

Poverty, adaptation and vulnerability: An assessment of women's work in Ghana's artisanal gold mining sector

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Funding information

Higher Education Funding Council for England.

This paper contributes to the debate on the link between poverty and artisanal and small-scale mining (ASM) – low-tech, labour-intensive mineral extraction and processing – in sub-Saharan Africa. It specifically seeks to advance discussion on the idea that throughout the region, the sector's operators are trapped in a vicious cycle of poverty. Drawing on ongoing research being conducted on marginalised women engaged in ASM in Ghana, an attempt is made to further nuance the “poverty trap-ASM” narrative. In the context of sub-Saharan Africa, debates on this issue should focus on the challenges faced by marginalised groups such as women, in particular how their growing dependence on monies earned from the sector for their livelihoods has increased their vulnerability.

KEYWORDS

artisanal and small-scale mining, informal sector, livelihoods, poverty, sub-Saharan Africa, women

1 | INTRODUCTION

In sub-Saharan Africa, the economic importance of artisanal and small-scale mining (ASM) – low-tech mineral extraction and processing – is indisputable. Here, ASM provides direct employment to at least nine million men and women; an additional 54 million of the region's people (mostly in downstream and upstream industries) depend on the sector for their livelihoods (Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development [IGF], 2017). Moreover, across sub-Saharan Africa, the incomes generated from ASM help to sustain subsistence agriculture – which continues to be at the core of most of the region's rural livelihood systems – by positioning individuals to purchase crucial farm inputs such as fertilisers (Hilson & Garforth, 2013; Maconachie & Binns, 2007).

Most of the region's ASM activities, however, are unlicensed. As is now documented extensively in the literature (International Labour Office [ILO], 1999; Hilson et al., 2017; Hilson et al., 2020; Patel et al., 2016; Spiegel, 2015), the priority African governments place on large-scale resource extraction, which has led to the demarcation of sizable tracts of land to multinational companies for lengthy periods, along with the numerous hurdles prospective licensees must overcome in order to obtain the requisite permits, has made mining *legally* on a small scale challenging for most. These developments, coupled with prevailing socio-economic conditions, are fuelling the growth of the region's informal ASM economy (Hilson and Maconachie, 2017; Hilson et al., 2017).

This paper explores the informal dimension of ASM in sub-Saharan Africa more closely, with special emphasis on the livelihoods of the more vulnerable individuals who pursue work here. It focuses specifically on women, who comprise an estimated 40%–50% of the ASM workforce in sub-Saharan Africa. Women tend to “have specific and unique roles in ASM” (Eftimie et al., 2009, p. 2) and are a key to the sector's success but at the same time are often marginalised and find themselves working under exploitative arrangements (e.g., Kelly et al., 2014; Yakovleva, 2007). The analysis that follows

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seeks to build on these points, with a view toward igniting debate on how, in sub-Saharan Africa, ASM, despite being deeply rooted in the informal economy, is an invaluable source of income for vulnerable people.

After further examining the links between poverty, ASM's growth, and the evolution of the sector's informal dimension in sub-Saharan Africa, the paper shares findings from ongoing research in Ghana, the location of one of the region's more sizable and dynamic ASM economies. Here, the recent move made by the government to ban ASM activities nationwide exposed how vulnerable many women who depend on the sector for their livelihoods are.

2 | THE TWO DIMENSIONS OF POVERTY IN ASM REVISITED

The growth and evolution of ASM communities are closely associated with poverty, the two main dimensions of which have been examined in some detail in the literature in recent years. The first is the view that the sector is “poverty-driven,” a topic initially broached at the World Bank-hosted International Roundtable on Artisanal Mining in Washington DC, May 1995 (Barry, 1996).

The idea that ASM is “poverty-driven” has since been examined at length in the context of sub-Saharan Africa. There has been considerable documentation, for example, about how, since the implementation of structural adjustment programmes in the region¹ – which led to a devaluing of crops, removal of subsidies on crucial farm inputs such as fertilisers, and dismantling of support facilities for smallholders – hundreds of thousands of rural families have abandoned agriculture as their main income-earning activity and turned to ASM for economic relief (Hilson & Garforth, 2013; Maconachie & Binns, 2007). Research has also shown that throughout sub-Saharan Africa, people from other industries and the public sector who were made redundant under structural adjustment have since entered the region's informal ASM sector in search of work (e.g., Banchirigah, 2006; Dreschler, 2001; United Nations Economic Commission for Africa [UNECA], 2003). In the case of the Ghanaian women profiled in this paper, the decision to increase engagement in, and consequently become more reliant on, ASM was similarly due to personal hardship.

