

Research Article

## Sorting the facts from the lots: Contribution of artisanal and small-scale mining (*galamsey*) to rural livelihood configurations in sub-Saharan Africa

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### Abstract

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In recent times, what is common in the scientific literature is findings showcasing the environmental and social menaces associated with artisanal and small-scale mining (ASM)—low-tech, low capital investment, and labor-intensive mineral extraction and processing. However, a better understanding of how ASM shapes livelihood and rural economies may present nuances as to how its negative ramifications can be addressed. As a result, this paper examines how *galamsey* engenders livelihoods and the transformation of rural economies in Ghana. We produced a nuanced counter-debate to the widely held view that *galamsey* is evil and a menace to national development by sourcing data from 236 operators using a questionnaire and key informant interviews with 11 relevant stakeholders in north-western Ghana. Findings show that *galamsey* is a source of employment, income, and accumulation of assets such as houses, motorbikes, cars, and filling stations, which together make the local economy thrive, thereby fostering a local economic boom. However, there is limited collaboration between regulatory agencies and local stakeholders in implementing sustainable mining policies in Ghana. To address this problem, the government should engage local community actors such as the chiefs and landlords, assembly members, and the lead miners on possible steps to streamline and effectively monitor *galamsey* operations as opposed to military clamp downs.

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### Introduction

Artisanal and small-scale mining (ASM) is advantageous to local communities because of low barriers to entry, creating a wide range of direct and indirect employment opportunities for operators and non-operators. ASM, which is a low-tech, low capital investment, and labor-intensive minerals (e.g., diamond, bauxite, gold, copper, and manganese)

extraction activity, provides a route out of poverty for millions of people across the world, especially in developing countries (Siegel and Veiga, 2010; Buss and Rutherford, 2020). Recent scholarship, for example, shows that rural dwellers resort to ASM as an alternative livelihood activity to ameliorate economic hardship during the era of the structural adjustment programs (Baddianaah et al., 2022a). Although scholars posit that the neo-liberal resource

control tendencies under the structural adjustment programs were tactically deployed to discourage local resource dependency by indigenous communities (Yankson and Gough, 2019; Baddianaah et al., 2022a), millions of rural dwellers in the Global South still have their livelihoods tied to the ASM sector, particularly mineral resource extraction (Hilson et al., 2013; Hirons, 2014; Bryceson and Geenen, 2016; Guenther, 2018; Hilson et al., 2018).

The number of people in ASM globally is on the rise, re-echoing the strong rural livelihood association with the sector: this is particularly so in sub-Saharan African countries. Recent reports suggest that approximately 40.5 million people are directly employed by the ASM sector (Intergovernmental Forum on Mining, Minerals, Metal, and Sustainable Development [IGF], 2017), while another 100 million people indirectly benefit from it (Hilson et al., 2017). Artisanal and small-scale mining provides a springboard for people in gold deposit communities to address the dysfunctional socio-economic effects that are predominant in developing countries and fosters hope for rural livelihood transformation (Ofosu et al., 2020). Rural livelihood transformation entails the transition from subsistence farming to cash-based economic activities as a means of making a living (Osumanu, 2020). In this view, the World Bank (2019) argues that adverse environmental and social consequences embedded in ASM activities can be curtailed through the prospects of reducing poverty among rural people.

In Ghana, ASM has grown in size and significance, contributing to wealth creation, employment, and local economic growth (Owusu et al., 2019). Artisanal small-scale mining is an important livelihood activity, providing a million plus people with direct employment and supporting the livelihood of more than 4.5 million people indirectly (McQuilken and Hilson, 2016). It is estimated that the sector accounted for 35% of the total gold production in Ghana, contributing almost 1.5 million ounces of gold in 2014 (McQuilken and Hilson, 2016). However, the majority (85%) of the people in the ASM sector operate without a license, permitting them to operate (Teschner, 2012), making their work more or less an illegal activity. The general term for describing unlicensed artisanal and small-scale miners in Ghana is *galamsey*<sup>1</sup> (Ofosu-Mensah, 2011).

In recent times, ASM activities in Ghana have come under serious condemnation in both scholarly and policy cycles owing to the increasing adverse environmental ramifications such as contamination, siltation, and diversion of the natural flow of rivers, destruction of aquatic life, and degradation of land and terrestrial ecosystems (Baddianaah et al., 2022b). Social challenges occasioned by ASM activities include the prevalence of school dropout, child labor,

and sexual exploitation of women nationwide, while tax evasion constitutes the major economic challenge (Arthur-Holmes and Busia, 2021). These environmental, social, and economic conundrums have painted a bad picture of ASM and its operators. Thus, artisanal and small-scale miners in Ghana are often portrayed as people who lack vision and aspirations and are focused on getting rich quickly and usually end up in poverty (Hilson and Pardie, 2006; Baddianaah et al., 2022b). In this paper, we acknowledge that ASM is associated with a myriad of negative implications but argue that an in-depth understanding of ASM's rural livelihood transformation dynamics will inform better approaches to engaging the miners in a formalization agenda. Thus, the aim of this paper is to examine how ASM shapes livelihood and rural economic transformation in rural Ghana. The findings gleaned from the study provide a basis upon which informed policies aimed at formalizing the ASM sector in Ghana and other developing countries with similar experiences can be made. Specifically, the paper seeks to address the following related research questions: (1) How do ASM (*galamsey*) activities engender livelihoods in rural Ghana? (2) How do the adverse effects of ASM manifest in rural Ghana? (3) What are the implications of ASM in rural economies? The remaining sections of the paper capture the materials and methods, results and discussion, conclusion, and policy implications.

