

THE EMPLOYMENT, INCOME AND FOREIGN EXCHANGE EFFECTS OF SMALL-SCALE MINING ('GALAMSEY')

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Abstract

Small-scale mining, largely the illegal type popularly known as 'galamsey', has been destroying the environment and creating social problems across the country. The first objective of this paper is to detail and analyze the employment, income and foreign exchange effects of the small-scale mining industry. Secondly, it is to propose ways of addressing the bad effects that will increase rather than diminish these good effects of the industry. Government's corrective action must not make it difficult or impossible for people to be employed in and earn income and foreign exchange from small-scale mining while it is promoting legalization and formalization of operation, protection of the environment, and control of bad social effects. This must be done in these respects: (i) Strengthen institutions for monitoring and controlling small-scale and 'galamsey' activities; (ii) enforce guidelines for the protection of the environment' (iii) control bad social effects; (iv) assist miners to legalize operations; (v) advise and assist miners to operate formally and professionally; (vi) review Ghana's mineral land concession system; (vii) encourage education by Non-Governmental Organizations and Advocacy Groups; (viii) reinforce employment creation, income generation, and foreign exchange earnings; and (ix) undertake alternative livelihood programs.

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1 The Problem

Small-scale mining, largely the illegal type popularly known as 'galamsey', has been destroying the environment and creating social problems across the country. There have been increased calls for government to arrest the situation as these activities and their negative effects increased in the last few years. In reaction, in 2013 the NDC government formed a special Presidential Task Force to stop the illegal and informal mining operations, destruction of the environment, and bad social effects. Reports of polluted rivers and other water bodies as well as of degraded lands have been in the news lately, and these have led to urgent calls for action to be taken by the NPP government.

Government as well as popular reaction to the bad effects – illegal operation, environmental degradation, and bad social activities – have obscured the fact that small-scale mining has been having significant employment, income and foreign exchange earnings effects – good effects. In other words, the public reaction so far has concentrated on the bad effects without a holistic assessment of the industry, and how it can be better structured and regulated to become a sustainable source of livelihood.

The first objective of this paper is to detail and analyze the employment, income and foreign exchange effects of the small-scale mining industry. Secondly, it is to propose ways of addressing the bad effects that will increase rather than diminish these good effects of the industry.

2 Background

Small-scale mining (SSM) of gold – artisanal small-scale mining (ASM) – has been carried out for hundreds of years in Ghana. The sector was legalised by the Government of Ghana (GoG) in 1989 with the introduction of the following legislations: Mercury Law (PNDCL 217), Small-Scale Gold Mining Law (PNDCL, 218), and Precious Minerals and Marketing Law (PNDCL, 219). The introduction and implementation of these laws helped to reduce smuggling as a formal market was created by the Government, prior to which about 60,000 to 80,000 ounces of gold was smuggled out of the country by small-scale miners (Appiah, 1998).

Aryee, Ntibery and Atorkwi (2003) state that SSM is an important economic activity in Ghana and many Ghanaians depend on it for their livelihood. The small-scale mining sector generates significant amounts of foreign exchange for the Ghanaian economy. From 1989 to 2010, the small-scale mining sector officially produced 851,000 ounces of gold worth US\$467 million, representing 11.68% of total gold exports from Ghana. This increased to US\$2.5 billion from 2011 to 2012 and decreased to about US\$1.8 billion in 2014, as shown in Figure 1.

However, it must be noted that only a handful of individuals and host communities benefit (Appiah, 1998; Boon and Ababio, 2009; Akabzaa and Darimani, 2009). This situation must change so that as many Ghanaians as possible in these mining areas and beyond benefit from the proceeds of mining activities.

