

# Artisanal and Small-scale mining and agriculture – friends or foes?

*By Edward K. Brown*

**High unemployment and high gold prices since the 2000s have resulted in a boom in artisanal and small-scale mining in several African countries. However, there has also been a negative impact on agriculture and the environment. This highlights the need for policy and regulatory action supported by consistent implementation, says the African Center for Economic Transformation.**

Inclusive growth and job creation are prominent issues on the development agenda. In sub-Saharan Africa (SSA), the phenomenal growth of artisanal and small-scale mining (ASM) has prompted some policy makers to consider it as a pathway to sustainable job creation and poverty reduction in rural areas. However, there is stark evidence that ASM is causing extensive damage to the environment and to livelihoods and threatening food security. This has forced a rethink about how ASM can co-exist with smallholder agriculture, which is still the backbone of many SSA economies.

The importance of the two sub-sectors is clear. Research conducted in 2017 by the African Center for Economic Transformation (ACET) found that about 1.1 million people are engaged in ASM in Ghana (with 4.5 million dependents), 300,000 in Sierra Leone (with 1.8 million dependents) and 200,000 in Burkina Faso (with 1 million dependents). In addition, ASM is the second highest employer after smallholder agriculture in resource-rich rural communities. In Ghana, ASM contributes nearly a third of national gold output. In Sierra Leone, artisanal mining provided 36% and 64% of diamond and kimberlite mineral exports respectively in 2014. In Burkina Faso, gold production doubled in about eight years, becoming the second largest export after cotton.

At the same time, agriculture remains of central importance. In Ghana, agriculture contributes a third of merchandise exports, and even more in Burkina Faso (44%) and Sierra Leone (88%). In Ghana, 44.3% of currently employed people work in the agricultural sector, as do 78.4% in Burkina Faso and 68.5% in

Sierra Leone. Smallholder farmers constitute over 80% of the total agriculture sector workforce in the three study countries.

Agriculture and mining, together, employ the biggest proportion of the labour force in the three countries, but farming is characterised by low incomes, low productivity and, hard labour. In contrast, ASM has brought a “get-rich-quick” mentality to resource-rich rural areas. ASM is drawing a workforce of young men and women (18-40 years), along with some children, away from the already ageing farming population (55 years plus). ASM has made labour harder for farmers to find and more expensive to hire. It pays up to three times more than farm incomes, to the extent that 43% of farmers interviewed were very willing or willing to sell their farmland to ASM entrepreneurs. ASM also takes over farmland by force. In all the survey districts in Ghana, at least 50% of respondents had lost their farms to ASM operators, of which 53% were for cash crops and 40% for food crops.

ACET found two key factors make ASM an unlikely tool for rural poverty reduction. First is the non-renewable nature of gold and diamonds, which makes ASM a non-sustainable medium- to long-term source of income for communities. In addition, as minerals are exhausted in one location, ASM operators will shift locations every few years, even if regulated. This partly explains why poorly-regulated ASM seems incompatible with smallholder agriculture – its huge and negative environmental and social footprint.

ASM brings takeover of farmlands and displacement of farmers, reducing food production; threatening both food security and external earnings and leaving local communities as virtual ghost towns with abandoned mining sites serving as breeding grounds for mosquitoes. They also contain high levels of highly toxic, residual chemicals (such as mercury and cyanide), which are major health hazards for local communities. Streams are diverted into mine sites, contaminating flowing water and in some cases lowering the groundwater table leading to instances of dried-up streams. This leaves arable land unfit for future farming.

The second factor is the changing nature and structure of ASM; from artisan-owned pickaxes and shovels to heavy-duty earthmoving, dredging and processing machines, increasingly financed from urban and external sources. The notion of artisanal mining as a safety valve for the demographic bulge was perhaps valid some years ago but only for the short term due to the factors mentioned above. Moreover, most ASM earnings are financing investment and consumption in national and regional capitals, with very little trickling down to rural communities. Thus, in Ghana's case, there is no compelling evidence that ASM is helping reduce rural poverty. In Sierra Leone and Burkina Faso, there may be growing convergence with Ghana's experience.

