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Women in Artisanal and Small-Scale Mining in the Adansi North District, Ghana

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Abstract- In recent times, issues concerning women involvement in small-scale economic activities and reasons for their participation have become topical. In most cases women are regarded as weaker organisms and therefore not capable of partaking in activities that require more energy to undertake. This paper examines the role of women in the artisanal and small-scale mining and how the activity has improved their living conditions. The study was underpinned by the sustainable livelihood framework and employed the qualitative research approach in drawing data from a sample of twenty female miners randomly chosen from four mine sites which were selected purposively. Besides, some family members of the female miners, officers from the mining companies and an official each from the District Assembly and Minerals Commission were sampled for the qualitative survey. Data were analyzed thematically using the manual approach. Results show that the quality of life of female miners, who are comfortable with the occupation despite its hazardous and energy sapping nature, has improved significantly. They have been empowered through the activity, evidenced by their ability to secure fixed assets, provision of nutritious meals and better housing, educate their children, contribute to the family budget and community development and participate in family and community decision-making processes. The occupation holds some risks for the woman including health hazards. Recommendations have been made to ameliorate the risks they face, improve their working conditions, among others. The sustainable livelihood framework has been vindicated.

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I. Introduction

In recent years, the artisanal and small-scale mining (ASM) industry has witnessed significant growth all over the world, mostly in remote rural areas of developing countries. In most parts of the world, ASM operations are as relevant as large-scale mining, especially in the case of the number of people who partake in it. Statistics show that an estimated 40.5 million people are directly engaged in small scale mining and about 150 million directly involved in the activity (Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), 2017). Various scholars have different means by which they define ASM in a comprehensive manner. In a broader sense, ASM may be referred to as extractive activity undertaken by a person, a large number of persons, and people related or in business which is done manually with less or minimal mechanism, and mostly part of the informal unit of the economy (Hentschel et al., 2002; Villegas et al., 2012). ASM operators are normally independent and work with their personal hand tools and resources (International Finance Corporation 2008). "ASM is regarded by some as dirty, risky, turbulent and therefore should be disregarded whilst others regard it to be beneficial, fruitful and means to move the poor out of marginalization" (Telmer and Viega, 2009). It is estimated that, at least 20 million people engage in ASM whilst other people numbering about a hundred million are dependent on it as a means of livelihood (World Bank, 2008; Hruschka and Echavarrı´a, 2011).

Although accurate figures are difficult to come by, Hilson (2002) suggests that women could represent roughly one third of the ASM sector, and notes that in several countries such as Guinea, women participation is greater than men. They make up 75% of workers involved in artisanal and small-scale mining, while in countries such as Mali and Zimbabwe women's involvement is around 50%. ASM is mainly an informal economic unit in Third World countries which give out employment to a large proportion of marginalized women in the productive sector. This view is backed by evidence from the colonial era, where oral histories have it that marginalized women had played an active role in the early mines and labored together with men (Gier and Mercier 2006). Blacksmith Institute (2011) also stipulates that, most women involved in artisanal and small-scale mining can be found among the economically and socially marginalized and therefore resort to mining to turn away from unemployment, abject poverty, marginalization and landlessness.

Furthermore, most studies are also concerned with the task of unraveling the understanding of the complex social, environmental and economic effects of mining in local societies (Bech et al., 1997; Earthworks and Oxfam America, 2004; Kitula, 2006; Childs, 2008; Bebbington and Williams, 2008;Owusu-Koranteng, 2008; Carrington et al., 2010;Tsuma, 2010; Barreto, 2011; Earthworks and Mining Watch Canada, 2012; Obeng-Odoom, 2012) and searching into the stages of environmental impact assessments, free and informed prior consent, and community consultations (Whiteman

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and Mamen, 2002; Whitmore, 2006; Macintyre, 2007; Li, 2009). Research has further focused on ASM, as generating as much as one-third of the world's mercury pollution and loss of forest cover caused by the sector's failure to reclaim the lands used (Akabzaa, 2004; Swain et al., 2007; Akabzaa, et al., 2007). However, the reasons why women involve in ASM, impacts of ASM on the empowerment of women have remained unattended to from most of these accounts. Where issues of women participation in ASM are discussed, they are mostly in relation to pollution, health issues and economic impact, among others.