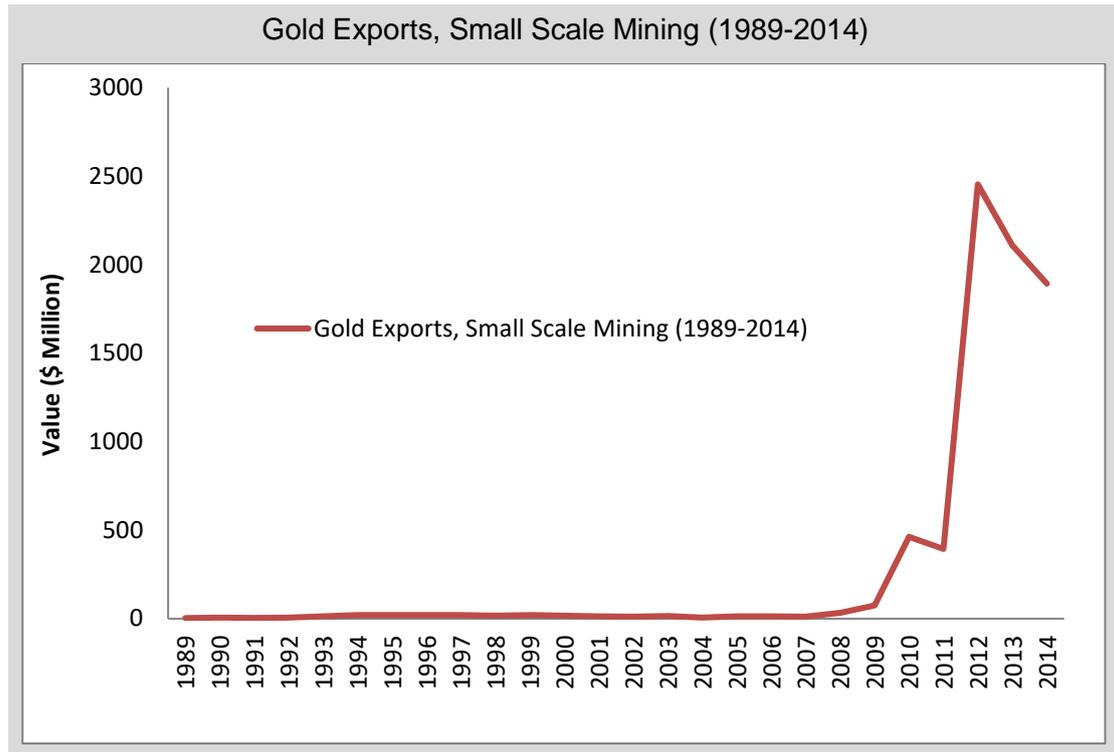


Figure 1: Small-scale Mining Gold Exports through the Precious Metals Marketing Company Limited from 1989 to 2014

We agree with Appiah (1998) and Eshun, Mireku-Gyimah and Yakubu (2011) that not only do mining activities benefit just a few, but that these mineral resources are exploited in ways that endanger the sustainability of the environment. The degradation of the land and pollution of water by SSM and their combined effects on climate change further worsen the plight of the already rural poor, who mostly rely on agriculture for their livelihood. But some are of the opinion that it is not the poor who degrade the environment but the rich, who have the capacity to influence the market when there is institutional failure (Duraiappah, 1998). This opinion seems to be supported by the burgeoning trend in the industry of a significant proportion of SSM activity being financed by non-local investors and traders, including increasingly foreigners particularly from China and India. However, it is the poor who suffer most from environmental degradation (Agyeman and Bullard, 2003).

According to Bijlsma (2011), Akabzaa (2009), Banchirigah (2008), Hilson and Potter (2003), and Hilson (2001), many structural reforms and environmental procedures have been put in place by the GoG to regulate SSM activities. But the deficiencies in these reforms, such as inadequate number of district offices and field personnel, have enabled environmentally unsustainable illegal mining activities to continue. According to Akabzaa and Darimani (2009), the public cannot readily access environmental audit information because most are considered confidential. Eshun et. al. (2011) and Boon and Ababio (2009) concur on the weaknesses of these structural reforms and argue that the GoG can improve social responsiveness in mining if the sense of social responsibility is incorporated in mining-related

businesses and enforced by law in order to protect the interest of communities whose resources are being exploited.



Figure 2: A Source of Drinking Water in the Western Region of Ghana polluted by illegal Small-scale Mining Activities (Source: Anonymous.)

During field work conducted for this study, it was learned that most small-scale miners have suffered some sort of injury due to poor safety measures and lack of proper supervision by mine owners and supervisors. Secondly, the security of miners and mining products is lacking. Rival miners steal from each other, which often results in violent clashes between them, and some resort to the use of arms to protect themselves and their mining products. Thirdly, dredging is a common but illegal practice that has been adopted by most small-scale miners. It not only increases the turbidity of water bodies but also affects their salinity, thereby also affecting life in the water as well as those who depend on it.