Viewing developments longitudinally illuminates the second dimension of the poverty associated with ASM, and the focus of this paper: how individuals find themselves caught in a vicious cycle or “trap,” an idea which also emerged at the International Roundtable on Artisanal Mining. Here, it was argued that “The use of inadequate mining and processing techniques and equipment leads to low productivity of operations and low recovery of valuable minerals, which in turn results in low revenues and the inability to accumulate funds for investment.” A lack of funds to “improve methods,” along with the inability to “acquire appropriate equipment,” conference delegates claimed, “traps artisanal operational miners in crude, inefficient mining and processing” (Barry, 1996, p. 4).

The poverty trap narrative has since been further explored in a series of important policy and working documents. For example, in a comprehensive review of the ASM literature at the time, McFarlane et al. reported that “The poverty trap in which many artisanal miners find themselves means that technologies and techniques used are inefficient and relatively unproductive” (2003, p. 12). It was also around this time that donor officials began to debate this idea, including those at the UNECA, who, in further contextualising what they believed to be an emerging poverty trap in the ASM sector, reported that:

Working from a low capital and asset base, most SSM [small-scale mining] activities are of a rudimentary nature, with little mechanization ... In consequence, productivity, ore recovery and yields continue to be low and income remains at subsistence level. This hinders re-capitalization and upgrading of mining operations and keeps small-scale miners in a vicious cycle of poverty. (UNECA, 2003, p. 2)

Several other works (Hilson, 2012; World Bank, 2004) have shared similar views, which, in combination, offer enough clues to visualise a poverty trap at work in the informal segment of the ASM sector in sub-Saharan Africa (Figure 1). The trap affects the three groups of people who have generally pursued work in the sector because of hardship: farm families, redundant large-scale mine workers, and various skilled and educated individuals who have also been the victims of employment purges (Banchirigah, 2006).

Poverty and informality have pushed most ASM activities in sub-Saharan Africa along a unique development trajectory, the dynamics of which also become clear when the sector's evolution and growth are examined through a temporal lens. For example, several authors have provided a glimpse of how, in the absence of a government presence, over time, various local-level actors skilfully manoeuvre to gain control of the sector's activities, as well as how organisational structures and labour hierarchies develop under their guidance. This body of analysis (e.g., Dube et al., 2016; Maconachie, 2017) has chronicled the rise of a number of these actors, including chiefs, landowners, farmers, and regional politicians, who, in the

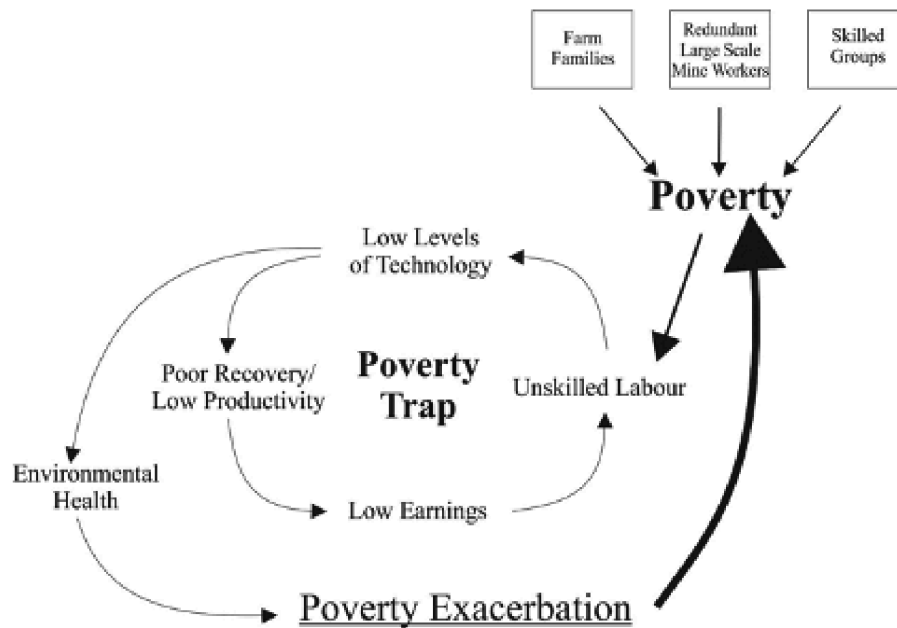


FIGURE 1 The artisanal and small-scale mining poverty trap conceptualised.

absence of government regulation, are able to set their own rules, and influence the livelihoods and working conditions of those engaged in ASM.