## Materials and Methods

### Study setting

The study was conducted in the north-western part of Ghana—Upper West Region (Figure 1). The region lies between latitudes 9°35'N and 11°N, and 1°25'W and 2°50'W, and shares a boundary with the Republic of Burkina to the north and the Republic of La Côte d'Ivoire to the southwest. The southern part of the region is bordered by the Northern and Savannah Regions. Upper West Region covers a total land area of about 18,476 km<sup>2</sup> (12.7% of the total area of Ghana) (Ghana Statistical Service, 2013). The region is dominated by Guinea Savannah vegetation, hosting several economic trees such as the Shea (*Vitellaria paradoxa*), Neem (*Azadirachta indica*), Baobab (*Adansonia digitata*), and Dawadawa (*Parkia biglobosa*). The topography is averagely flat with a few isolated hills. The Pre-Cambrian rocks consisting of metamorphic and granite are rich in gold, which has been a major source of attraction for exploring and mining by artisanal miners in the region. Indeed, artisanal gold mining in Ghana is an age-long livelihood strategy dating back to the 4<sup>th</sup> Century. Ghana, located in West Africa, was formally a British

<sup>1</sup> *Galamsey* is a corrupt form of the phrase 'gather and sell' in the local parlance.

colony and was named the Gold Coast because of its abundant gold deposits (Ofosu-Mensah, 2011). Gold mining in Ghana is two-fold – large-scale mining and artisanal and small-scale mining. This current study is focused on the artisanal and small-scale mining sector due to the fact that it is the major driver of local economic growth (Yankson and Gough, 2019). ASM operations take two distinct forms – the registered

small-scale miners (legal) and the unregistered small-scale illegal miners (*galamsey*) (Ofosu-Mensah, 2011). We focused on the unregistered (*galamsey*) sector because it has become the most frowned upon, vilified, and criminalized activity in Ghana's mining landscape in recent times (Tuokuu et al., 2020); and yet, it connects with the livelihood trajectories of millions of Ghanaians.

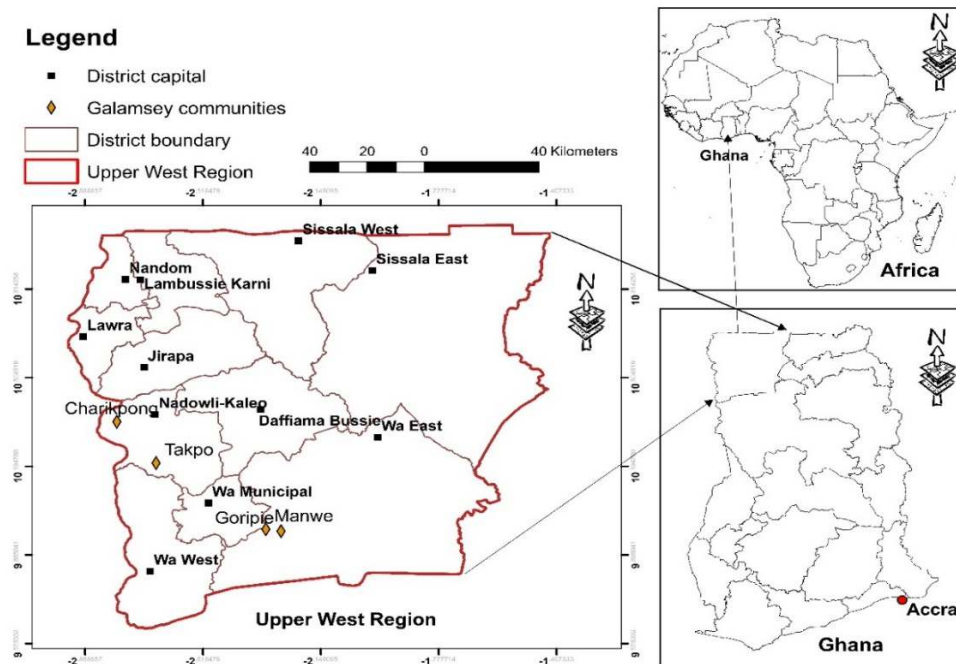


Figure 1. Map of upper west region showing the study communities.