It is clear that these shortcomings in the regulatory practice need to be urgently addressed in order to protect the safety and health of miners and halt further environmental degradation and its adverse effects on the already poor mining communities. This, however, requires that all stakeholders identify the policy gaps and the developmental needs of the people, and address them by co-creating value.

Stakeholders and regulators in the mining industry in Ghana together need to ensure that, in both small- and large-scale mining, there are provisions that can enable inclusive growth and development. This will go a long way to addressing social injustice and poverty in the mining

communities, and in Ghana at large. This argument is supported by Eshun et. al. (2011) who state that the boom in mining in Ghana has been accompanied by both environmental problems and social conflicts.

3 Analysis

Small-scale mining, 'galamsey', is an economic response to the high demand for gold. Activity increases when the price of gold increases. One school of thought also asserts that the increase in illegal small-scale mining activities is due to the poor economic conditions of people. The increase in retrenchment and the high unemployment rate are also seen as key factors that have resulted in the increase in small-scale mining, including illegal activity.

This economic response has created employment and generated local income and foreign exchange for miners, their households and communities, and the nation. As long as employment creation is slow to non-existent in other sectors of the economy and there is demand for gold there will be small-scale mining activity.

At its peak, before the Task Force's activities started having an effect in June 2013, it was estimated that over 200,000 people were employed in the small-scale and 'galamsey' sector.

All these people earned income in the forms of direct payments and discounts off the world market price that supported them and created and increased local economic activity. Miners complain and it is widely accepted that the direct payments to them are smaller than market standards and the risks associated with their mining would seem to dictate, and that the discounts they are forced to sell at are bigger than standard discount margins would seem to dictate.

In 2011, the small-scale and 'galamsey' sector generated about US\$400m in foreign exchange (see Figure 1). Unlike the big-scale modern mines that have retention agreements that require them to repatriate only 20% of their export proceeds, this sector repatriates almost all its proceeds.

Small-scale mining in local communities in Ghana generates enormous revenue for the national economy. The Minerals Commission indicates that, in 2010, SSM contributed 23% of total gold production in Ghana. It creates wealth for the country, employment in remote areas, reduces rural urban migration, provides raw material for the local jewellery industry and serves as a key foreign exchange earner.

These good local employment, local income and foreign exchange effects have been contributing to increasing national employment and income and improving the balance of payments, but these good effects have been obscured by the efforts to curtail the bad effects.

However, little has been done to make it environmentally sustainable. Hilson (2001) found that mining activities have caused many environmental and socio-economic problems and increased Ghana's vulnerability to climate change, despite the enactment of laws to punish offenders. This threatens Ghana's ability to sustain its resources for future generations.

Governments have made structural reforms to regulate the sector, but these reforms have largely attracted more investment into the large-scale sector, with little effort made to review the activities of small-scale firms and operators and to arrest the damage being caused to the environment (Akabzaa and Darimani, 2009).

According to Hilson and Potter (2005) and Banchirigah (2006), structural reforms in Ghana have put SSM at a disadvantage. In their view, the reforms have tightened procedures for small-scale miners and thus encouraged artisanal miners to 'go their own way', which includes the very bureaucratic process that a potential small-scale miner has to go through for licensing of a concession. This disparity in how mining policies affect small-scale miners, coupled with socially unjust activities by stakeholders, is contributing to poverty and exposing the country to environmental problems.

The increase in mining activity has been contributing to a decrease in agricultural activity as agricultural lands are taken over for mining activity, thus creating a new challenge for agricultural production. For example, data indicates that between 1990 and 1998 mining activities displaced 14 farming communities with a combined population of 30,000 persons in the Tarkwa area. According to Aubynn (1997), one third of Ghana's Western Region and 60% of the Wassa West District are now under concession to large-scale mining companies.

In Ghana, about 70% of the mineable areas have been allocated to large mining companies for exploration, development and production, but in most cases these areas are unused and idle. It is also important to note that there is no system of transferable mineral rights in the country unless special approval is given by the sector Minister or there is a consent agreement between the large mining company that owns the lease and the potential small-scale miner before the land can be leased for artisanal purposes.

