CASE STUDY OF GOLD MINING IN GHANA

## Feasibility analysis and profit projections

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# EXECUTIVE SUMMARY

Why start up a gold mining operation in Ghana? The opportunity lies in capitalizing on Ghana's rich geological heritage and its status as one of Africa's top gold producers. This venture, while capital-intensive with initial startup costs exceeding GHS 3.6 million, presents a significant potential for high returns, as evidenced by a projected 5-year ROI of 165% and robust revenue forecasts scaling from GHS 72.5 million in Year 1 to over GHS 185 million by Year 5. The global demand for gold as a stable investment asset underpins market stability. Success hinges on navigating the comprehensive regulatory framework, managing substantial operational overheads, and fostering strong community relations. This report outlines a detailed roadmap for establishing a profitable and sustainable small-to-medium-scale gold mining enterprise in Ghana.

# INTRODUCTION TO OPPORTUNITY AND MARKET ANALYSIS

Ghana, historically known as the Gold Coast, is a premier destination for gold mining, consistently ranking as one of the largest producers in Africa and a significant player globally. The market opportunity is driven by persistent global demand for gold for investment, jewelry, and industrial applications. The Ghanaian market is comprised of large multinational corporations and a vibrant small-scale mining sector, which the government is actively seeking to formalize and regulate. The primary regulatory bodies are the Minerals Commission, responsible for granting mining leases, and the Environmental Protection Agency (EPA), which oversees environmental compliance. The provided financial data indicates a high-cost, high-reward environment. Significant initial investment is required for licensing, equipment, and working capital. However, the sales forecast demonstrates a strong growth trajectory, suggesting that a well-managed operation can achieve profitability and significant positive cash flow, peaking at over GHS 7.5 million annually by Year 5.

# OUR VIEWS OF THIS SECTOR IN UGANDA

The gold mining sector is the backbone of the Ghanaian economy, contributing significantly to its GDP and export earnings. Originating from pre-colonial times, the industry has evolved into a sophisticated ecosystem of large-scale international players and numerous local small-scale operators. Globally, Ghana is recognized for its vast, high-quality gold reserves, particularly in the Ashanti and Western regions, attracting substantial foreign direct investment. Locally, the sector is a critical source of employment, both directly and indirectly. However, it is also fraught with challenges, including the environmental and social impacts of illegal mining ('galamsey'). In response, the government has intensified efforts to regulate the sector, promoting responsible mining practices and ensuring local communities benefit through initiatives like the Community Development Fund. The outlook remains positive, with a focus on sustainable practices and increasing local participation to enhance long-term value.

# SWOT ANALYSIS

## Strengths

Ghana possesses world-class gold deposits and a long, established history in mining, creating a mature ecosystem with a skilled labor force. The government is broadly supportive of the sector as a key economic driver. There is established infrastructure for mineral exportation and a well-defined legal framework for acquiring mining concessions.

## Weaknesses

The venture requires extremely high initial capital outlay for licensing, equipment, and exploration. Operational costs, particularly for diesel fuel which constitutes a major overhead, are substantial and volatile. The business is highly susceptible to fluctuations in global gold prices, which can dramatically impact profitability. Operations are often in remote areas with logistical and infrastructure challenges.

## Opportunities

Rising global economic uncertainty often increases the demand for gold as a safe-haven asset, potentially driving prices higher. Modern exploration technologies can uncover new, economically viable deposits in existing concessions. Government initiatives to formalize the small-scale sector can create a more stable and predictable operating environment. There is potential for value addition through local refining.

## Threats

Illegal mining activities ('galamsey') can lead to security issues, encroachment on concessions, and reputational damage to the formal sector. The regulatory landscape is stringent and can change, introducing political risk. Community relations can be complex, and failure to maintain a social license to operate can lead to costly disruptions. Global economic downturns can suppress jewelry demand, and environmental activism can increase compliance costs.

# CRUCIAL FACTORS TO CONSIDER WHEN STARTING OUT IN THIS INDUSTRY

Several factors are critical for success. First, securing all necessary legal and environmental permits from the Minerals Commission and the EPA is non-negotiable and forms the foundation of the operation. Second, robust financial planning and access to significant capital are essential to cover the high startup costs and initial operational overheads before revenue generation. Third, a thorough and professional geological survey is paramount to confirm the commercial viability of the gold deposits within the concession. Fourth, building and maintaining a positive relationship with local communities and landowners is crucial for securing a 'social license to operate' and preventing conflicts. Finally, stringent cost control, particularly over fuel, equipment maintenance, and security, is vital for achieving and sustaining profitability.