In Africa, the role and participation of women in ASM is crucial, although not so much attention has been given to it. In many mineral-rich countries in Africa, movement towards ASM is believed to have occurred since the 1980s (Hilson, 2010). On the other hand, an understanding of the factors that push women to involve in ASM in Africa, calls for further studies. Researchers have identified that, the proportion of female participants in ASM in Africa is greater across the globe between 40% and 50%. In some regions, women involved in ASM account for about sixty to hundred percent (ILO, 1999; Amutabi and Lutta-Mukhebi, 2001). Unfortunately, cultural barriers and taboos have tended to exclude women from the mining industry (Verbrugge, 2017).

Women involvement in ASM could ensure their empowerment as epitomized in the work of Kabeer (1999) who refers to it as increase in one's ability to strategically make choices in life with regard to rights previously denied. He refers to the need for gender equality in ensuring their empowerment. Kebeer and Mbewe (In Malhotra et al. 2002) refer to the empowerment of women as means by which women come together to improve themselves and fight against subordination. The study is carried within the framework of the sustainable livelihoods as modified by Kranz (2001) and McLeod (2001). The livelihoods comprise capabilities, assets and activities required for a means of living (Chambers and Conway (1992). The assets are natural capital, physical capital, human capital, social capital and financial capital. McLeod includes institutional knowledge and political capital. This approach offers a conceptual framework for sustainable poverty reduction. This study, among other objectives explores whether women could be empowered, involving in ASM, in the Adansi North District of Ghana using the sustainable livelihood framework as a guiding model.

The paper is structured into five sections. Section one examines the demographic characteristics of women in ASM whilst section two discusses the activities women in ASM engage in. Section three discusses factors that drive women in ASM, with section 4 delving into benefits women in ASM derive from the activity. The final section, section five, discusses obstacles to engagement of women in ASM.

II. Methodology and Profile of Study Area

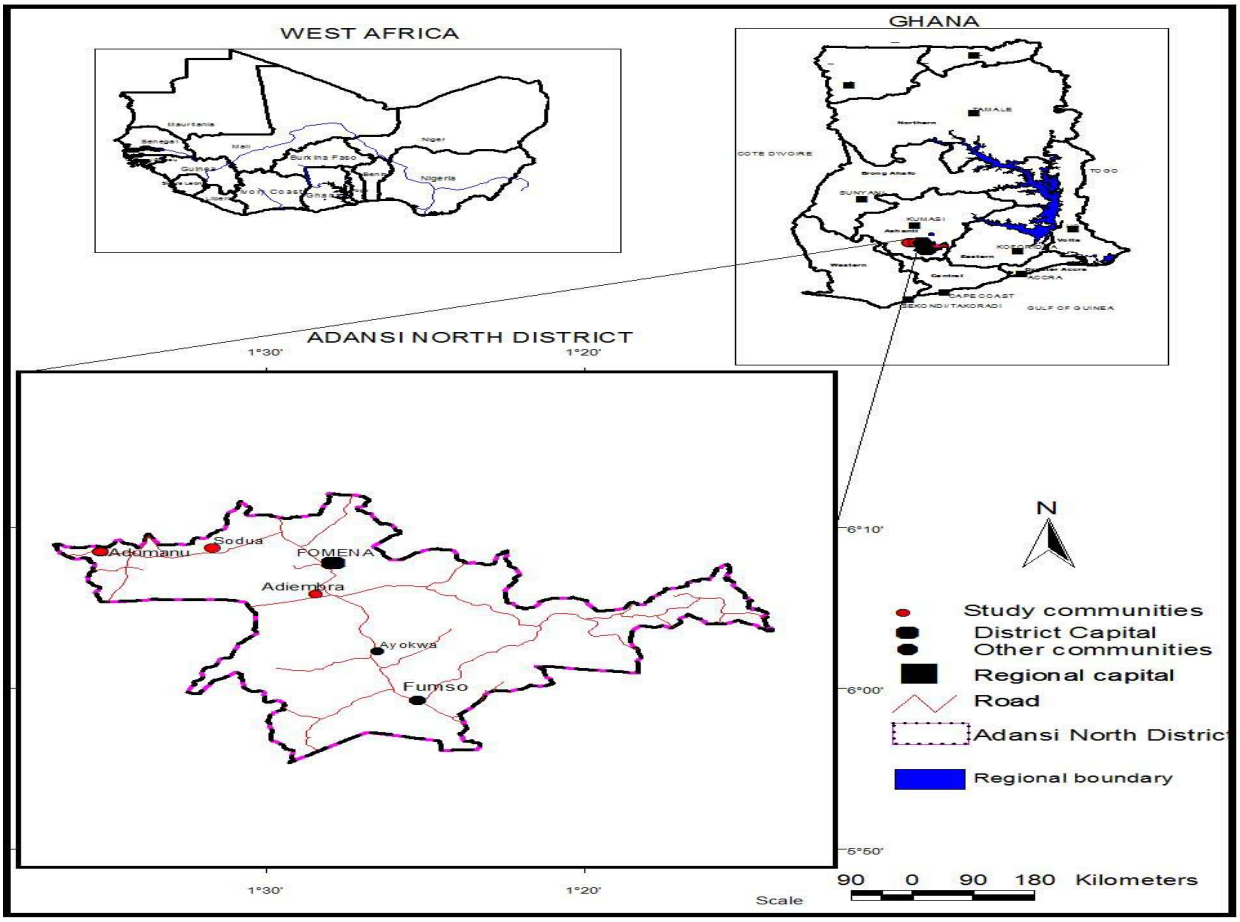
This paper is based on data on Small-Scale Mining and Empowerment of Women in the Adansi North District of Ghana. Data were collected in September 2016. The paper uses the qualitative design to explore the experiences of women in artisanal and small-scale mining in a rural district in Ghana. This paper adopted the qualitative method and the cross-sectional design. The design enabled the researcher to collect data from respondents whereas the qualitative method helped in an in-depth understanding of the issues.

