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**Perspectives on Female Participation
in Artisanal and Small-Scale Mining:
a case study of Birim North District
of Ghana**



Natalia Yakovleva



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Abstract

This article examines a growing female participation in the illegal artisanal and small-scale mining (ASM), using the case study of Birim North District in Ghana. The paper examines female employment in the ASM sector and its impacts on their incomes, health and families. As much as half of all the workers involved in small-scale mining operations worldwide are women, who are often given inferior jobs, earn less money and experience difficulties in managing work at the small-scale mining sites along with child care and other household activities. In Ghana, the expanding ASM sector is causing a wide range of regulatory, environmental, health, economic and social problems, jeopardising long-term livelihoods of the rural communities. The analysis of collected data suggests that policy should not only address gender mainstreaming in the ASM sector, but should also support women to pursue stable job opportunities to benefit their long-term livelihoods.

Key words: artisanal mining, small-scale mining, informal employment, gender, Ghana

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1.0 Introduction

In recent years, artisanal and small-scale mining (ASM) sector has experienced unprecedented growth worldwide. This has occurred mainly in response to the widespread unemployment within the African, Latin American and Asian countries in which it takes place. Specifically, the redundancies caused by structural adjustment programs, inflation and modified patterns of trading and farming have, over the past 10-15 years, driven millions of people of varying skill and background to take up employment in the ASM sector (Tallechet *et al.*, 2004). Recent rises in the market prices of precious metals and stones, the main commodities mined on a small scale, have further fuelled the sectors' rapid expansion. In many cases, ASM operations are conducted informally without requisite licensing outside of regulatory and legal frameworks. In this respect, ASM is typical of informal economic sectors in the developing countries as it offers employment to a significant part of labour market; plays a major role in production, income generation; and provides necessary survival strategy (ILO, 2004).

In Ghana, where poverty rates remain high, especially in the rural areas, small-scale mining – particularly gold extraction and processing (Hilson and Potter, 2005) - often becomes the best earning opportunity for economically active population (Heintz, 2005). Although there is a long history of artisanal and small-scale gold mining in Ghana, dating back almost a thousand years (Hilson, 2002a), the Government only began regularising the sector in 1989, following the implementation of the *Small-Scale Gold Mining Law*. The initiative has given rise to two groups of operators, those who are legalised (registered) and those who are illegal *galamsey*¹, “illegal small-scale miners... without the requisite mining license and they usually operate on concessions held by other companies” (Amankwah and Anim-Sackey, 2003, p. 131). Inefficient process of regularisation, which is ridden with a number of problems in registration and licensing, leads to a further increase in illegal small-scale mining population, who are currently estimated at 200,000 people and constitute the majority of the ASM sector in Ghana (Appiah, 1998; Hilson and Potter, 2003).

¹ A local term derived from a corruption of the phrase "gather them and sell" that labels illegal small-scale miners.

The issue of gender in the ASM sector has received little attention. 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. Although in Ghana today, women's participation in income-generating activities is high and nearly equivalent to that of men, the poverty rates among working women remain well above working men (Heintz, 2005). This has become even more visible since the introduction of cash crops to the country: men have taken active control of cash crop farming, while women have taken more responsibility for food crops for home consumption (Newman and Canagarajah, 2000). This, in turn, has created innumerable opportunities in ASM for thousands of impoverished women. Today, some 15% of the legalised segment of the ASM sector are female, as well as 50% of the *galamsey* population (Hilson, 2001), but the roles of these women, their struggles and needs have been largely overlooked in both policymaking and research circles. Acquisition of such knowledge is a key in facilitating regularisation of the ASM sector.

This paper helps to bridge this gap by providing an extended analysis of work and livelihoods of women, engaged in *galamsey* camps in Birim North District of the Eastern Region of Ghana. Specific emphasis is placed on examining the drivers for female participation in the sector and the impacts it has on women's income, health and families. The paper also raises issues concerning gender mainstreaming in the small-scale mining and alternative employment for women in the rural areas.

2.0 Women in Artisanal and Small-Scale Mining

Artisanal and small-scale mining is predominantly localised in remote rural areas of Latin America, Africa and Asia, of which almost 80% worldwide is conducted illegally or without regulation. Small-scale mining involves extraction and processing of minerals by manual means and is mostly rudimentary, labour-intensive and lacks technological advancement, with an exception of advanced states, where it is semi-

mechanised and utilises slightly advanced processing techniques (Hilson, 2002b; ILO, 1999).

