

Opinion

Protecting Ghana's artisanal mining sector

By Dr Bjorn Lomborg

ARTISANAL and small-scale gold mining (ASM) is an important economic activity that has provided jobs and supported the livelihoods of many rural Ghanaian communities for over a century.

While the country implemented mineral sector reforms in the 1980s to attract foreign direct investment into the large-scale mining sector, the contribution of ASM to total gold production has been steadily rising, as well.

In 1989, it accounted for about two per cent of the sector's output. By 2018, the figure rose to 41 per cent.

Struggles

The sector does, however, face some struggles. While an estimated 1.1 million people are currently engaged in this activity, 60 per cent of them are illegal or unregistered.

Bureaucratic bottlenecks and prohibitive licensing costs drive miners to illegal operations, and favouritism towards large-scale operators has come at the expense of small-scale miners.

ASM also has numerous negative social and environmental effects in Ghana.

In the quest to minimise production costs, some artisanal miners use harmful technologies that negatively affect the health of those involved, and miners are often exposed to injuries and death resulting from cave-ins of mine shafts.

The obsolete technologies also lead to significant environmental damages, including land and rainforest degradation and mercury pollution of water bodies.

For example, alluvial gold mining operations have been found to pollute over 200 water

bodies within mining districts in Ghana.

Mining operations damage riverbanks and divert streams from their natural courses, contributing to the incidence of floods and resulting in irreversible damages to ecosystems.

The contribution of ASM to economic development and transformation can no longer be ignored. Designing the right policies can help improve the miners' conditions and prevent environmental degradation, but decision-makers need to ensure they invest scarce public resources in the most cost-effective policies.

Collaboration

Ghana Priorities, a collaboration between the National Development Planning Commission (NDPC) and the award-winning think tank Copenhagen Consensus, aims to provide new inputs to the discussion on the smartest policies for the country through the method of cost-benefit analysis.

Throughout the last year, 28 teams of economists studied over 80 initiatives in a wide range of areas spanning from transportation to education and health care to find which would do the most good for each cedi spent in economic, social and environmental terms.

The results of these studies

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are now being published to help policymakers identify the most beneficial policies for Ghana.

To help mitigate the negative impact of ASM operations in Ghana's, Wisdom Akpalu from the Ghana Institute of Management and Public

Administration (GIMPA) and the Environment and Natural Resource Research Initiative in Ghana (ENRRI-ED Ghana), and Brad Wong of Copenhagen Consensus focused on the costs and benefits of establishing mining co-operatives.

These associations support mining activities from extraction to commercialisation, and in many countries, have proven to be an effective way of formalising small-scale mining to adopt improved technologies, increase efficiency, reduce environmental impacts and minimise social conflicts.

Formalising

To make mining co-operatives a part of the formalisation of ASM operations in Ghana, the Ministry of Mines, in consultation with the Minerals Commission, can designate an area for small scale mining, especially targeting unregistered miners.

The researchers estimated the need to register 1,120 co-operatives in 40 mining districts, each consisting of 590 ASM operators.

These co-operative unions would be granted a mineralised land to be mined for five years at a time.

The cost related to the establishment of mining co-operatives includes the cost of setting up and sensitising mining communities to the opportunities of co-operatives.

It also takes into account the operational cost of using improved technologies, as miners switch from manual to mechanised tools.

The government would also need to support and incentivise cooperatives by providing grants, which the researchers estimate at GHS 216 million per year. Over 10 years, the total cost of the intervention is GHS7 billion, borne both by the government and the cooperatives.

As for the benefits, easing the formalisation process and

Artisanal mining cooperatives

Estimated costs of formalising small-scale mining

-  **Sensitisation and set-up**
500,000 per cooperative would add up to GHS 562 million
-  **Improved mining technology**
510,000 per cooperative would add up to GHS 574 million annually
-  **Grant incentives to miners**
192,000 per cooperative would add up to GHS 216 million per year
-  **Administrative**
162,000 per cooperative of mining concession fees, office and utilities costs, and monitoring and evaluation adding up to GHS 182 million per year

Resulting economic, social & environmental benefits

-  **Improved production**
592,000 per operator would add up to GHS 664 million per year
-  **Grant incentives to miners**
192,000 per cooperative adding up to GHS 216 million per year is transferred to the miners and therefore also a benefit.
-  **Less environmental degradation**
Improved biodiversity, and increased water for household and industrial consumption valued at GHS 135 million per year
-  **Fewer accidents and injuries**
5 lives saved per year, 86,000 abrasions, 28,000 fractures, and 76,000 lacerations avoided valued at GHS 122 million per year
-  **Avoided mercury exposure in utero**
Each year roughly 47,190 children would be born to the beneficiary population with an annual benefit of GHS 64 million

Source: Authors' paper

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constituting co-operatives makes it easier for members to pool their skills and financial resources together, acquire innovative technologies and increase their output and earnings.

The use of improved mining methods also promotes cleaner gold production and reduces the significant environmental damages of mining, as well as the risk of accidents, mortality and in-utero exposure to mercury from harmful production practices.

Mining co-operatives' financial model of shared savings can also result in greater capital accumulation, generating total benefits worth nearly GHS8.3 billion.

While the overall cost of this intervention is high, every cedi spent would create GHS1.2 of social good.

Mining co-operatives are a community-based management strategy that could help legally formalise collective decision-making and sharing of responsibilities and generate significant social returns.

Through this intervention, the government can help miners improve their technologies and scale up production while taking better care of their health and the environment.

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