold seems to be the land route to Port Mombasa in Kenya, as illegal export via roadways is hard to regulate. Mthembu-Salter (2015) however, reports to the OECD that Entebbe International Airport officials engage in air smuggling of gold as hand luggage and even as cargo. Gold traders often have various informal arrangements with airport security officials to facilitate the smooth (and illegal) export of gold (Blore, 2015).

A business inquiry, as part of this research investigation, for services of a forwarding agent substantiated these claims, as the forwarding agent specified that more than half of his USD 400 fee is spent on paying airport staff to speed up the process of clearing and guaranteeing a secure transaction (Interview with Forwarding Agent, March 2018).

High levels of corruption, a systematic lack of trust among value chain actors and the secrecy and complexity of the gold sector, are likely to hinder a successful reform of existing practices working with, rather than against, existing traders and middle men.

#### **Learning from existing Examples**

The examples of ASM communities already supplying the international market are rare and mainly limited to certified producer groups audited against either the Fairmined Standard for Precious Metals of the ARM or the equivalent standard of Fairtrade.

These mines are exclusively located in South America and Mongolia and are, generally speaking, of high organisational capacity. These ASMOs produce sufficient volume to have direct supply relationships with refiners located in the Global North. A representative of some of the certified mines in Colombia it was stated that the minimum amount to break-even on the transport costs and enable direct international trade lies at approximately 1.5kg of gold per consignment (Interview with representative standard setting body, March 2018).

In Colombia, the gold is transported by armoured, safe-transport, cash transit vehicles, collecting the gold directly

from the producers. The gold usually gets smelted at the ASMO's facility and is already in the form of doré bars.

It is worth noting that there are currently less than ten mines that are certified and directly linked to a refinery, none of which are located in Africa. African ASM gold producers are usually less well-developed, with less infrastructure and organisational capacity and produce far smaller volumes. An inclusive market mechanism does currently not seem to exist, allowing producers with low production volumes to sell their gold directly to refiners.

### **Building mutual Trust: Transparency of Information**

London-based traceability-solutions provider Everledger has pioneered the application of blockchain technology in the diamond sector, including more than a million individual diamonds in a reliable digital tracking system providing real-time data on the location and status of every stone (Everledger, 2018).

Blockchain technology in itself is merely a way of storing and transmitting data in a manner that various parties are permitted to access data in real time while being unable to alter any of the information recorded onto the Blockchain. In other words, it is a shared immutable and decentralised ledger for documenting the history of transactions of any kind, be it payments, geolocation data, time stamps or the physical transfer of ownership.

Everledger has successfully applied this technology to the diamond sector, making it possible for the end-consumer to revisit the entire journey of his or her stone from mine to jeweller.

In general, this system could be applied to any high-value commodity and has even been used to make provenance claims for products such as single origin coffee, cotton or tuna. A blockchain is, however, only a way of storing and transmitting data, and relies on accurate data input along the supply chain to be of use. If deployed correctly, a Blockchain-based solution would enable any downstream company to receive and share reliable Chain of Custody (CoC) assurances with the next value chain actor.

### **Understanding Downstream Requirements**

Interviews with various downstream actors resulted in a list of requirements ASMOs and supply chain actors would need to meet to allow for a direct buyer-seller relationship between a European refinery and the producer organisations in Tiira. In summary, these include compliance with the OECD's Due Diligence Criteria for precious metals from areas of conflict, as well as the LBMA's Sourcing Criteria and the Responsible Jewellery Council's (RJC) ASM Chain of Custody criteria.

All of these criteria are achievable, if a monitoring system was in place, ensuring the absence of child and forced labour as well as transparency regarding the financial flow of money paid to the producer groups. The Impact Facility's Environmental, Social and Governance (ESG) Performance Monitoring and

Assurance system suffices to meet these criteria fully. The Impact Facility, the commissioner of this research, is a charity set up to support mining communities and further inclusive development of mining communities. Its ESG criteria's Basic Level has been designed in alignment with the minimum requirements for ASM gold sourcing, outlined by the leading voluntary sustainability standards and international sourcing requirements relevant to the ASM gold sector.

More concretely, these criteria require an ASMO to:

- be legally registered in the application process
- keep production and sales records
- not employ any child labourers under the age of 15 in line with ILO Convention 182 and 137
- respect workers' rights
- attempt to abstain from mercury use
- provide proof of tax/royalty payment
- and commit to continuous improvement regarding a range of ESG risks & challenges.

### **Proposed Value Chain Intervention**

Establishing a traceable, reasonably-risk-free and ethical value chain connecting mining communities directly with refineries in the Global North requires the following value chain actors to be directly involved:

- ASMOs
- A local buyer & smelter
- Secure transport providers
- Clearing agents
- An international airline
- A refinery

### *Operational Environment & Preconditions*

Downstream companies require credible assurances regarding the origin of the gold and the circumstances of production. The ESG assessment program of The Impact Facility, which is executed by local implementing partners and monitored by The Impact Facility staff meets criteria laid out by the relevant international standards. While such an effort requires significant financial investment, The Impact Facility finds itself in a position where the data is already readily available, due to its ongoing engagement with the mining communities.