According to estimations of the International Labour Organization (1999), nearly 13 million people are directly employed in the sector worldwide and additional 100 million people depend on it for their livelihoods. Women comprise up to 50% of the ASM workforce worldwide (ILO, 1999). In Asia, the share of female employees in the sector amounts to 10% of total labour, while in Latin America it ranges from 10 to 20%. The highest involvement of women in ASM is, however, registered in Africa, where up to 50% of the labour force is female (Hinton et al., 2004). African women engage in the ASM sector to a greater extent than their global counterparts principally due to a widespread unemployment on the African continent. For example, an estimated 74% of small-scale miners in Guinea are female, as is 50% of the ASM workforce in Madagascar, Mali and Zimbabwe (Hilson, 2002a).

It has been noted that female participation in ASM can be either *direct* (i.e. primary engagement in mining operations) or *indirect* (i.e. servicing the mine sites) (Gunson and Jian, 2001). Heemskerk (2003, p. 63) provides a more detailed description of the roles that women play in the sector:

“Women are panners, cooks, mining operators, nightclub entertainers, sex workers, and merchants, among other professions. While some women work marginal jobs, occasionally in conditions resembling debt servitude, others are powerful managers of multiple mining teams”.

A study undertaken by Dreschler (2001) in Tanzania uncovered several major reasons why women seek employment in ASM. These include the deterioration of subsistence farming (low prices of agricultural commodities, effects of droughts on farmlands and lack of farmlands), low demand or lack of public and private employment, lack of trading commodities, high inflation rate, high birth rate and extended families. In order to support their families women are forced to look for new means of survival at the lowest cost. Female participation in ASM, explored by several authors, possesses features that are shared universally, including the following:

- 1) Marginal role of women in small-scale mining communities. Women are rarely identified as miners in their own right (Susapu and Crispin, 2001), concession owners, mine operators, dealers and buying agents and equipment owners (Hinton et al., 2004).
- 2) Economic hardship. Deschler (2001) and Chakravorty (2001) note economic hardship of female labour in the ASM sector; although women provide up to 50% of employment in the sector, they do not get equal financial reward as men.
- 3) Labour operations. Women conduct similar labour operations at small-scale mining sites worldwide; often the loading and transporting of material becomes predominantly operation carried out by women (Chakravorty, 2001). Women almost never work underground (Chakravorty, 2001; Gunson and Jian, 2001; Hinton et al., 2004). Women are also engaged in panning, sluicing and final separation of gold, but separation of gold or burning of amalgam (of gold particles with mercury) is almost exclusively seen as a male activity (Susapu and Crispin, 2001).

In certain countries, where cultural conventions are not causing barriers for female employment, women play a very important role in the small-scale mining and their overall involvement has been steadily increasing (Tallichet *et al.*, 2004). In the case of Ghana, the position of women in the sector is marginal (Hilson, 2001); they account only for 6% of licensed buyers, 10% of concession holders and 15-20% of sponsors of work groups and mining cooperatives (ILO, 1999). Amankwah and Anim-Sackey (2003) argue that the barriers to effective female participation in ASM are linked to cultural and social taboos. Indeed, there are several major reasons that prevent greater involvement of women in the ASM sector (Deschler, 2001):

- 1) Limited access to credit and finance prevents women from full participation in small-scale mining activities, leaving them a role of subsistence level of mining.
- 2) Lack of technical knowledge, which is compounded by illiteracy amongst women, prevents women from fully engaging in mining operations and processes.

- 3) Cultural barriers that impose a heavy family burden which limits women's independence and mobility to start up their own small-scale mining businesses.

Gender mainstreaming, which was established as a global strategy at the fourth World Conference on Women held in Beijing in 1995, is recognised as a possible way for facilitating the increased and equitable participation of women in ASM worldwide. Gender mainstreaming has been defined by the UN's Economic and Social Council (UN, 1997) as:

“...the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality”.

Gender mainstreaming is a strategy that is propagated in ASM by development institutions with the United Nations urging the policy makers to support ‘*increased involvement of women at all levels*’ of artisanal mining industry (UN, 1996, p.222). Labonne (1996) argues that artisanal mining could bring benefit at both national and local levels if it's developed into more efficient, safe, less destructive and equally accessible activity. Moreover, women by participating in the ASM sector could tremendously benefit from this activity, but they require support through technical training, education and financial support by government, development agencies and non-governmental organisations.