In fact, *galamsey* remains the most prevalent rural livelihood strategy, employing about 85% of all artisanal and small-scale mining activities in Ghana (Teschner, 2012). While previous discussions on *galamsey* centered largely in the southern part of Ghana, the Upper West Region, located in north-western Ghana with Wa as the administrative capital, has recorded a series of *galamsey* operations in many of its administrative districts (Baddianaah et al., 2022c). Prominent among them are the Nadowli-Kaleo and Wa East Districts (Figure 2). As a result, *galamsey* is considered to be a new livelihood strategy in the region – employing most of the abled-bodied youthful population. Thus, our study is curious to unpack the rural livelihood transformation strategies in light of *galamsey* operations.

#### Study design and data collection

The study examines ASM and rural livelihood transformation dynamics in north-western Ghana. To obtain a more nuanced understanding of the compelling questions that inform the study, mixed methods research involving both qualitative and

quantitative approaches was used to carry out the study. The use of both quantitative and qualitative data collection approaches results in data complementarity and minimizes errors and bias that may occur in using any one of them (Creswell, 2014). Specifically, we adopted a two-phase approach to the collection of the data. Thus, the first step of data collection was done by administering questionnaires to artisanal and small-scale miners in four ASM communities of Wa East and Nadowli-Kaleo Districts, while in the second phase, we conducted key informant interviews with the chiefs and assembly members of the aforesaid communities. The data collection process lasted for three months (September to December 2022).

Multiple sampling procedures were employed in selecting the study communities and target respondents. The first stage of the sampling was the selection of the communities to participate in the study. At this stage, the purposive sampling technique was deployed to select four communities, namely Goripie and Manwe (Wa East District) and Charikpong and Takpo (Nadowli-Kaleo District). The four communities were selected because of the

proliferation of artisanal mining operations in those communities (Laari et al., 2016; Baddianaah et al., 2021). Furthermore, we employed the snowball sampling strategy to administer 236 questionnaires to artisanal and small-scale miners across the four selected communities. We chose the snowballing technique for the ASM operators in the two districts because they have no license permitting them to operate, making it difficult to know the exact number involved in that category. Therefore, a random sampling procedure could not be used to select them to participate in the study. Besides, the illegal artisanal and small-scale miners are very elusive with regard to their modus operandi and are best described as ‘hit and run’ miners (Owusu-Nimo et al., 2018), making it difficult to locate them for interviews. As a consequence, the best alternative approach to reaching them was to depend on the referral system as used by previous researchers in the field (Baddianaah et al., 2022c).

The survey questionnaire was divided into three sections. The first section captures the socio-demographic and economic variables of the respondents. The second section outlines the livelihood transformation dynamics of the artisanal and small-scale miners, including their physical and financial asset holdings from ASM. The third section contains questions related to the environmental and social ramifications associated with ASM activities. In terms of data gathering, the questionnaire administration was done by giving equal weight to each community – by approximating an initial sample size of 240 miners. This is because the study was focused on understanding the livelihood transformation dynamics of ASM. Thus, each community was given an equal share of 60 miners. However, 236 questionnaires returned with valid data, representing a 98.3% response rate. In addition to the survey, we selected three chiefs, four landlords, and four assembly members from the communities. One of the communities (Goripie) had no chief at the time of the data collection, and in his place, a community elder (an Imam) was selected to participate in the study.

ASM has several positive and negative implications in local communities, but in most instances, the miners are unwilling to share knowledge on the negative aspects (Owusu-Nimo et al., 2018). This explains our decision to interview the aforesaid key informants for a nuanced perspective to validate ASM’s dynamics and livelihood transformation in local communities. Some ASM operators spend their money in a way that improves their livelihood and inures the benefit of the mining communities as a whole – we also interviewed four lead miners (one in each community) for a better understanding of the behaviour of their members in the local communities. Imperatively, responses from these chiefs and assembly members were used to complement that of the miners. In all, 16 key informants were interviewed on the expenditure trajectory of the *galamsey* operators

in their respective communities. All the interviews were conducted in the native languages (*Waali and Dagaare*) to enable us to obtain a more detailed perspective on the prospects, shortfalls, and dynamics of ASM relative to rural livelihood transformation. Each interview lasted about 45 minutes and was tape-recorded with the permission of the participants. The interviews were later transcribed into English language before the analysis.

Since the observation of ethical protocols is an integral part of every scientific research, we first visited the communities to distribute introductory letters to the communities’ gatekeepers (chiefs and assembly members). The letter explained the objectives and purpose of the study and the institutions the researchers were affiliated with. We chose to give the letters to the chiefs and assembly members because we consider them the gate keepers and influencers whose views and decisions are respected by members of the communities and miners. They are also influential when it comes to whether the operation of *galamsey* will be permitted in the communities or not. In addition, the informed consent of each of the artisanal miners was sought while assuring them that the study was meant for only academic purposes and would have no dire implications for their activities. We indicated to the research participants that they could abstain from answering any questions they deemed unnecessary or amounted to an invasion of their privacy. We also indicated that they could withdraw from the interviews at any point they felt uncomfortable. However, some artisanal miners we approached refused to take part in the study due to the current military crackdown and ban on *galamsey* that is being implemented across the country.