The ways in which middlemen have shaped informal ASM economies in sub-Saharan Africa have also been examined in depth (ILO, 1999; Van Bockstael, 2014). It is often argued that many middlemen forge what are believed to be exploitative relationships with individual ASM operators. Middlemen servicing the informal ASM economy in sub-Saharan Africa, it is further argued, often find themselves in a position to take advantage of individual operators – whose struggles to obtain the requisite permits prevent them from approaching banks and other lending institutions – who are in desperate need of finance to bolster their production. Accounts of exploitative middlemen in ASM have in part inspired the launch of Fair Trade and allied ethical mineral schemes, which are seen by many as vehicles capable of removing these individuals from supply chains and connecting impoverished ASM operators to Western consumers (Fisher, 2018; Hilson et al., 2016).

The discussion that follows builds on these ideas. If, as Labonne claims, the poverty trap in ASM is truly “a denial of choices and opportunities whilst living in a marginal and vulnerable environment” (2002, p. 9), two tasks must be undertaken. The first is further clarification of what has already been stated: that people who engage informally in ASM are vulnerable because they are forced to comply with rules set by those who control the territories where they operate, their circumstances preventing them from accumulating investment, increasing their production, and improving their income-earning capacity. The second involves getting a sense of how, despite these circumstances, this work helps otherwise-impooverished households cope, at least in the short term, with “shocks” and “stresses.” These are themes that are now at the heart of a burgeoning literature on livelihood diversification, climate change, and rural resilience in sub-Saharan Africa (e.g., Adger, 2006; Arnall, 2015). Maconachie and Hilson (2018) were among the first to apply these ideas to ASM. They captured, through extensive fieldwork, how, during the Ebola crisis, rural families in Sierra Leone were able to draw on the alternative income-earning activities that have long featured in their diversified livelihood portfolios, in the process showing considerable resilience even when forced to abandon alluvial diamond mining, their main source of employment.

The experiences shared here of women interviewed in Ghana add another dimension to this emerging ASM-resilience debate. Their stories specifically reinforce how incomes from ASM can, on the one hand, provide some stability to otherwise-impooverished households in rural sub-Saharan Africa but, on the other hand, illustrate how the failure of rural families to pursue supplementary means of earning simultaneously increases their vulnerability during times of shocks and stresses.

3 | WOMEN AND HARDSHIP IN GHANA'S INFORMAL ARTISANAL AND SMALL-SCALE GOLD MINING SECTOR

Based on the few analyses produced on gender and ASM in sub-Saharan Africa to date, most women employed in the sector toil at the bottom of the supply chain, carrying out mostly arduous manual work. The women interviewed in Ghana as

part of an ongoing study being conducted by the authors were no exception. This section of the paper shares findings from these interviews, with a view to broadening understanding of the dynamics of women's dependency on ASM for their earnings; how working in the sector impacts their households, economically; and the perils associated with, and risks brought about by, an overreliance on this one source of income.

3.1 | Women in small-scale mining in Ghana

Sparingly little material has been published which explores the fates and struggles of women engaged in ASM in Ghana. But from the work that has been undertaken, the main messages conveyed are as follows: that their movement into the sector is fuelled by poverty; that they mostly occupy the lower-to-middle rungs of ASM labour pyramids; and, as a result of being confined to this work, most struggle to advance in this sector.

Yakovleva (2007) was among the first to weigh in on the fates of women engaged in ASM in the country. The author argued that “Traditionally, women residing in Ghana's rural communities have been responsible for household management, child care, providing assistance to family farms and bringing additional incomes to households through various trades” (p. 32) but at the same time, have found that due to their inability to successfully generate significant income from petty trading, they “are left with few alternatives but to enter into *galamsey* [informal] mining, which requires minimum financial input, skill and education” (p. 35). Drawing on interviews conducted in Ghana's Western Region, Dinye and Erdiaw-Kwasie (2012) echoed these sentiments but also, and very importantly, drew attention to the types of jobs women in the country's ASM sector pursue. The authors reported that most of the individuals interviewed as part of their study carry out manual labour such as crushing and grinding but, significantly, work in unsafe conditions and are prevented from progressing beyond this menial labour because of a lack of education. A report commissioned more recently by the UNDP (2016), which examines the dynamics of ASM communities in both the north and south of Ghana, similarly concluded that the women engaged in activities in both locations “mostly have low levels of education, face employment difficulties and do mining with the aim of sustaining themselves and their families,” as well as “undertake a number of activities at the site either directly in mining or an economic venture at the sites of operation” (p. 9), such as farming.