If the aim of gender mainstreaming in ASM is poverty alleviation (ILO, 1999), there is little evidence to support that this policy tackles long-term improvement of economic and social well-being of women engaged in small-scale mining. Heemskerk (2003) argues that policy should not only focus on the economic growth and efficiency that small-scale mining is potentially bringing to the communities, but should also anticipate the long-term health, cultural and social outcomes of female employment in the sector. She also cautions that women's employment in the ASM sector is unlikely to alleviate persistent poverty. There is a need not only to explore factors that hamper the process of

gender mainstreaming for policy development, but also to investigate the ways in which women engaged in ASM could improve their livelihoods and well-being.

3.0 Methodology

This paper reports the findings from a preliminary fieldwork undertaken in the Birim North District of the Eastern Region of Ghana in January-February 2006 (see Fig. 1). Data were drawn from interviews with women who reside in the adjoining villages of Ntronang and Noyem and work at the local artisanal small-scale gold mining sites. Interviews were carried out with miners, traders and farmers both men and women in the district as well as with representatives from local authorities and organisations. Interviews with non-English speakers, mostly women, were conducted with assistance of an interpreter. Access to communities was also negotiated with traditional chiefs of the area and *galamsey* leaders at the sites. The majority of data were derived from interviews with *galamsey* women, who were approached in villages as well as at *galamsey* sites. In-depth interviews as well as group discussions were carried out; notes were taken during the interviews. Participant observation was also conducted at *galamsey* sites and villages, which provided means of getting acquainted with the lifestyles and work of women as well as a contextual setting for their narratives. The narratives of interviewees (pseudonyms are applied) are used in this paper to provide an indication of the conditions of female employment at *galamsey* camps and their experiences.

At the moment, no specific methodology has been developed to analyse female participation in ASM. However, researchers such as Heemskerk (2003) and Chakravorty (2001) have focussed on several key areas such as: income, economy, health, social structure, family and the role of women. The collected material in this paper is assembled under several subsections, covering issues of work, income, health and family.

The case study area is the Birim North District, which is located in the western end of the Eastern Region of Ghana (see Figure 1). The district has an area of 1,250 sq km and a population of 132,350 people as estimated in 2005 (Birim North District Assembly, 2006). The main economic activity in the district is farming of cash crops, primarily cocoa, cola, palm fruit, citrus and rice and other food crops such as plantain, cassava, cocoyam, banana and sugarcane. There are also few small-milling installations, processing wood for furniture production and construction industries. In 2003, Newmont Ghana Ltd. acquired a concession to mine for gold in Akyem in the north of the district, an undertaking which has provided employment for some members of the local communities. The company plans to start mining operations in Akyem in 2008, while continuing exploration work on adjacent lands. Since 2003, the Birim North District has experienced a mass migration of people who began working as *galamsey* in the district, particularly in Nyafoman, where according to local estimates *galamsey* camp counts approximately 10,000 people, the majority of whom migrated from various areas of Ghana, as well as from neighbouring countries.

Many locals have joined *galamsey* camps and amongst them are women and teenagers. In 2004, when *galamsey* began moving sites closer to the village of Noyem, which has a population of about 1,000 people, local inhabitants began engaging with *galamsey*. Today, as many as 90% of the women originating from Noyem are involved in *galamsey* activities in one capacity or another, some carrying ore material for payment and others supplying foodstuffs for mine workers. The opening of *galamsey* sites has propelled significant migration to the area, including Noyem, some miners arriving to the area with women and children. Noyem is a busy village, with active trade going on near the main village road, which leads to the *galamsey* sites in Noyem and neighbouring Nyafoman. A large number of taxis service these communities, waiting to transport people between villages and *galamsey* sites.

Another village, which has recently (since autumn 2005) experienced recruitment of local communities into *galamsey* activities, is Ntronang, which is a smaller community, but where women have also started to seek employment opportunities with *galamsey*. Ntronang is a quiet place, where the local market is fairly quiet during the week with an

exception of ‘market day’, where newcomers are rarely seen in the village and even less people are seen in the streets during working hours.