### Data analysis

We analyzed the data by employing both quantitative and qualitative techniques as informed by the mixed methods research approach. The data from the questionnaire were first coded and entered into the Statistical Package for Social Sciences (SPSS version 23). The data were cleaned to address all possible errors, and quantitative analysis involving frequency distribution and simple percentages was used in analyzing the data. On the other hand, the qualitative data (key informant interviews) were transcribed, transformed, and harmonized into themes based on the most frequently occurring patterns in the data. We then selected vivid and compelling extracts for presentation (Tuokuu et al., 2020).

## Results and Discussion

### Background of study participants

Results from the survey (Table 1) show quite a diverse age distribution of the study participants (miners), although the youthful age groups of 18-30 years (42.4%) and 31-40 years (32.6%) dominated. This is



not surprising considering the empirical findings by related studies that ASM is a youth-dominated enterprise (Baddianaah et al., 2022b). Further, the majority (56.4%) of the respondents were males. This may have implications for women's access to gold-bearing lands; and confirms the findings of Arthur-Holmes and Busia (2021) that there is male dominance and control over mineral-rich lands and resources in Ghana. A small proportion (5.9%) of the respondents had tertiary educational qualifications, whereas those without formal education constituted 41.9% of the respondents. Those who had basic education qualifications (40.7%) dominated. Lower levels of formal educational attainment resonate with the generally held view that ASM (*galamsey*) provides employment opportunities for youth who, in many cases, have little or no formal education (Baddianaah et al., 2022b).

Table 1. Background characteristics of artisanal and small-scale miners (N = 236).

Age	Frequency	Percentage
18-30	100	42.4
31-40	77	32.6
41-50	42	17.8
51-60	13	5.5
61 and above	4	1.7
<b>Gender</b>		
Male	133	56.4
Female	103	43.6
<b>Educational attainment</b>		
Basic	96	40.7
Secondary	27	11.4
Tertiary	14	5.9
No formal education	99	41.9
<b>Marital Status</b>		
Married	212	89.8
Single	24	10.2
<b>Main Occupation</b>		
Mining	203	86.0
Farming	30	12.7
Artisan works	3	1.3
<b>Community Membership</b>		
Native	191	80.9
Migrant	45	19.1

Imperatively, the increasing graduate unemployment levels facing Ghana may account for the proportion of graduates' involvement in *galamsey* operations (Arthur-Holmes et al., 2022). This goes to explain that ASM has the proclivity to help bridge the graduate unemployment gap in Ghana if it is well regulated. Furthermore, the majority (89.8%) of the participants were married, and ASM may offer them the chance of sourcing income to cater to their households' food and income requirements. Additionally, out of the 236 miners who participated in the survey (Table 1), as

high as 86% of them consider *galamsey* as their main occupation, whereas a small proportion (1.3%) were artisan workers who might have been attracted to ASM as it guarantees quick access to income, especially in times of need (Arthur et al., 2016). The fact that some participants indicated that they are full time farmers but were engaged in *galamsey* at the time of our survey comes as no surprise. Extant studies have elucidated the labor-transitioning relationship between mining and agriculture in local communities. Specifically, in areas such as northern Ghana, where all-year-round food crop farming is not feasible because of erratic rainfall patterns, rural dwellers largely transitioned between ASM in the dry season and agriculture in the rainy season. According to available studies, this keeps them busy throughout the year and contributes to improving livelihoods in the rural setting (Osumanu, 2020). The results show that the majority of the respondents were natives, which explains that ASM is done primarily by natives. According to Baddianaah et al. (2022a), local communities have considered participation in *galamsey* as a means through which they can benefit from their mineral endowments and to circumvent dispossession by state- and foreign-dominated large-scale mining companies in Ghana.

#### *Artisanal and small-scale mining's rural livelihoods nexus*

Artisanal and small-scale miners are perceived to be a group of individuals who engage in illegal extractions of mineral resources within their sphere of influence with the main objective of getting rich quickly (Hilson, 2010) and, in the long run, are caught up in a vicious cycle of poverty (Hilson and Pardie, 2006). In this study, we sought to find out how local communities construct their livelihoods around *galamsey*, their achievements, and aspirations, and whether their involvement in *galamsey* activities engineered the transformation of their livelihoods. *Galamsey* operators are surrounded by a plethora of factors that explain their involvement in the business. We examined local miners' perspectives on the effect of ASM on their well-being (Table 2), where an overwhelming majority (93.6%) of the respondents indicated that their involvement in ASM has positively impacted their household food security status. In addition, as high as 89.4% of the respondents indicated that participation in ASM contributed to improving their households' overall living conditions. Thus, across the board, the respondents appraised ASM's contribution to their well-being as positive, suggesting that ASM has contributed to improving their households' income as well as strengthening their purchasing power. Imperatively, *galamsey* benefits the participants as it has been showcased to play a pivotal role in the living conditions and entire livelihood framing of local communities. The fact that alternative livelihood streams are becoming scarce in rural communities (Arthur-Holmes et al., 2022) demands that *galamsey* be given critical attention in order to

secure rural livelihoods. Our survey further shows that participation in ASM comes with a plethora of gains, asset accumulation and aspirations, and development of the local communities. All respondents (100%) revealed that their entire household food requirements

and clothing are provided through their earnings from *galamsey* (Figure 2). Moreover, the ranking of the assets and major areas of support *galamsey* offered the respondents suggest that the majority of the participants are into ASM to obtain their basic needs.