Drawing on findings from research being conducted in the Eastern Region of Ghana, the analysis that follows builds on this body of analysis, focusing specifically on the struggles endured by women who have grown over-dependent on their work in informal ASM activities for their incomes. In total, material from 30 interviews, each conducted in the diamond mining community of Akwatia during the period March–August 2018, were coded and analysed. At the time the research was undertaken, each interviewee's most recent ASM experience was tied to work linked to plots that are part of an elaborate tributor system in place for alluvial diamond mining, overseen by the Ghana-based company, Great Consolidated Diamonds. The women interviewed, however, no longer mine diamonds. They rather engage in more lucrative artisanal gold panning on these very plots, despite not having the authorisation to do so.² Their activities have quickly been absorbed by the complex regional informal artisanal gold-mining apparatus now rooted in Ghana, which is influenced and controlled heavily by local elites and middlemen, and, outside of purchases of minerals, is almost entirely detached from the legal economy. The demographics of the group interviewed were as follows: the average age was 45, 70% were widowed, 10% were divorced, 13.3% had never married but have children, and 6.6% were single; all but one had no or minimal education; and all were born and/or spent a significant amount of time (>8 years) in Akwatia. Nearly one third reported being the sole breadwinner in their family, and all indicated that they pursued work in gold mining to alleviate hardship brought about by the depletion of diamond reserves on their plots and the consequent deterioration of the local economy.

In April 2017, the Government of Ghana made a decision to ban all ASM activities nationwide (see Hilson & Maconachie, 2020), a move allegedly made in response to claims that the sector was causing widespread destruction to waterbodies and forest reserves (the ban was eventually lifted in December 2018). The politicians who pushed for the ban, however, seemed to overlook how ASM is a crucial component of a “micro-economy” linked to several different dependent upstream and downstream actors (e.g., financiers, traders, farmers, mechanics, and food vendors). Inasmuch as there exists some evidence in support of the environmental argument tabled by the government, the ASM sector, including its burgeoning informal segment, cannot be blamed entirely for the damages caused. At the same time, there is little disputing that the economic “shocks” the ban caused were considerable. It disrupted the livelihoods of millions of families directly (and indirectly) dependent on incomes from ASM.

While the women interviewed in Akwatia identified a number of ways in which the ban has affected their own lives, two of the more serious impacts singled out by the group are explored here. They are reduced food security for the household and the inability to pay for children's school fees. A greater appreciation of these impacts underscores the importance

of further nuancing the ASM poverty trap, specifically reconceptualising it to include a dimension that articulates the implications of people's overreliance on the sector's earnings for their survival and the risks this dependency poses.

3.2 | Food (in)security

Each of the women interviewed reported being food insecure. Building on points already raised, in Ghana and elsewhere in sub-Saharan Africa, there has been widespread documentation in recent years of how a “branching out” into ASM makes farm households *more* food secure, as the move generates additional revenue that can be used to purchase crucial agricultural inputs, and bolster their crop yields for consumption and market (Hilson, 2010; Maconachie & Binns, 2007). Due to the rich history of artisanal diamond mining in Akwatia, however, skills honed over generations in farming and other trades have eroded, which means that for most inhabitants of the town today, alternative income-earning opportunities in agriculture are not realistic options moving forward.

This has meant that, as diamond reserves have depleted, artisanal gold mining has become the logical income-earning alternative for residents of Akwatia. A lack of additional skills has, in turn, created a cycle of *overdependency* on ASM in which the women interviewed now find themselves trapped. One reflected on this very subject in an interview, explaining what impact a ban on ASM has had:

Considering that this town is mainly a mining probe area and no other job really survives, it has really been tough on us, the individuals, and the community. The people I used to work with, most of them have fled from the town due to the inability of them to pay off their loans ... Some have sold their properties and others too have migrated and moved to other towns.

The women now engaged in artisanal gold mining in Akwatia who have chosen to remain in the town have been forced to employ a range of survival strategies, some more extreme than others. Most interviewees indicated that they have had no choice but to borrow money. One woman's situation, however, seemed particularly perilous. A young single mother, she explained that “at times, I have to go beg my mother for food for my kids” while “other times, also I resort to friends but that doesn't even help because they are also suffering just like me so that is really difficult to deal with.”