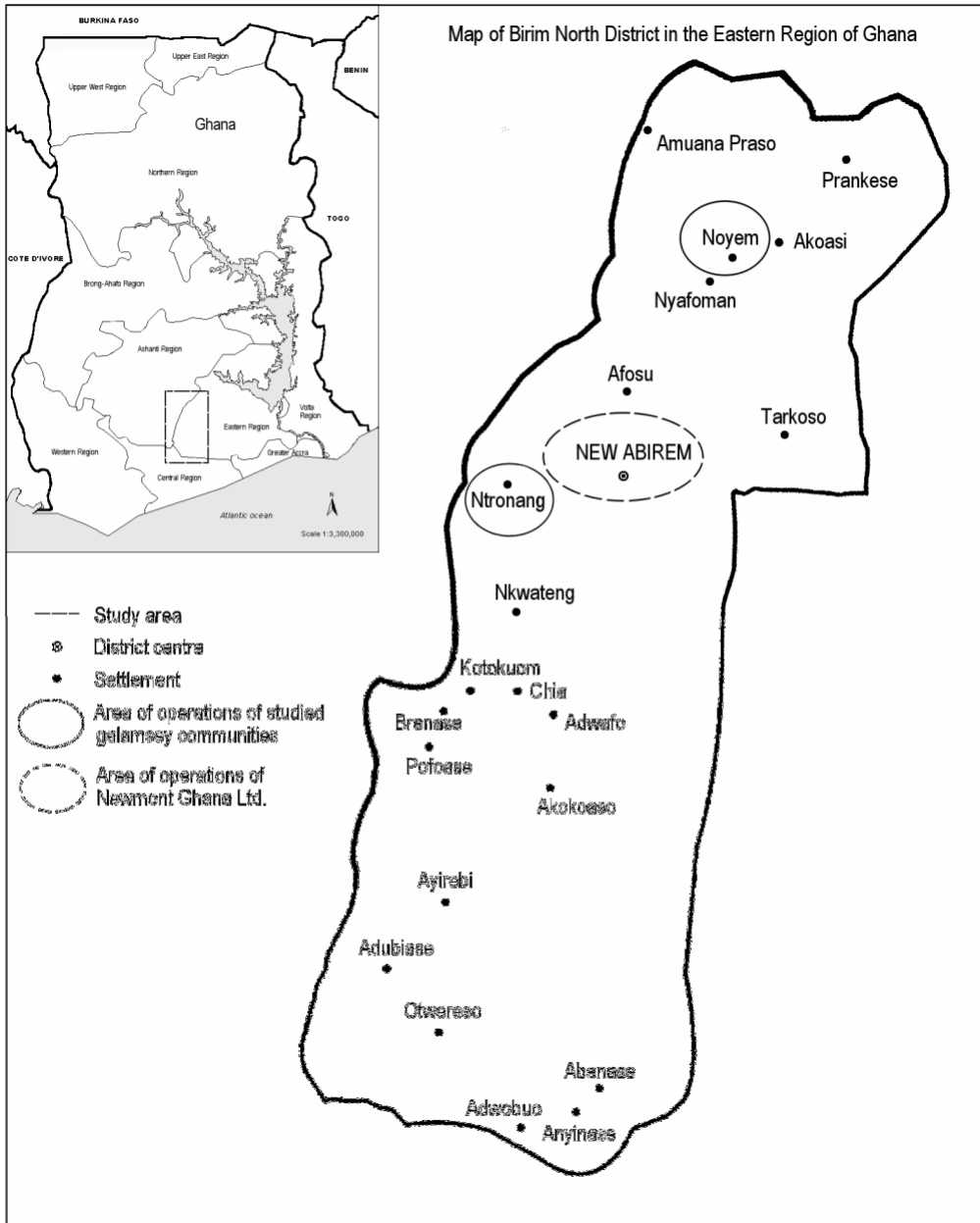


Figure 1 Map of Birim North District of Ghana

4.0 Women in *Galamsey* Camps

Throughout Ghana, to see women working amongst *galamsey* miners is certainly not rare; this case is no exception. It is estimated that 40% of people involved at the Noyem

and Ntronang *galamsey* sites are women. The majority of women that work at the *galamsey* sites near two villages Ntronang and Noyem are residents of these villages, who stay in the village and commute to *galamsey* sites every day, working from 7am to 4 pm for five days of the week. *Galamsey* activities are taking place not in a great distance from both villages, in a range of 5-10 km. In Ntronang, where *galamsey* operations started fairly recently, as of autumn 2005, the majority of women were from the village itself; few are migrants to the region. In Noyem, where *galamsey* mining has been ongoing for about 2 years, up to 90% of the female population is now involved in activities either directly or indirectly.