Table 2. Perceived livelihood implications of *galamsey* to the operators.

ASM contribution to miners' well-being	Slightly positive	Positive	Negative	Slightly Negative
<i>Galamsey</i> effect on household income	44(18.6)	186(78.8%)	0(0%)	6(2.5%)
<i>Galamsey</i> effect on household purchasing power	42(17.8%)	187(79.2%)	0(0%)	7(3.0%)
<i>Galamsey</i> effect on household food security	12(5.1%)	221(93.6%)	0(0%)	3(1.3%)
<i>Galamsey</i> effect on household overall living condition	22(9.3%)	211(89.4%)	0(0%)	3(1.3%)

This comes as no surprise considering the fact that *galamsey* serves as a livelihood strategy for the unemployed in local communities (Buss and Rutherford, 2020; Zolnikov, 2020). Basic needs in this context are essential goods and services, including physical and financial resources required by a household on a daily or seasonal basis for the long-term survival and living conditions of the household (Osumanu, 2020). Thus, better living conditions are tied to access to the fundamental resources that define basic needs. The fact that most *galamsey* operators rely on the activity to meet their basic needs provides enough room to argue that its proliferation across local

communities in Ghana is induced by the quest to meet the rural dwellers' basic needs as against the widely acclaimed get-rich-quick motive of the operators.

Nevertheless, some of the miners are able to acquire high-value assets such as cars (30%) and tipper trucks (4.2%) from their activities, and this has a multiplier effect on employment and livelihood. Such instances of high-valued asset accumulation in light of *galamsey* operations may be the rationale behind the scholarly projection of *galamseyers* as people whose interest is to amass wealth. In effect, *galamsey* serves as a source of livelihood for many rural dwellers aiming to better their living conditions.

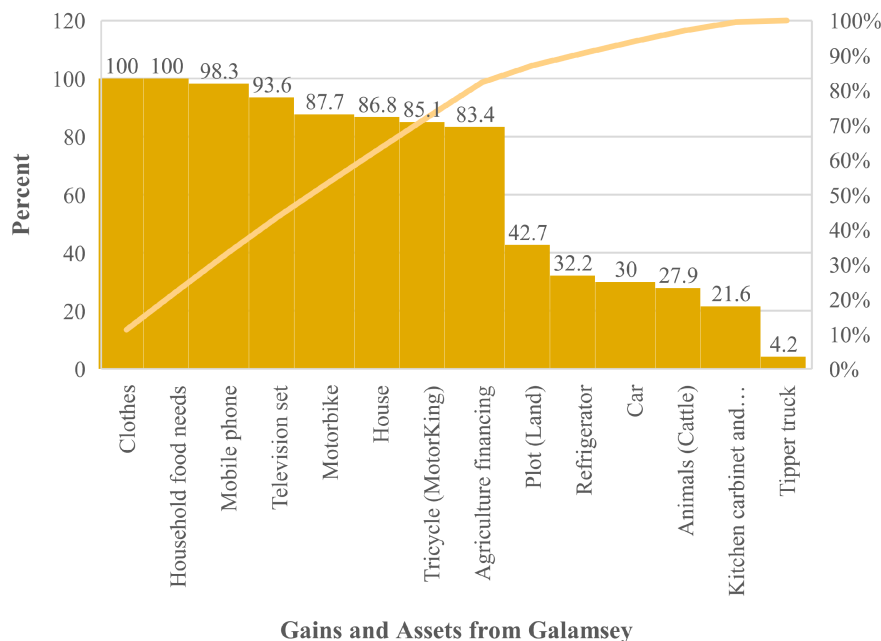


Figure 2. Distribution of gains and physical assets acquired from *galamsey* operations.