The researcher obtained a total list of seven registered ASM companies from the District Assembly of which four were purposively selected. Purposive sampling procedure was further employed to choose four out of the sevenmining companies for the study. The selection was based on the scale of operation. The four selected were very active, operating throughout the year with adequate staff skill ful enough to guarantee all year-round operation. The companies were Pelango Adansi Gold Ltd at Adiembra; Star Goldfields Ltd. at Adumanu; Richrock Minerals Ventures at Sodua; and Emperor Gold Investment at Sodua (Figure 1). A total number of 193 women were obtained from the four registered mining companies in the district. The distribution was as follows: 41 for Pelango Adnansi Gold Limited; 80 for Star Goldfields Limited; 31 for Richrock Minerals Ventures; and 41 for Emperor Gold Investment. Five respondents were selected randomly through the lottery method from each mining company for the in-depth interview whilst two relatives of two miners from each of the companies were randomly selected for in-depth interviews. Where a randomly selected participant was unavailable or decided to bow out, the same procedure was repeated to replace them. Furthermore, an officer from the District Assembly, an Official of the Minerals Commission and selected Unit Committee Members of the towns where the mining companies were sited were concurrently selected by the purposive sampling method for interviews. It was necessary for the researcher to include these other key informants to ensure comparison and authentication of responses.

The paper employed interview guides as tools for data collection. There were three separate interview guides for the artisanal and small-scale miners, their relatives and the officials. Each respondent was taken through a questionnaire which contained questions generated from the set objectives. Under the supervision of the researcher and two other assistants the opinions of all the respondents were sought by aiding them to answer the questions as required. The key components of the interview guide for the miners were: their motivation to join ASM, their activities at the mines, improvement in their quality of life since joining

the ASM and challenges they face. Interviews were tape-recorded, transcribed and results organized into themes, a main strategy for analyzing qualitative data.

The Adansi North District (Figure 1) is one of the thirty districts in the Ashanti Region of Ghana which came to existence in 2004 through LI 1758. The Adansi North was carved out of the Adansi East, Adansi West, Adansi South and the Obuasi Municipal Assembly.



Source: Planning Department, Adansi North District Assembly, 2017.

Fig. 1: Map of Adansi North District

The Adansi North lies within an area of 1140 square kilometers making about 4.7% of the total area of the Ashanti Region. The Adansi North is boarded in the South-West by the Obuasi Municipality, the South by Adansi South District, in the South-East by Bosome Freho District and the North-East and West by Bekwai Municipality and Amansie Central District respectively (GSS, 2012). The capital of the district is Fomena on the Kumasi-Cape Coast high way. The Adansi North is made up of 35 electoral areas and Fomena and Asokwa are constituencies found in the district. One hundred and twenty-five major and minor communities can be found in the district with seven area councils.

According to the 2010 Population and Housing Census (GSS 2012), the district has a population of about 107,091 with a growth rate of 2.6% per year. 94 persons per square kilometer make up the population density and male to female ratio is 49.5% to 50.5% respectively. In the working age, the economically active population makes up 71.3% while the remaining 28.7% are inactive economically (GSS 2012).