Below is a summary of the licencing process for small-scale mining concessions in the Tarkwa Municipal Assembly conducted in 2012 for research purposes only. The information was acquired from the following agencies and bodies: Minerals Commission, Environmental Protection Agency (EPA), and Tarkwa Nsuaem Municipal Assembly. The process is divided into two stages:

1. Minerals Commission
2. Environmental Protection Agency

Stage 1

Supervising Agency	Minerals Commission
Jurisdiction	District Office and Headquarters
Duration	Minimum of 3 months
Cost Involved (2012 estimates)	Forms: GHS 100 Processing Fee at District: GHS 250 Processing Fee at Headquarters: GHS 550
Action	
1.	Acquire land not more the 25 acres
2.	Ensure the land is not within a forest reserve nor close to rivers, road or cemetery
3.	The land should not lie within a large scale concession
4.	Present a site plan prepared by a qualified surveyor
5.	Return the site plan to the Minerals Commission
6.	Produce 20 copies of the site plan
7.	Purchase the application forms
8.	Send the forms and other documents to the District Assembly for publication for 21 days
9.	The DCE endorses the forms after the 21 days publication if there are no complaints arising out of the process or land
10.	The applicant writes an official letter addressed to the Minister
11.	The letter in addition to the forms are sent to the Headquarters of the Minerals Commission for processing
12.	In cases where it's a cooperation, a minimum of 10 passport sized photographs is requested from each member
13.	The following documents are requested from the company: <ul style="list-style-type: none"> • Certificate of Registration • Certificate to Commence Business • Business Code (Small-scale Mining)
13.	Acquire EPA Permit

Stage 2

Supervising Agency	Environmental Protection Agency
Jurisdiction	District Office and Headquarters
Duration	Minimum of 1 month
Cost Involved (2012 estimates)	Forms: GHS 5 Processing Fee: GHS 760
Action	
1.	Present the site plan
2.	Purchase the application forms
3.	Request for an inspection by the EPA team on the proposed site
4.	Conduct site inspection with EPA team
5.	Present an operational report to the EPA
6.	Documents forwarded to Headquarters for processing
7.	Licence granted if approved.

It must be noted that most of the small-scale miners encountered during the research reported that it took a minimum of 1 year to complete the process because of the bureaucracy and corruption. This drives applicants into pursuing illegal options to prevent their concessions from being taken over. It also undercuts the sector's potential contribution to Ghana's foreign exchange earnings as well as income, as miners are given incentive to use unofficial channels.

The negative reaction of miners and communities to the efforts to stop illegal mining is to be expected, as they are uncertain about alternative sources of employment and income should they lose the employment and income being provided by galamsey.

4 Summary of Opinions

Following are notable opinions stated by some members of the Ghana Growth and Development Platform (GGDP):

- The government should rather implement alternative livelihood programs to create employment for the people in mining areas, and subsidize the cost involved in registering small-scale mining businesses
- A growing trend in the 'galamsey' business now is for foreign companies registered in the country for businesses other mining to commission the local 'galamsey' operators to mine and sell to them by supplying the required funds and equipment. The true value of the gold only benefits the foreign companies, as miners are routinely paid a price that is a substantial discount off the world market price. There should be a fund for miners.
- Some chiefs in some mining areas have banned galamsey operations due to encroachment on concessions of regular mining firms and to promote goodwill between the firms and the communities. This is to ensure continuity of the social responsibility projects of firms. Galamsey operators are not known to undertake social responsibility projects.
- Government should handle this as a partnership where it incentivizes legally operating miners and disincentivizes illegally operating miners by building channels through which it can realize direct revenue from such operations. Out of this revenue government should make allocations to fund its support actions such as providing organizational infrastructure for easier and quicker registration of these businesses, and customizing security and enforcement.
- Government must look into the advantages of operating gold refineries in Ghana, as well as impediments blocking the setting up of such entities. It must also highlight that value addition implies that more revenue will be generated.
- The campaign against small-scale mining and galamsey focuses mostly on their negative environmental impacts thus not giving attention to the economic benefits it brings, as the

paper argues. A professional approach to address the benefits is needed. In order to protect the environment, operators could be trained to adopt both active methods of ensuring that certain heavy chemicals such as mercury are not used in mining. For instance, at Nkroful where water sources have been adversely affected by mining activities, the miners could be trained to treat and evacuate contaminants to eliminate pollution. Promoting environmentally sound mining with occupational safety and health (OSH) measures will help in many respects.