*Galamsey* operators are perceived as individuals whose livelihood strategies are not clearly defined; thus, it is considered a way of diversifying rural livelihoods or, better still, aligning with agrarian-based livelihoods. *Galamsey* offers rural dwellers the

opportunity of choosing a specific livelihood strategy or complement their livelihood by navigating between farming and mining (Osumanu, 2020). Interaction with some community stakeholders regarding the status of *galamsey* revealed that it is the mainstay of the local

economies of mineral deposit communities in recent times. This is because of the positive impact of the activities of *galamsey* felt at all levels of the local economies of such communities (Yankson and Gough, 2019). The findings corroborate the survey results that show 86.8% of the respondents being able to put up decent accommodation from the proceeds of their activities. Thus, *galamsey's* contribution to transforming infrastructure development is acknowledged across the study communities. An assembly member intimated that:

*Galamsey is truly helping this community. It has made living conditions better; it is helping everybody in diverse ways in this community. It has helped several people to acquire assets they could otherwise not have been able to procure. Just look around, if you are asked to count the number of motorbikes in this community you can't. Almost every household in this community has a motorbike. They are buying cars, motorbikes, tipper tracks, and Kia tracks. As for 'motor-kings', they are everywhere because that is what they use in facilitating their work. And the buildings (houses), almost every household has a block house. You can go around the outskirts and take photographs of the buildings for yourself (Source: Key Informant Interview, December 2022).*

A lead miner said:

*For the contribution of galamsey in this community, it is unquantifiable. All the houses you have seen are from galamsey. In this community, if you want to count people that have built block houses (decent accommodation) because they are educated, they are not up to 5. Even those government workers that built here, it is still through the support of the galamsey. Look at that house (He turns around and points to a house) that is our family house – where I was staying. But look at where I am now, you can see a massive transformation in my place of living. This cuts across all other households. In fact, galamsey is our last bet in this community. What is better living than where I am now? (41-year lead miner, December 2022).*

The extracts showcase the relevance of *galamsey* to rural communities' infrastructure development. *Galamsey* has emerged as the most attractive livelihood trajectory of the youth across many rural communities in recent times (Arthur-Holmes et al., 2022). While the number of direct *galamsey* participants in Ghana is reported to hover around 1 million with 4.5 million associated beneficiaries (McQuilken and Hilson, 2016), the discussion with miners in our study setting appears to project the figures to be around 2.5 million direct and 5 million indirect participants in the country. A lead miner opined that:

*'Our everything is now in the mining'...as for the number of direct participants, we are more than 500 in this community. I am surprised you are quoting 1 million galamsey operators across Ghana, which is too small! I have been to places like Obuasi, Prestea, Tarkwa, Konogo, Brim, Kui, Cloth and the number of people I see working in there is huge (37-year lead miner, December 2022).*

This opinion may not be out of place, considering that recent studies have revealed that the growing unemployment in Ghana in recent years has exacerbated livelihoods and pushed some young people into making a living through *galamsey* (Arthur-Holmes et al., 2022). Interviews with lead miners and community leaders reveal that those who have attained university degrees joined the *galamsey* trade to make money that could be used to start other ventures. During an interview with a 32-year-old lead miner, for example, he said:

*I see galamsey as an avenue to making a living that is why I have chosen to do it. If you look at what I am doing currently and those that are engaged in the public sector, I am better than them in terms of how much I make from the activities. We have not relied on anyone, government or whatever for job. I have a degree in mining from the University of Mines, Tarkwa, but I don't consider using it to search for a job, I will rather use the money to set up another business which I can rely on in the event of the collapse of galamsey in the community (Source: Key Informant Interview, December 2022).*

*Galamsey* has become a necessary evil in the Ghanaian mining landscape, considering its livelihood and associated adverse environmental implications. This suggests that the average stakeholder in Ghana's ASM sector must come to terms with the realities of *galamsey* in rural communities to be able to proffer lasting solutions to the associated negative consequences of the sector. Thus, the continued framing of *galamsey* along the lines of only adverse environmental effects without considering the real contribution of the sector to rural development needs reflection. In fact, the criminalization of *galamsey* in Ghana dates back to 1989. However, the activities still persist and, in some cases, have intensified, which implies that the legal regimes and policy frameworks have failed to address the issue holistically. For instance, the recent military crackdowns on illegal miners across the country have not changed the spectacle since the activities of the miners have rather increased (Hilson, 2017; Eduful et al., 2020; Bansah et al., 2022).

Furthermore, the *galamsey* operators are currently contesting the widely held view that they lack vision and aspirations. Interviews with lead miners revealed that *galamsey* operators have in place

plans and strategies regarding the appropriation of the benefits derived from it and are quite critical of their future, particularly moments when they may not have the energy to work. However, this perspective is subject to debate as varied views were gathered regarding the lifestyle of *galamsey* operators in the local communities. An assembly member had this to say about the operators:

*You know as for galamsey operators, they can easily acquire the assets but with any little financial difficulty, you see them selling out everything. That is the major challenge with regard to the sustainability of the asset acquired through galamsey. However, a few of them are able to withstand the financial hardship and still keep their assets intact... when you get rich, at least your lifestyle will change. Could you believe these guys can get up and mobilize cars and visit 'Jirapa Dubia' (Royal Coxy Hotel) just to have fun? Some are arrogant (40-year Assembly member, December 2022).*

On the contrary, a lead miner argues that they have plans and vision for the future as they have bought assets and invested in ventures that would keep them afloat in the event of financial difficulty. A 36-year-old lead miner retorted that:

*You see, this aspect of galamseyers living extravagant lifestyles depends on where they come from and who they are. But, it all boils down to the money they are making in the galamsey too. There are some of us that don't misbehave at all. Some of the guys are making good use of the money they make from galamsey. All these houses are built by galamseyers explaining that they spent their money wisely. Some even invest in the construction of filling stations, and some bought cars. The filling station at the entrance of this community, from the Wa direction, belongs to one of us. Let us be frank, how many of the public sector workers in this community have been able to put up such an investment? None! There is a future in galamsey if you plan it well (Source: Key Informant Interview, December 2022).*

### **Linking ASM to the rural economic development**

Over the years, *galamsey* has impacted positively on the local economies. *Galamsey's* operations have engendered local economic growth through the provision of both direct and indirect employment and income generation opportunities (Osumanu, 2020). Along the *galamsey* value chain are drivers, shop operators, food vendors, local craft industries, and related businesses (Tuokuu et al., 2020). Our interviews with the lead miners and community leaders reveal that *galamsey* has created numerous and diverse opportunities across all aspects of rural economies, contributing to the vibrancy of the communities in recent times. For example, a chief

touted the impact of *galamsey* on the local economy by saying:

*Galamsey brings about development. At first, there were some community members who could not cater to their children needs in school but they are doing that currently through galamsey. For the good aspect of it, some are buying motorbikes, building houses, etc. It has also helped our farming activities. There used to be some people that could not hire tractor services or buy fertilizer. But now, they are able to do so because of the money they make from galamsey. Currently, people are able to farm about 10-20 acres because of the money they make from galamsey to expand their farms. Besides, galamsey has a commutatively positive effect on the local economy. You can see our women are selling food, provision shops, they are making money because the strangers here buy things (Source: Key Informant Interview, December 2022).*

An assembly member corroborated the discussion by stating that:

*To me, galamsey contributes to increasing agriculture production... they used the money from galamsey to finance agriculture. The majority of the galamseyers are into agriculture. This community's development rest on the galamsey sector, galamseyers have open supermarkets, food vendors are cashing in on galamsey and other related sectors are prospering. The local economy is booming because of galamsey. There is a market for farm products like yam, rice – petty traders are doing well in this community. If you go around the community, you can see it for yourself (34-year Assembly person, December 2022)*

A 40-year-old lead female miner interviewed had this to say about the contribution of *galamsey* to the local economy:

*I have no other work other to do especially during the dry season that is why I am doing galamsey. I help the men to carry and wash the load (mineralized sand/stones). What we (women) do is to bring the gold-bearing materials to the grinding and washing site. We also help in the washing of the mineral bearing sand. Some pay us directly; depending on the nature of the work, we are paid about 50 to 100 cedis (5.54 to 11.09 USD) daily (USD 1 = 9.01 Cedis as of December 24, 2022), others will fetch the mineralized sand for us to wash it ourselves and whatever we make from it is ours (Source: Key Informant Interview, December 2022).*

It can be deduced from the responses that *galamsey* plays a role in terms of employment creation. This confirms the findings of related studies that found *galamsey* to be an employment generation avenue for



many rural dwellers in Ghana (McQuilken and Hilson, 2016). Similarly, a past study by Hilson and Garforth (2013) found that *galamsey* operators in the Eastern Region, Ghana used proceeds from *galamsey* to pay for their wards' school fees. The positive contribution of *galamsey* to agriculture—where funds from *galamsey* are invested in agriculture has also been reported by Baddianaah et al. (2021) in a recent study conducted in Wa East District, Ghana. Similarly, the work of Macconachie and Hilson (2011) in Sierra Leone brought to the fore women artisanal miners diverting their earnings from mining into the agriculture sector, which affirms that *galamsey* truly has a positive effect on agriculture production in rural communities. Extending the discussion, some scholars argued that the impact of *galamsey* on the local economy is many times better than large-scale mining activities (Yankson and Gough, 2019).

#### ***Adverse implications of galamsey operations***

Although *galamsey* is acknowledged to be a rural development tool, we recognised that it also poses dangers as well. In Cameroon, for instance, Funoh (2014) found that the youth prefer *galamsey* operations to agriculture because of the high income they earn from the activities. This comes with dire consequences for food security—no wonder empirical studies have highlighted the high cost of living, including the cost of foodstuff in *galamsey* communities (Hoedoafia et al., 2014). Further, *galamsey* is touted as providing quick income used in paying for school fees and other educational, financial commitments but can be a disincentive to the attainment of higher educational qualifications in mining communities. In fact, many children stay out of school after they taste *galamsey* money (Azumah et al., 2020). This illustrates that *galamsey* can make both positive and negative contributions to rural communities.