The proportions of females and males that are unemployed are 4.6% and 3.9% respectively. Furthermore, the population, 15 years and older who make up the economically active population is about 27.7%. In terms of the exact number of people the mining sector employs in the area, it would be difficult to determine because most of the mining activities are carried out undercover. Whether illegal or legal, the ASM activity provides some sort of livelihood support and empowerment to the people involved; women, men and children alike. Looking at the male-female population ratio (49.5% -50.5%) in the district, it would be unwise to focus on men and their involvement in ASM since they are mostly advantaged when it comes to economic activities and especially extraction of the natural environment. This and other factors like ownership of land, landlessness, unemployment, poverty among

others have led to the women participating in ASM activities. The problem becomes more profound when marginalized women desire to be productive but are impeded by socio-cultural factors.

In the Adansi North District, agriculture, mining, quarrying and the fishing industry make up 66.8 percent of the local economy. Proportionally, male to female ratio in the industry is 66.1 to 33.9 percent respectively (GSS, 2012). Other activities such as the services and hospitality industry and financial administrative activity contribute a little over one percent to the local economy. The foregoing which highlights the economic and social conditions of women in the study area reinforce the need for such a study to unearth bottlenecks to their empowerment and advancement in an economic activity that is easy to access amidst joblessness in the formal sector.

III. Results

a) Factors driving women to engage in ASM

The factors that motivated the women to move into ASM were unemployment, poverty, discriminatory land tenure system, and the dominance of ASM as an economic activity in the area.

i *Unemployment*

The high participation of women in the ASM activity in Ghana is particularly linked to the fact that employable avenues in the formal and informal sectors of the economy are very low and few in proportional terms. In Ghana where annual per capita income in remote areas is as low it is not a surprise for ASM to be a source of income to the population (Dordunoo and Sackey, 1997). Mining activities are not sustainable in the area due to inadequate land for farming and seasonality of the activity. Lands are leased to mining firms to restrict farmers from farming on their lands (Okoh, 2014). The inability of policy-makers to put in place policies that can absorb the teeming unemployed youth graduating from the Basic and Senior High Schools has made ASM an important economic venture to curb the problem notwithstanding its related problems. Responses of some respondents through interviews are stated below:

I have been unemployed for a very long time, until these people decided to engage my services (23year-old female miner, Adiembra).

Most of the ladies are into ASM because of inadequate employable opportunities (Officer, Adansi North District).

There are no other jobs around; if you don't engage in ASM, you'll stay unemployed (23-year-old female miner, Adiembra).

It was the opinion of respondents that their lack of skills kept them off formal employment. Even though there is scarcity of jobs at the formal sector, they may have had some jobs to do there but for their lack of skills to facilitate their engagement. This is confirmed by Duflo (2011) in a study on women empowerment and economic development. Studies by Hiese and Meyer (2004) and Faigenbaum, et al. (2015) confirm the narratives by the miners, relatives and officials. Reponses from a relative of a female miner, an official each from the Mineral Commission and a female miner are reflections of this factor which drove them into ASM:

Due to the fact that she did not go to school and also did not learn any trade her only hope now is ASM which requires little expertise (Relative of female miner).

The women mostly lack skills and get involved in ASM to raise money for apprenticeship (Official of Minerals Commission).

Most of the women do not have any professional training so being employed by these companies is a blessing to them (Officer, Adansi North District Assembly).

I didn't go to school and have had no vocational training. I am happy in this employment opportunity (36-yearv old mother of four, Adumanu).

ii *Land tenure system and land use*

The seizure of farmlands by large-scale gold miners has led to the proliferation of poverty in areas where ASM is rife. The effect of this problem has brought about spread of ASM activities in the rural areas. What has worsened matters is the competition for land by miners and farmers in communities where mining takes place (Akabzaa et al. 2007; Amponsah-Tawiah and Dartey-Baah, 20011; Okoh, 2014). Hilson and Garforth (2012) stipulate that 'agriculture poverty' is a major reason why women involve themselves in ASM in Sub-Saharan Africa. The Obuasi community for instance, has more women in ASM over the past decades due to poverty in agriculture and unavailability of land to maintain the rural economy (Banchirigah and Hilson, 2010; Hilson and Garforth, 2012).

Responses from respondents in in-dept interviews confirm the above findings.

My family head has sold a large portion of our family lands to Chinese and the remaining is not enough for all of us to farm on (35-year old Female Miner, Adiembra).

Most of our lands have been destroyed by mining activities (26-year old Female Miner, Sodua).