Others claimed to have pursued more unconventional measures. One woman, for example, indicated in an interview that she tried her hand in agriculture – despite never having farmed before – in a bid to get food on her table. She explained that “now I'm not working, times are hard and there's no job in the system ... [and] even if you go to the market to sell only few can afford to buy what you sell.” Another indicated that she now “sell[s] cooked rice” but because there is no commerce in the town, “there's no profit, [and] I'm only living hand to mouth at this point.” In Akwatia overall, it was explained, “life has been really tough, [and] there have been several days we [women] retire to bed without food.”³ The situation has become so desperate, an elderly woman miner explained in an interview, that “you can tell people are hungry and need food but unfortunately they cannot afford it, [and] I also cannot loan or sell to them on credit because I also need to buy the ingredients from the market with money and not on credit, [and] this makes it difficult because people are hungry and yet they have no money so they cannot buy anything.” Another woman explained that she dispatched her eldest child to a local forest to undertake artisanal gold mining illicitly, despite the ban. She acknowledged in an interview that “he does illegal work now so that at least we can get something to eat at the end of the day,” at the same time recognising how, “at times, I get scared for him going out there but I cannot help the situation.”

If the experience of one woman, who explained that “there are several times we [my husband and I] have quarrelled out of frustration,” is even remotely representative of the situation in Akwatia today, then escalating food insecurity is likely destabilising the household dynamics that were *stabilised* by a move into small-scale gold mining. The precarious circumstances which most of the women interviewed – and more broadly, the individuals engaged in artisanal gold mining in Akwatia – face are captured in the following passages:

Poverty has taken a toll on me and my family. There are several times I do not eat anything the entire day. The little I get, I sacrifice it for my children. My husband also goes to weed for people and he gets about GHC 30.00⁴ and that alone cannot support us in any way. My kids have dropped out of school and are home now.⁵

Due to the loss of my husband, I have the responsibility of taking care of my children singlehandedly. Times are extremely difficult and hard for me ...⁶

In the broader context of poverty and ASM in Ghana and sub-Saharan Africa more generally, what the Akwatia case further illuminates is how important the sector is in the context of food security. The bulk of work carried out to date emphasises how a dovetailing of ASM and subsistence agriculture improves food security among groups of people who grow crops for personal consumption. The situation in Akwatia is slightly different, as it is the revenue generated by women's work directly in artisanal gold mining which is used to purchase food.

3.3 | No more teachers, no more books ...

The poverty in Akwatia is deeply entrenched. Even before the nationwide ban on ASM had taken effect, the town was struggling mightily economically, victimised by years of diminished alluvial diamond mine production from tributors working on the Great Consolidated Diamonds concession. The artisanal gold mining activity which the concession and surrounding localities now supports has provided a lifeline for the town's residents. This is why one female miner stated emphatically in an interview that "there is no way I will *not* encourage mining!," her stated reason being that "there are several women who have lost their husbands and partners and as a result have to take on the responsibilities of taking absolute care of their children without help from anywhere."

Outside of food production, however, perhaps the biggest impact a loss of mine revenue has had on Akwatia's households has been in the area of children's education: with no money to pay school fees, which is tied heavily to women's work in artisanal gold mining, the town's youth face an even more uncertain future. During an interview, one woman highlighted why, explaining that:

Mining when not banned was very good for me, [because] it was through it that I was to take my kids through school. My first child has completed senior high and looking forward to go to the university but as it stands I really cannot afford to take him through school and that alone is frustrating for him, it feels like his dreams are being shattered. Even with him I still have some arrears to settle with his school before his results are released to us.

For these women, the revenue from mining meant that they could remain optimistic about the future, even amid very turbulent times in Akwatia. It has, very importantly, enabled many to cover crucial tuition payments for their children at high-quality institutions outside of the town. But the ban, which brought their work to a grinding halt, put many in difficult positions, financially. One summed up why in an interview:

Life has been such a mess after the ban I must confess. Now I see myself failing as a parent because I cannot give them the kind of quality life I wanted for them. I am not able to pay their fees and as a result, they are usually sent home. Eventually I had to go talk to the school officials to give me some time to take care of myself; the good thing is that before the ban I was always consistent with payment of school fees so it is somehow like I am living on past glory for survival.

Because of artisanal gold mining, another explained, "I was able to take my children through school to a point but now they are all home and had to quit schooling because there's no money for their fees and all."