It emerged from our study that *galamsey* is associated with a host of negative consequences. Interestingly, the research participants were more concerned about the social effects as opposed to the environmental destruction reported in earlier studies (Owusu-Nimo et al., 2018; Baddianaah et al., 2022d). According to the research participants, *galamsey*'s negative environmental effects are not felt in their communities because their activities are not destroying farmlands. There are also no rivers or streams that could be polluted through the activities of the operators. Therefore, the environmental consequences of *galamsey* are downplayed in the research communities. To substantiate this view, a 35-year-old lead miner said:

*In this part of the country, I can confidently say we are not destroying the environment because no mining is done on or near farmlands. If you take a close look at the site, you can see that the whole place is rocky and no farming can be done here, so what else can we use this land for than to*

*extract the gold that God has blessed us with? Also, there are no rivers here and no one is washing the materials into any water body like they do in southern Ghana. You can see we have dug our own wells and sometimes we buy water from tanker services when the wells dry up. I think we are generalizing the whole idea of galamsey destroying water bodies and the environment which is not the best. Just be fair to us my brother, how is what we are currently doing polluting water bodies, warranting the government to always employ the military in harassing us? Like it or not, we will mine gold in this community (Source: Key Informant Interview, December 2022).*

The concerns relating to the adverse impact of *galamsey* revolve around social vices. We noticed the research participants were concerned about the rise in social vices across all the *galamsey* communities we visited. It also emerged that children no longer respected their parents due to the money they are making from their activities. All our participants affirmed that school dropout, truancy, and disrespect for the elderly are the adverse effects of *galamsey* operations. A 50-year-old assembly member had this to say:

*The negative effects of galamsey in this community are many. In the area of education, our children do not attend school anymore. It is a major challenge for us. We passed a bye-law banning all school-going children from going to the galamsey site during school hours, however, we didn't succeed. What they (the children) do is stay away from school and wait till when the school closes, they quickly rush to the galamsey site. Apart from the educational challenges, teenage pregnancy is also high. There are so many strangers here. Social vices are on the rise in this community. The use of drugs such as tramadol, and cocaine are common in this community. Many of those that worked in galamsey in southern Ghana have relocated to this community and are influencing our children with negative lifestyles (Source: Key Informant Interview, December 2022).*

A 54-year-old chief corroborated the position of the assembly person by stating that:

*The main negative effect of galamsey in this community is that our children don't go to school but we are trying our best to put them in school...strangers are influencing our children into drugs, cases of teenage pregnancy, prostitution and petty theft are our major headache... just as we are discussing the negative effects of galamsey today, we all know that what is illegal is illegal so we are looking for possible avenues to regularize the mining activities here. We are appealing and working with the*

government and district assembly to give us the mandate to do community mining under their strict supervision. I think if they give us security and protection, we will be able to fight the ill effects of *galamsey* and engage in legal small-scale mining (Source: Key Informant Interview, December 2022).

The extract shows that school dropout, truancy, prostitution, drug abuse, and teenage pregnancy are consequences of *galamsey* activities in the communities. This comes as no surprise, considering that recent scholarship on *galamsey* has reported similar findings in other parts of Ghana (Azumah et al., 2020; Baddianaah et al., 2022b). However, it remains contentious as to whether the legalization of *galamsey* may curtail the growing adverse social consequences in local communities. Here, we posit that the fight against the *galamsey* menace in Ghana should be extended to social vices that come along with it.

## Conclusions and Policy Implications

In conclusion, while existing studies mounted *galamsey* around negative ramifications, we argue that it plays a crucial role in diversifying and transforming the socio-economic outlook of many rural communities in sub-Saharan Africa. We presented in-depth findings on the livelihood implications, the aspects that are dear to the communities, and adversities associated with *galamsey* operations as well as the strategies and plans that are being devised to address these adversities. We consider this approach novel considering the fact that many studies in the sub-Saharan African context conceived *galamsey* as a threat to environmental sustainability. Thus, this study may contribute to the burgeoning literature on the rural livelihood transformation dynamics of *galamsey* operations. We found that *galamsey* is a major source of employment, income, local revenue generation, provision of decent accommodation and valuable assets (e.g., motorbikes, cars, etc.), and fosters a local economic boom. Imperatively, *galamsey* contributes to the improved well-being of many of the study population. However, social vices such as teenage pregnancy, drug abuse, school dropout, and disrespect for the elderly have emerged as the adverse consequences of *galamsey* activities. Therefore, in response, we recommend that the government of Ghana should vigorously engage local community actors such as the chiefs and assembly members, landlords and the lead miners in possible steps to regulate, streamline and effectively monitor *galamsey* operations rather than the ongoing military clamp downs. Further, the government should rollout out the long-awaited community mining project as well as prioritize the continuous training and certification of local miners through their respective decentralized local government units. Empowering the decentralized local government units as key decision-making bodies

in the regularization of *galamsey* activities will reduce the long-standing bureaucratic bottlenecks in the process of acquiring a small-scale mining license, promote timely monitoring, reduce the adverse environmental conundrums, and engender effective taxation and revenue mobilization in the ASM sector. Above all, the fight against *galamsey* should be extended to social vices through the restriction of children's participation in the activities and enforcement of by-laws on sustainable mining.

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