Our family lands have been sold to artisanal miners and now we have no land for crop production (35-yearv old Female Miner, Adumawu).

Women don't and can't own land in this community. All the lands are vested in the care of the men; even the ones on which they mine (Unit Committee Member, Adumanu).

iii *Poverty*

For most nations in Africa, ASM is usually regarded 'poverty driven', giving instant income and employment to deprived people. It is evident in several studies undertaken by researchers such as Fisher (2007) and Banchirigah (2008) who assert that due to high impoverishment and unemployment people engage in ASM for direct income and employment. Siegel et al. (2009) and Maconachie and Hilson (2011) also posit that due to the inability of illegal mining to elevate the poor from poverty, donor countries and host governments need to formalize the sector to give support to its operators. The following narratives from the respondents in the interviews confirm these positions:

Do you think I'll be doing this tedious work if I was to be from a well-to-do family (27-yearcold female miner, Adumawu)?

My family is very poor; I have to do this to earn some money (18-year old Female Miner; SHS 3 Student, Adumawu.

iv *Dominant Economic Activity*

According to the results, another factor that drives women into ASM is that ASM is the dominant economic activity for which the people see as an established way of life. The women see ASM as the occupation in the area that can provide them with sustainability. They see the activity as a heritage handed on to them by their ancestors. Since they saw their relatives indulge in the activity and they are no more, they believe it is their time to continue and sustain it.
In-depth interviews revealed this sentiment:

I am into ASM because it is the only activity I saw my grandmother and mother do; it pays well and fast (33-year old female miner, Adiembra).

I was born into this activity and cannot stop the operation; my father introduced me to the owner of the site and now my children too are here. (48-year old female miner, Sodua).

My grandmother and mother involved in ASM to cater for us and I am also doing it to survive (23-year old female miner, Sodua).

b) Women's Operations in ASM

Most of the women in the ASM are between the ages 18 and 25. Indeed over 65% of the miners, according to the officials are in this age category; thus, giving the impression that the arduous nature of the activity scares women in the middle and old age categories. Most of the women are however married. About 47.7% of them are married and 10.1% widowed. The good number that are married and have ever tasted marriage is due to the fact that in Ghana low education is associated with early marriage. Family sizes, according to the officials, are high; the total fertility rate is estimated at about 5. This is due to the early start of birthing experience, the people being pro-natalists. The large family sizes may explain the need to enter into an occupation which is deemed to be the preserve of men dud to its energy sapping potential.

The activities of women miners in artisanal and small-scale mining include, carrying mineral bearing ores and quarry materials to the milling machines; minor digging; shovelling and collection of mineral bearing ores and quarry materials; processing the ores by panning, washing and mineral separation; operating the milling machine; recording the number of pan-fuls of quarry materials and mineral bearing ores to the milling machine and catering and laundry services (IGF, 2018).

Interviews with the women miners revealed that a few operate the milling machine. They are confined mainly to non-machine areas apparently because of the risk and energy sapping nature of this area of operation. The women miners have been in small-scale mining businesses from a period ranging between 3 months and 5 years. Nineteen of the miners have been working for the mining organisations for five years whilst 23 have been with the companies just for three months. Given the number of women miners the conclusion we could draw is that women do not stay in the mining job for a long time apparently due to the stress and risk involved.
Benefits derived from the mining activities

Narratives from the women miners indicate that the activity has improved their livelihoods and quality of life so measures must be taken to improve their conditions in the mines and reduce the risk and other challenges they face. The following responses from the respondents are indications of their improved conditions through their involvement with ASM:

I was nobody before joining ASM. I could not even pay for the small school fees of my children neither could I assist with the chop money. Even my husband had to buy me underwear (Female Miner, Sodua).

I do not think the wage is too bad, so far as I am concerned, it is not bad at all (25-year-old Female Miner).

My sister's condition was not good at all before she became a miner. She had to depend upon her husband for all her needs, Things are different for her now (Relative of a Female Miner).

I was the one giving her money to cater for her basic needs prior to her involvement in ASM, but now thongs have changed (Relative of a Female Miner).

A Unit Committee Member (Lowest level of Local Government) testified to the improved condition of the Female Miners as follows:

Indeed, the financial condition of the female small-scale miners I knew was not good at all. They are a little better since they became miners.

Miners have seen improvement in their finances and could educate their children without dependent on their husbands since joining the ASM, as depicted in the following statements:

I can now see a level of improvement in my finances (Female Miner, Sodua).