As previously noted, women work at *galamsey* sites in two main capacities: those who sell food and those who directly participate in mining operations. The second group of women carry loads of materials on their heads from pits into heaps or trucks, some participate in washing sand. However, at the larger sites, women are found to perform a greater range activities, for example, in Nyafoman, the largest *galamsey* site in Birim North District, women set up trading stalls, selling more foodstuff, water, electronic goods, various small items and credit for mobile phones. In Nyafoman, where many *galamsey* are residing as well as working, women are found doing washing, cleaning, cooking directly at the site as well as working along men at pits. The *galamsey* sites near Ntronang and Noyem are day sites; here the majority of women carry loads of material and a small proportion sell food. Amongst those who sell food is Linda:

A 23 year old single mother of a 3-year old girl is a petty trader in Ntronang. She does not have a shop; instead she sells her goods by going around the village. This trader also sells rice at the *galamsey* sites, working for her sister, who pays her wages. She is not interested in working for *galamsey* miners, because she does not carry heavy loads on her head. Besides, she insists that her petty trading is a better job than *galamsey* work in terms of money.

At one of the sites of near Ntronang, women are aged between 17 and 50, although the vast majority are between 23 and 35. Most have a basic education, few have finished secondary school, and several interrupted their education after primary school or junior secondary school in order to pursue employment. Few women also reported to have gone through vocational training. At some sites, women are organised in groups of 10-

15 people to load trucks with ore or sand. Visits to *galamsey* sites proved that loading trucks with crushed ore and sand is predominantly women's job, while digging, crushing stones and washing is conducted by men. The more arduous and hazardous operations, including underground work and burning of amalgam are conducted by men.

The main driver for increased female employment in *galamsey* mines in the region is the increased need to bring income to households and lack of employment opportunities in the region, although the reasons are more multifaceted than they appear. The main source employment in Birim North District is commercial farming (including palm fruit, cocoa, cassava and citrus); many families are engaged in subsistence farming as well (growing vegetables and cassava for household consumption). Local farmers often sell their produce to local communities, which lack purchasing power and have fairly small markets. Often farmers complain about ineffective agricultural processes, but lack the requisite resources to improve their production. Impoverishment of subsistence farmers is the main reason for joining *galamsey* activities. Particularly telling is a story of 28-year mother of five children, who brings her 9-month old breast-fed baby daily to a *galamsey* site near Ntronang:

Mary is a petty trader, her husband works with *galamsey* as well. Both of them started 5 months ago. Her husband was a farmer, growing palm fruit, cassava and cocoa. They still farm on their 2 acre of land and also do palm oil extraction on a small scale. They do weeding and everything else themselves. They used to sell palm fruit oil at a junction in New Abirem. But they no longer have palm fruit farm. Her first son was sick and in order to raise money to treat his illness they had to sell the palm fruit farm for 2 million cedis. They are left with a cassava farm now. They use cassava at home and sell cocoa on a smaller scale. Their entire year's harvest of cocoa amounts to half a bag, which they sell to buyers for 80,000-100,000 cedis. She works in a group with other women at the *galamsey* site and gets 5,000-7,000 cedis per load. The work is not consistent; they do not get it every day. Women take lunch to the site, but prepare their own food at home every evening. Mary has 5 children, eldest are in school and do not come to *galamsey* site. She works five times a week at the *galamsey* site. After preparing food for her children in the morning, she comes to the site at 7 in the morning and leaves 4 in the afternoon for home. She and her husband attend to the farm on Saturdays. She wants to open a provision shop in Ntronang and expand her trade to sell rice, sugar and soap, while her husband wishes to buy land and go into palm fruit plantations. It costs 2-5 million cedis to buy a farm or 500,000 cedis to lease a plot of farmland.

While men are involved in cash crop farming, many women find employment in petty trading of food stuff and clothing. These petty traders travel to other districts and towns to purchase these products, sometimes as far as Accra and even Togo. There are no large supermarkets or large wholesalers in the area, therefore the prices are fairly high. However, due to lack of cash in the local communities in general, traders are forced to sell on credit, which leads to consequent bankruptcy of their trading businesses. A large proportion of women approached in *galamsey* sites used to be involved in petty trading before becoming miners.

Some women in Noyem and Ntronang are also engaged in catering and food processing as means of bringing income to their households. They prepare local food dishes such as *banku*, *fufu*, *kenke* and cooked plantain for sale at the local markets. However, the food sale competition in the villages is clearly tight, while markets are limited and many women lack resources to travel to other towns and villages to sell their produce.