# STARTUP PROCEDURES/OPERATIONS

The startup process follows a multi-phased approach. 1. \*\*Feasibility and Funding\*\*: Begin with company registration at the Registrar General's Department, secure initial funding, and conduct preliminary geological assessments to identify a promising concession. 2. \*\*Licensing and Permitting\*\*: Engage with the Minerals Commission to apply for a small-scale mining lease. Concurrently, commission an Environmental Impact Assessment (EIA) and submit a report to the EPA to obtain the required environmental permits. 3. \*\*Site Acquisition and Setup\*\*: Finalize land lease agreements with traditional authorities and landowners. Proceed with site clearing, construction of access roads, and preparation of the processing area. Install the gold washing plant, generator, and site office. 4. \*\*Procurement and Staffing\*\*: Procure heavy machinery (excavator, bulldozer, dump trucks), support vehicles, and safety equipment. Recruit a team of skilled personnel including a mine manager, geologists, equipment operators, and security staff. 5. \*\*Commencement of Operations\*\*: Begin systematic excavation of ore based on the geological plan. Transport the ore to the washing plant for processing through the sluice system. Implement security protocols for recovering and storing the extracted gold. 6. \*\*Sales and Ongoing Compliance\*\*: Establish a relationship with a licensed gold buyer, such as the Precious Minerals Marketing Company (PMMC). Implement systems for continuous environmental monitoring, reporting, and regular payment of royalties and community development levies.

# CRITICAL INTERNAL CONTROLS TO PUT IN PLACE

Implementing robust internal controls is critical to mitigate risks. 1. \*\*Asset and Production Security\*\*: Enforce a strict chain of custody for all gold-bearing material, from the pit through processing to the final sale. Utilize surveillance systems, controlled access to secure areas, and regular, unannounced audits of production logs and physical inventory. 2. \*\*Financial Controls\*\*: Segregate financial duties to prevent fraud; for example, the person approving purchases should not be the one making payments. Implement a rigorous procurement process for high-cost items like fuel and spare parts, requiring multiple quotes and senior management approval. Conduct monthly budget variance analysis to track expenses closely. 3. \*\*Operational Controls\*\*: Maintain detailed daily logs for equipment usage, fuel consumption, and maintenance activities to identify inefficiencies. Implement a preventative maintenance schedule to minimize costly breakdowns. Use an inventory management system for consumables to prevent stock-outs and theft. 4. \*\*Compliance and Safety\*\*: Assign clear responsibility for tracking and meeting all regulatory deadlines for reports, fees, and permit renewals. Enforce mandatory use of PPE and conduct regular safety drills. Maintain comprehensive records of all safety incidents and compliance activities.

# OUR ADVANCED THINKING TIPS FOR SUCCESS

To achieve superior performance, consider the following advanced strategies. 1. \*\*Adopt Efficient Technologies\*\*: Invest in modern exploration technology like drones with LiDAR or ground-penetrating radar to optimize exploration efforts. Utilize fleet management systems with GPS tracking to monitor equipment, optimize fuel usage, and deter unauthorized use. 2. \*\*Focus on Water Management\*\*: Implement a closed-loop water recycling system for your washing plant. This not only significantly reduces environmental impact but also cuts down on water acquisition and pumping costs, especially in dry seasons. 3. \*\*Develop a Proactive Community Partnership\*\*: Go beyond mandatory contributions. Partner with the community to establish ancillary businesses that can serve the mine (e.g., catering, transport, supplies), creating shared value and a stronger social license. 4. \*\*Implement Hedging Strategies\*\*: To mitigate the risk of volatile gold prices, work with financial advisors to use derivatives like forward contracts or options to lock in favorable prices for future production, ensuring more predictable revenue streams. 5. \*\*Invest in Human Capital\*\*: Create structured training and upskilling programs for local employees to transition them into technical and supervisory roles. This fosters loyalty, reduces long-term labor costs, and strengthens community ties.

# Appendix 1: Financial Analysis

Separately provided in excel;

Key assumptions

Start up costs

Profit forecast

Return on investment

Break even analysis and cash flow analysis

# APPENDIX 2: ABOUT US

Inachee (In-a-chee-) is an ethical thought leadership firm that provides financial services and advisory to clients in Uganda and the Sub Saharan Africa region. Inachee is based on the concept that if we apply best practice learnt from the best companies in the world to support Ugandan businesses they shall be able to advance in their thinking.

At Inachee we are keen on supporting Ugandan Small and Medium Sized Enterprises (SMEs) through providing consulting/advisory (including accountancy related support) at inception, growth and maturity stage including:

Industry focused research reports and feasibility studies;

Business plans and business idea generation;

Financial forecasting, analysis and scenario development; and

Accounting/bookkeeping and internal audit/control reviews.

You can find out more about us and about our client success stories by visiting the website: www.inachee.com