Starvation and borrowing are now things of the past in my life (Female Miner, Adumanu).

I can now educate my children. I have no problem paying their school fees. My husband is not burdened with payment of our children's school fees (Female Miner, Sodua).

Assets acquisition is a remarkable achievement made by female miners. Several of them reported they acquired household and fixed assets to enhance their quality of life. The following statements bear testimony to this achievement:

I have been able to acquire assets such as sophisticated cooking utensils, room and furniture. Indeed, we have started building a small house (Female Miner, Adumanu).

What else can I say? We are building our house as I speak. My wife supports me with what she earns from ASM. The days of our quarrel are over. Give me money for this and that are no more. I love my wife more (Husband of Female Miner, Adumanu).

I have been able to acquire a lot of things including expensive household utensils, room furniture, a small television, expensive clothing, a bicycle for my children, etc. (Female Miner, Sodua).

With their contribution to the family finances and community improvement, the female miners could now boast of participation in decision making in the home and community. This is borne out by such assertions:

My husband involves me in decision making in the home because he sees that I am contributing a lot to keep the home (Female Miner, Adiembra).

Because I contribute a little towards community improvement, my views are sought for in community gatherings (Female Miner, Sodua).

These findings give indication that participation of women in ASM empowers them. They earn good income through this economic activity. With this they are able to acquire assets including household assets as well as fixed assets such as houses. Besides they are able to take good care of their children's education hence, involve in long term investment.

Challenges facing Women Miners

The female miners expressed some challenges they face. The problems include inadequate wages, risks of health, housekeeping and marital issues. They narrated these problems as follows:

The monetary returns should increase. I am convinced we are not paid well for our services. Even though as women we are not made to go into the very dangerous aspects of the operation, there are some risks involved [Female Miner, Sodua].

Given the risks we face in this work, the monetary returns are not enough. Even though our wages are better than when we were in some other occupations, we need more compensation for our services [Female Miner, Adiembra].

We need more protective equipment to save our health. We have nothing when we give birth. The processes are energy sapping, too much for women to bear but what else could we do? [Female Miner, Adumawu].

Our health is at risk. We suffer from diseases including respiratory tract infections, eye and skin infections [Female Miner, Sodua].

Sometimes we have the problem of taking care of our children because we sometime close very late from work. Besides, we have some problems with our husbands. We do not close early enough to cook for our husbands [Female Miner, Adiembra].

IV. Discussion and Conclusion

Results of this study have demonstrated that the quality of life of women improves when they involve in ASM which, hitherto, had been the preserve of men. This occupation has guaranteed a good quality of life of women. It has enhanced their socio-economic benefits. Conclusions drawn by researchers in the empowerment of women through this activity have been confirmed in the Adansi North District. Through this activity, they have gained enough income to build assets including domestic equipment and fixed assets such as houses. Their nutritional status, as well as their housing conditions, have improved. They could support their husbands in taking care of the home and in some instances, they are heads of household. The education of their children is not in jeopardy. Another area of interest which enhanced the status of women is their participation in decision making in the home and community. They gain recognition in the home and community for their monetary contributions to the running of the home and community development. They are thus empowered through the activity. The study confirms works on the empowerment of women through their activities in ASM (Hinton, et al., 2003; Gier and Mercier (2008); Blacksmith Institute (2011). Their empowerment and for that matter improvement in their quality of life depends on their ability to decide for themselves (Petit 2012) own assets such as lands, cars, houses, etc. (World Bank 2000). These depend on their ability to work and earn income (Hilson and Potter; Beall and Piron, 2005). Their empowerment ensures improvement in their quality of life and that of their families. Perceptions on their ability to engage in mining

activities must thus change. The sustainable livelihood framework has been vindicated. Women who enlisted in the ASM have gained assets and improved their quality of life. There are bottlenecks to their full realisation of benefits that must be addressed. Measures must however be taken to ensure that challenges they face in their mining operations are addressed. The risks they face must be ameliorated by the provision of occupational protective gadgets. Besides, it must be ensured that they are paid reasonable wages and appropriate risk allowances and not to work beyond the number of hours prescribed in the labour laws. Finally, there must be a policy to ensure that the health problems emanating from their operations in the mines are addressed expeditiously. There must be a reasonable health policy to guarantee safe health of the women workers. Finally, there must be skills development policy to improve the skills of the female miners to ensure increased productivity.

Conflict of Interest

No conflict of interest was involved.

Ethical Issues

No ethical issues were involved.

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