The structure of land ownership is an important determinant of whether relations between ASM and smallholders are complementary or transactional/competitive. In Sierra Leone, the structure of ownership fosters a harmonious relationship between the two activities because the farmers themselves work in ASM in the dry season to support their agricultural livelihoods. In Ghana and Burkina Faso, however, the dominance of non-indigenes in ASM, its itinerant nature and the intensity of land use have led to transactional relations and instances of conflict with farming communities over land, water, labour and capital. Even in Sierra Leone where less tension was observed (due to the farmer-miner structure), there was fierce competition between artisanal miners and smallholder farmers for swamp lands, which contain fertile soil suitable for both farming and mining. Many stakeholders felt that swamp lands should be reserved for rice and vegetable cultivation. So far, in all three countries, policies and legislation have not tackled these land use issues.

It is important to note the changing political economy at district and national levels, with the high profits from ASM attracting local and foreign entrepreneurs. In Ghana, for example, ASM is now a big business run by mobile phone from national and regional capitals. Workers who in the past owned operating assets (pickaxes, shovels, pans etc.) are now contract workers for entrepreneurs who own the heavy-duty

equipment. In Sierra Leone, the intensity of capital infusion is still low, due to stricter adherence to the regulations as well as the continuing dominance of the farmer-miner occupational structure. However, the distinction between artisanal and small-scale mining is becoming blurred, particularly in Ghana and Burkina Faso, further exposing regulatory shortcomings.

In Ghana, there are regulations governing small-scale mining whereas artisanal mining is unregulated. In contrast, Burkina Faso and Sierra Leone explicitly distinguish between small-scale and artisanal mining with separate licensing and in Sierra Leone there is an official off-season period when ASM is prohibited. This is during the rainy season when there are risks of landslides and cave-ins. The main challenges in policy and regulatory responses involve compliance and enforcement. Licensing is worst in Ghana where only about one-third of small-scale miners have permits. The lack of compliance and weak enforcement of environmental and health requirements are also a major concern in all three countries. In Ghana, these violations may be partly due to regulatory capture.

In order to improve development outcomes, ACET proposes two keys to mitigating the negative impact of ASM: first, strengthening institutional capacity to plug regulatory loopholes; and second, strict enforcement of already well-articulated policies and regulations. Regarding regulatory response, all three countries need to upgrade institutions and regulations to suit current trends in ASM. None of them has comprehensive geological mapping identifying areas of mineral potential, and a land-use plan. The lack of effective regulation of land use is partly responsible for the indiscriminate and damaging expansion into cash-crop farmland by ASM operators and ensuing conflicts over land use. Reversing this trend requires rigorous land-use management, proper demarcation of areas for cash and food crops and those for ASM. The cadastre or land-use system administration should be extended throughout the countries.

The second key is that new regulations are not needed when existing ones are erratically enforced due to regulatory capture (which the study found to be evident in Ghana), weak institutional capacity and weak coordination. It will take political will to break the grip of regulatory capture by dismantling the patronage structures that prevent effective implementation of rules and regulations. Governments should also support artisanal miners with resources and training on improved low-cost techniques to optimise winnings from gold and diamonds with greater safety for themselves and the environment. Institutional arrangements that empower the regional and district leadership need to be strengthened, with adequate resources for training, monitoring and enforcement. Similarly, the capacity of the Environmental Protection Agency in all three countries needs to be strengthened at regional and district levels, along with coordination among key stakeholders.

It is crucial to remember that the climate crisis is the real context for discussion of ASM and smallholder agriculture. It is already hitting parts of SSA, raising profound questions for policy makers and planners about the future of SSA economies that already face major challenges. The emphasis must now be on managing current realities with a permanent focus on sustainability.

Amid widespread unemployment, ASM has grown rapidly due to the ease of entry for unskilled labour and its high-end profitability is partly due to institutional and regulatory shortcomings. But its destructive social and environmental impact highlights the acute problems for smallholder agriculture (the subject of a different study by ACET in [2017](#)). Taken together as sources of livelihood, ASM and farming require appropriate policy and regulatory action to create and protect jobs, reduce poverty and promote economic transformation in sub-Saharan Africa.

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