- In government and political usage, small-scale mining is the practice where a well-connected person (usually politicians or business persons) manages to get an assembly, local chiefs, and the Minerals Commission to grant a mining licence to undertake the business of surface mining on a small-scale. These licence holders then find foreign partners, usually Chinese, to invest in machinery to undertake mining activities. The government does not recognise historical artisanal mining as small-scale, and rather classifies this type of activity as illegal, galamsey, and uses all means at its disposal to interrupt and persecute the locals involved in the activity.
- Most often the actual perpetrators of the horrible degradation of the environment and forests are left to go scot-free because they are well connected to the local big men.
- There is a lot of corruption at all levels in the registration and operation of SSM. From the fraudulent misrepresentation by Ghanaians for foreign nationals coming to work illegally in the sector, to Immigration Officers colluding with agents to issue fake visas on arrival or fake work permits to these illegal immigrants, mostly Chinese, to District Chief Executives and staff of assemblies acting as agents for these illegal miners, and protecting them from Task Force raids. Stories abound of miners with concessions mining huge tracts of land outside the boundaries of their legal concessions.
- There is also the superstitious belief amongst these miners and their sponsors that forest reserves have been demarcated for a reason – and that is because there are gold reserves within the forest that the authorities want to reserve for themselves.

5 Recommendations

Government's corrective action must not make it difficult or impossible for people to be employed in and earn income and foreign exchange from small-scale mining while it is promoting legalization and formalization of operation, protection of the environment, and control of bad social effects.

This must be done in these respects:

5.1 Strengthen institutions for monitoring and controlling small-scale and ‘galamsey’ activities:

The enforcement of the provision in the Minerals and Mining Act, 2006 (Act 703) that small-scale mining is the sole preserve of Ghanaians has been lax. Consequently, there has been an influx of foreigners into small-scale mining.

The operations of the special Presidential Task Force in 2013 further marginalized the activities of illegal small-scale miners. As a matter of urgency, the Government must grant an amnesty time frame to illegal operators – these being small-scale miners without registration and those operating outside the framework of the Minerals and Mining Act, 2006 (Act 703) – during which they should register their concessions at a reduced or no fee, and during which they will be provided with assistance as stated in the subsections below.

The Assemblies, Police, Minerals Commission Task Force and Environmental Protection Agency should immediately be resourced and strengthened with the recruitment of special personnel, provision of logistics, and funding to enforce the laws and regulations so that they can monitor and control more effectively once the amnesty period expires. Modern technology, including drones, should be used for monitoring and controlling small-scale mining activity.

The Precious Metals Marketing Company (PMMC) and Minerals Commission should streamline and improve reporting on small-scale mining activity in order to enable monitoring and control as well as to inform policy.

5.2 Enforce guidelines for the protection of the environment:

Prior to licensing concessions, small-scale mining applicants must also submit an Environmental and Social Impact Assessment (ESIA) report to the Environment Protection Agency and Assemblies. Since it is likely that most of these applicants may have difficulty paying for a proper ESIA, a program for the payment of a discounted fee should be instituted as soon as possible.

Thereafter, their operations should be monitored to ensure strict adherence to the plan in the ESIA. Withdrawal of license and possible prosecution should be the consequences of non-adherence. Strict enforcement as well as strong sanctions for offenders will not only deter others but will also go a long way to protect our environment and enhance the sectors’ economic contribution.

The EPA should mandatorily publish in the media the environmental assessment audits of small-scale mining companies, just as it does for big mining companies.

5.3 Control bad social effects:

The earning and increase in income from mining activity gives miners the means to increase their expenditure. Miners spent some of their income on leisure – on food outside the home, alcohol, smoking, partying, drugs, and prostitution in the mining communities. Invariably, there

is an increase in crime as well. These activities are bad social effects that undermine the peace and cohesion of homes and communities.