Most of the women interviewed now find themselves accumulating debts through expenses owed to headmasters for tuition or have been forced to remove their children from school, no longer able to think about, or plan for, the future. Some were quick to reflect on the sacrifices they have made, foremost their forays into informal ASM, to ensure that their children get a quality education in the first place. Two excerpts stand out:

Personally, my youngest child is no longer in school because for now I can't afford to take her to school because I have a lot of financial obligations and that is extremely stressful on me. This development is sad because like me, most of the people in the community do not have any skills or experience and any appropriate certifications if they had the chance of working in other sectors ...⁷

Growing up, I remember I was the smartest in my class, all my colleges thought I could further my education and do something better with my life but due to financial constraints, my parents could not afford to take me to school so I quit in JSS. I do not want my children to go through what I went through. That is why I ventured into mining ...⁸

Poverty in Akwatia is intensifying and, with it, community tensions are mounting. This was perhaps best captured by one interviewee, who summed up the situation in the town as follows: “the kids are hungry, I am hungry, there's no peace [and President] Akufo-Addo has greatly disappointed us [with this ban], feeding us with lies and all that ... I would shoot him if I had the chance because he is so deceitful and has brought hardship everywhere.”

In summary, the women interviewed in Akwatia have grown dependent on ASM for their livelihoods, which has made them more vulnerable. Significantly, however, their situations are simply a result of poverty – illustrative examples of what Labonne would consider to be “a denial of choices and opportunities whilst living in a marginal and vulnerable environment” (2002, p. 9).

4 | CONCLUSION

This paper has provided a closer glimpse of the experiences of vulnerable people who engage in informal ASM in sub-Saharan Africa, focusing specifically on women, who are widely regarded to be among the most marginalised groups found in this sector. The analysis shared details about the lives of women interviewed as part ongoing research in the Eastern Region of Ghana, the location of one of the more dynamic informal ASM sectors in sub-Saharan Africa. Here, women pursue work in ASM due to a lack of alternative economic opportunities. Their experiences, however, also reveal how, despite providing immediate economic relief, income from ASM, when relied on too heavily, further exposes already-vulnerable groups. The theme of vulnerability, brought about by a dependency on ASM, is another very significant – albeit, largely unexplored – strand of the ASM poverty trap long analysed by scholars and development practitioners.

Current policy approaches taken to engage women employed in ASM are in desperate need of an overhaul. Nowhere is this more evident than in sub-Saharan Africa, where scholars have raised awareness of the exploitative and hazardous work conditions of many women who work in the informal ASM economy. Importantly, host governments must still approach this challenge with some trepidation and avoid making sweeping changes: if the goal is to improve the livelihoods of these women, solutions must extend beyond removing them from ASM. In Ghana, a ban on ASM has magnified how dependent many women have grown on a sector which, despite its dangers, remains appealing because it offers more, remuneratively, than any other income-earning activity. More research is needed that, similar to this study, aims to uncover and share details about the experiences and struggles of women dependent on ASM for their livelihoods in sub-Saharan Africa. This work must be conducted with a view to engaging host governments and donors to devise a menu of policy solutions capable of empowering and protecting these women, and offering more tangible means for them to diversify their income bases.

ACKNOWLEDGEMENTS

The authors would like to thank the women who participated in this study. The authors would also like to thank the editor and two anonymous reviewers for feedback on an earlier draft. Funding for this research was provided by a small grant, “Rethinking the Minamata Convention: Minimizing Mercury Pollution in Africa's Small-Scale Gold Mining Sector,” awarded by the Higher Education Funding Council for England.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author on reasonable request.

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ENDNOTES

¹ Comprehensive loan packages awarded by the International Monetary Fund and World Bank to developing countries.

² Tributors at Great Consolidated Diamonds Ltd's Akwatia mine are issued cards by the company to mine diamonds – and only diamonds. They pay fees for their cards annually, which permit them to mine on the company's concession. These cards, however, do not permit them to mine gold, which is also found in abundance on the company's concession. To mine gold legally here, individuals would need to secure a separate

small-scale gold mining licence from the government, the application process for which is associated with a very different set of challenges and application procedures.

³ Interview, female gold miner, Akwatia.

⁴ At the time of writing, there were approximately 4.75 GHC in US\$1.

⁵ Interview, female gold miner, Akwatia.

⁶ Interview, female gold miner, Akwatia.

⁷ Interview, female gold miner, Akwatia.

⁸ Interview, female gold miner, Akwatia.

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How to cite this article: Kumah C, Hilson G, Quaicoe I. Poverty, adaptation and vulnerability: An assessment of women's work in Ghana's artisanal gold mining sector. *Area*. 2020;52:617–625. <https://doi.org/10.1111/area.12639>