This information will be kept and updated in a digital system, built on Everledger's Blockchain technology. With this system in place, the gold can be geo-tracked in real-time, providing information regarding the provenance, the selling party and the circumstances of production (using quarterly updated data). The underlying IT-system records every time the gold changes hands; with such a system in place, an international insurance company voiced its willingness to ensure the transport from Busia up to the location of the refinery against any form of loss or theft.

### *Agreeing on joint terms for downstream-support and trade*

By forging direct relationships between downstream companies interested in the offtake of ethically produced gold and willing to provide access to capital in the form of equipment, The Impact Facility can help ASMOs achieve higher productivity and profitability. Downstream actors

interested in the sourcing of gold, however, are interested in a reciprocal arrangement, as they want to use the gold in their supply chains.

It is essential to achieve a joint understanding with the miners that rather than focusing on getting the highest possible price for their gold (selling it to the illegal market), the ASMOs would benefit more from cutting production costs by increasing productivity and boosting production volumes.

If ASMOs are willing to commit to selling their gold via this local buying and aggregating system, miners will reap the benefits of both capacity building and access to adequate machines.

#### *Proposed Value Chain Process*

The proposed system could accommodate paying the miners a price equivalent to 93-95% of the LBMA world market price, buying gold locally and thus, reducing the risk of travelling far distances with their valuable cargo and deceitful business practices for the producers.

The use of tamper-proof boxes in conjunction with a rigorous monitoring process, allows downstream companies to meet all due diligence criteria necessary.

The most important aspect of making this system attractive to producer groups will be the provision of technical processing and mining equipment to boost efficiency, productivity and profitability. Through improved productivity and efficiency, ASMOs will benefit most from ethical sourcing ambitions.

#### **CONCLUSION**

The ASMOs in Uganda do currently not have the option of legitimate market access via legally operating value chain actors. Corruption in the institutional environment makes it difficult for ASMOs to operate legally. Companies committed to buying ethically produced ASM gold will need to invest in constant monitoring to meet international due diligence requirements. Producer groups, on the other hand, will need to understand that organisational transparency and ESG performance monitoring are the keys to building mutual trust. Direct collaboration with downstream actors will enable them to access finance and capacity building and thus to improve productivity and profitability.

The success of any intervention would depend on the development mutual trust and a joint commitment to collaborate on achieving better production practices in terms of productivity, but also regarding various ESG criteria.

Building on the insights gained from this research, The Impact Facility and its downstream partners are currently preparing to pilot the proposed aggregation and export mechanism in spring 2019.

The full value chain analysis report can be found at:  
<https://www.impactfacility.com/blog/asm-gold-vca-uganda>

#### **ROLE OF THE STUDENT**

David Sturmes was an undergraduate student under the supervision of Ard Schoemaker when the research in this report was performed. The topic was commissioned by Assheton S. Carter of the The Impact Facility, a global grant and investment vehicle focused on supporting ASM communities. The design and execution of the research was done by the student, including field visits in Tiira Uganda, conducting expert interviews as well as the processing of the results, formulation of the conclusions and the writing of the research report.

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#### **REFERENCES**

1. Barreto, M., Schein, P., Hinton, J. & Hruschka, F., 2018. *Economic Contributions of Artisanal and Small-Scale Mining in Uganda: Gold and Clay*, Somerset, UK/Envigado, Colombia: Pact Global UK & Alliance for Responsible Mining.
2. Blore, S., 2015. *Contraband Gold in the Great Lakes Region In-region Cross-border Gold Flows Versus Out-region Smuggling*, s.l.: BGR.
3. Everledger, 2018. *Do You Know Your Diamond?*. [Online] Available at: <https://diamonds.everledger.io/> [Accessed 13 June 2018].
4. Global Witness, 2017. *Under-Mined*, London: Global Witness.
5. Mthembu-Salter, G., 2015. *Baseline study four: Gold trading and export in Kampala, Uganda*, Paris: OECD.
6. Muhumuza, M. K., 2016. *Uganda: Gold is second largest export*. [Online] Available at: <http://www.monitor.co.ug/Business/Prosper/Gold-is-second-largest-export/688616-3411636-r9v175/index.html> [Accessed 3 June 2018].
7. Schipper, I., de Haan, E. & Turyahikayo, S., 2016. *No Golden Future - Use of child labour in gold mining in Uganda*, Amsterdam: SOMO.
8. Trienekens, J. H., 2011. *Agricultural Value Chains in Developing Countries - A Framework for Analysis*. International Food and Agribusiness Management Review, pp. Volume 14, Issue 2.