Thus, wherever small-scale mining activity has increased the Police will have to be given extra personnel, logistics and funding to control the increase in bad social activities. Social welfare agencies and non-governmental organizations (NGOs) too will have to be resourced similarly to assist the Police to control these bad social effects and maintain law and order.

5.4 Assist miners to legalize operations:

The PMMC and District Offices of the Minerals Commission have supported the sector but much more needs to be done. The PMMC should establish district offices in areas of major small-scale mining activity.

One of the major challenges reported in illegal acquisition of mine lands is the process involved in licensing concessions. Small-scale miners have over the years registered their displeasure about the cumbersome nature of the process and associated challenges. This process is saddled with bureaucratic delays as well as high costs. The frequent travel to Accra, the high cost involved and even the corrupt nature of the process has served as a disincentive for operating legally in the artisanal mining industry. The Government should review the two-decades-old process and provide a one-stop shop for the licencing of small-scale mining operations. The process of licensing should be simplified and shortened.

5.5 Advise and assist miners to operate formally and professionally:

Government, through the PMMC, should advise, assist and provide the following:

1. Formalization of operation – business formation and ownership
2. Start-up capital
3. Physical capital – plant, machinery and equipment
4. Operating (working) capital
5. Marketing
6. OSH measures
7. Equitable pay

The provision of technical advice and capital by the PMMC will not only formalise the operations of SSMs but will also enable monitoring of their operations and reporting of breaches of laws and regulations.

In effect it is being proposed that the PMMC should be made to play an overriding role in the small-scale gold mining sector similar to the role the Cocoa Board (COCOBOD) plays in the cocoa sector.

The fees paid by SSMs for registration should be used to establish a fund for financing the provision of the advice, assistance, and capital.

5.6 Review Ghana's mineral land concession system:

Large tracts of land are offered to mining companies during licensing which in most cases are unused during the whole tenure of the concession. This sometimes deprives communities of farmlands. It also prevents small-scale miners from registering portions of these concessions and provides incentive for mining to be undertaken illegally. In the mid-2000s a mine in Prestea decided not to mine a plot and declared it uneconomical yet it failed to return the land to the Government for possible demarcation for artisanal miners. This resulted in the illegal invasion of the land by tens of thousands of small-scale miners. Obuasi faces similar challenges where there are occasional violent clashes between small-scale miners and staff of AngloGold Ashanti over invasion of their concession.

The Government should routinely review whether land allocated to large mining companies is being mined and areas found not to have been ever mined should either be demarcated for artisanal mining purposes or for farming. Ghana needs such a system of transferable mineral rights. This should be legislated just as is done in the oil and gas sector, whereby operators lose rights to unused acreage after a period of time on a reducing scale.

5.7 Encourage education by Non-Governmental Organizations and Advocacy Groups:

Non-governmental organizations and advocacy groups should be encouraged to strengthen their capacity building programs for educating chiefs, local community leaders, opinion leaders as well as communities of the laws and regulations, and of the harmful effects of illegal mining to the communities, environment and country irrespective of its benefits.

The communities should be encouraged to report breaches of the laws and regulations to the Assemblies, Police, PMMC, Minerals Commission Task Force and EPA. A helpline and other forms of protecting the identity of whistle blowers should be established. Also, whistle blowers should be rewarded.

5.8 Reinforce employment creation, income generation, and foreign exchange earnings:

Poverty and the lack of alternative employment juxtaposed with the opportunities to earn local income and foreign exchange from mining have all been major direct causes of the increase mining activities, some of them illegal.

To counteract these conditions, the Government must take steps to reduce poverty and promote employment creation in areas where there is mining already or there is potential for mining.

The Government must also take steps to ensure that the employment and income that miners generate become sustainable through assisting with the registration, regularization, and modernization of their mining activities as recommended above.

Although the overwhelming majority of the miners get paid in local currency, the Cedi, the gold they mine gets exported and paid for in foreign currency. To ensure that miners are not underpaid and to improve and sustain the foreign exchange earnings of small-scale mining activities, the Government must institute measures that require payment in foreign currency for small-scale mined gold and all other gold that is exported.

With the control and elimination of illegal small-scale mining there will also be subsequent elimination of illegal agents who smuggle gold out of the country. For the nation to benefit fully from the significant contribution of small-scale mining to foreign exchange earnings, the PMMC should be well resourced and capitalised to take up effectively and efficiently the role of exporting, and of certifying the export by smelters (popularly called refiners), of gold from small-scale miners. The weakness of the PMMC over the years has contributed to the sprouting of illegal agents, fraudsters, as well as smelters who deprive the Government of revenue and the nation of foreign exchange earnings. The local jewellery market should also be aggressively promoted by the PMMC to create a local market for small-scale miners.

5.9 Undertake alternative livelihood programs:

Beyond the steps stated in the preceding subsection to reinforce small-scale mining employment, local income and foreign exchange, there must be other steps to reduce poverty and encourage local economic development in mining communities. To these ends, the Government should ensure that royalties meant for mining communities are used on initiatives to bridge the poverty gap and provide alternative livelihoods for those affected by mining. Mining companies through their corporate social responsibility (CSR) initiatives undertake investment, local development and social assistance, but these are not meant to be adequate for meeting the needs of mining communities.

Andoh (2016) opines that although the use of alternative livelihood programs (ALPs) as a tool for poverty reduction is well documented their sustainability and how to attract the youth to participate in them are matters of serious concern. A sustainable approach to managing ASM is to encourage ALPs since mining is a finite resource. To promote ALP sustainably, local governments in partnership with traditional leaders must develop ALPs for each district adversely affected by small-scale mining activities so as to provide economic activities in the absence of mining. This will significantly curb unemployment and curtail the potential for people to engage in unlawful activities to make ends meet. Alternative Livelihood Programs should:

1. Identify an economic activity within the district to support an ALP.
2. Undertake a feasibility study to identify the social and economic viability of the ALP.
3. Undertake a census at the district level to register and record current dependents on artisanal small-scale miners as potential participants of the ALP. This should target inclusiveness in order to encourage women to participate.
4. Institute a funding strategy to create avenues for governments, NGOs, mining companies and donor partners actively to contribute as partners for financing of the ALPs.

5. Hold public consultations to present the working plan to the populace and receive inputs to update the plan.
6. Establish an independent community-level steering committee to supervise the implementation of the ALP.
7. Begin the ALP with a three-month pilot phase to de-risk the full-scale implementation of the program and identify the loopholes.
8. Finally rollout the ALP with a definite exit strategy for funding partners, participants and dependents.
9. Monitor and evaluate the ALP with a compulsory 12-month social and economic audit to ensure that value for money targets are met and social impacts are fulfilled.

Currently the Government has announced three programs that could be integrated into ALPs to support districts adversely affected by ASM activities.

- One district one factory¹
- \$1 million annual investment to support poverty alleviation in constituencies²
- One village, One dam³

These government initiatives should be tailored to serve as ALPs in mining districts adversely affected by ASM.

The bigger challenge for ALP implementation is how to make the programs attractive and sustain investment in them. Following the program as outlined above will improve its implementation and encourage adoption of the alternative livelihoods to support the transition of communities from small-scale mining to sustainable activities in the agricultural, industrial and services sectors of the economy.

6 Conclusion

Small-scale mining, 'galamsey', should remain Ghanaian owned and operated, with employment being created in the communities, income being earned in the communities, and foreign exchange earnings remaining in Ghana and in the communities to finance national and local economic development.

But firm and swift action must be taken to legalize, advise and assist small-scale and galamsey miners to formalize their operations, and to control, supervise and monitor their activities in order to prevent environmental degradation.

More importantly and urgently, direct steps must to taken and ALPs must be implemented in order to reinforce the employment, local income and foreign income earnings effects of small-scale mining and thereby reduce the incentive for illegal small-scale mining activities that despoil the environment.

¹ <http://www.dailygraphiconline.com/news/general-news/one-district-one-factory-51-districts-identified-for-implementation-president.html>

² <http://citifmonline.com/2016/08/30/npp-to-give-each-constituency-1m-per-year-bawumia/>

³ <http://citifmonline.com/2016/08/28/nana-addo-pledges-1-village-1-dam-to-boost-agric/>

Ghana runs the risk of social unrest if the focus is not on reinforcing employment, income and foreign exchange earnings from small-scale mining and galamsey, and on undertaking ALPs, as people are stopped from employment and earning income when there are no alternatives. Any use of force would be ill-advised and unsustainable.

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