26 year old single mother, Kate, with a 5 year old son from Ntronang joined *galamsey* camp 3 months ago. She used to sell *kenke* (a local dish made from cassava and corn) with her mother. Because the town, where she was selling *kenke* is small and there were other 3 people selling *kenke*, she was not able to earn enough money for her living and she found a job with *galamsey*.

With an abundance of palm fruit oil in the area, a popular engagement amongst women is a production of palm oil, which is used in cooking. Financial resources are required to invest in basic equipment, purchase raw palm fruit and transport the produce to larger markets for sale. However, women generally lack starting capital to set up food processing businesses. The same applies to women, who possess other skills in knitting, sewing, hairdressing, baking and other food processing, who would like to start businesses, but lack resources.

There is an acute need for credit to support local small businesses, however, local rural banks offer limited loans to traders and small businesses, instead offer the majority of credits to cash crop farmers. Moreover, tough requirements for loans make it difficult for impoverished women to obtain credit. For example, a branch of the Mponua Rural

Bank located in New Abirem offers loans in the amount from 2 to 20 million cedis (between US\$222 and 2,222) payable within 10 months with 30% annual payable rate, which is deducted every month.

Many women from Ntronang and Noyem, who work at *galamsey* sites, have joined artisanal mining along with their husbands and boyfriends; but there are also single women, who joined *galamsey* work in a pursuit of income. Although many women that work at *galamsey* sites near Ntronang and Noyem come from the neighbouring villages, there is a small share of women, who are newcomers that have recently moved to the area to work specifically in *galamsey* mines. Many of these women came to the areas either with their husbands and relatives or have relatives and connections in the area. Single migrant female workers usually arrive to the areas in a group or with their relatives. A story of two women from Accra reveals this common pattern of female work migration.

Two ladies from Accra came to visit their mother in Noyem. They heard about this kind of job and decided to join *galamsey* mining. They did not know of anywhere else to go, so they joined a camp in Noyem. The older woman is a widow and has two children in Accra, who go to school there. The younger woman has a one year old child, which she takes with her to work at *galamsey* mines. These women used to be petty traders in Accra, one selling tomatoes and the other selling soap. They have been working in the *galamsey* camp for 2 years and earn 15,000-25,000 cedis a day. Once they save enough money, both hope to go back to Accra.

4.1 Income

According to the ILO (1999), women in ASM are usually compensated less than male mineworkers. Interviewed women working at *galamsey* sites provided various estimates of their daily wages at 15,000 to 25,000 cedis (approximately US\$1.66-2.77) and in different camps women stated various rates for their work. Some name daily rate of 25,000 cedis, some name 30,000 cedis for washing gold. Finally, a group of 10-15 women are paid 45,000 cedis for loading an entire lorry of material, whilst this group can load two trucks a day. However, an availability of paid jobs is not consistent and women have to switch sites, following quickly paced small-scale mining operations.

Since the engagement in income generating activities alongside farming for women in Ghana is a possible way of adding bargaining power in the household (Newman and Canagarajah, 2000), this assumption could be applied to women's engagement in *galamsey*. Although, it is evident that working at a *galamsey* site, women receive higher earnings than local public sector workers such as teachers (minimum wage in Ghana is around 13,000 cedis), many women generally express a desire to perform other labour rather than carrying heavy loads in *galamsey* mines. Many, especially in Ntronang, see *galamsey* mining as a short-term engagement, an opportunity to generate cash to invest in other activities such as petty trading and food catering. Even those women, who have travelled to join *galamsey* camps from other areas of Ghana, view *galamsey* as an opportunity to generate savings to continue their businesses. Indeed, the average incomes from such non-farm activities for women are higher than incomes from agriculture (Newman and Canagarajah, 2000).

In Noyem, where women have demonstrably been a part of the growing *galamsey* community, work with *galamsey* miners considerably improved their income levels. Others in the villages have noticed that those who work for *galamsey* are able to afford to buy new clothes. However, some *galamsey* women claim that they are not able to save money for their trades and are "living from hand to mouth".

This new income-generating activity has brought changes to local traditional subsistence economy. In Noyem, many women have abandoned farming completely after two years working with *galamsey*, and in Ntronang, where mining only began in 2005, many women have put farming second to mining because only "*when they [can] raise enough harvest, they [will] go into farming*". Although some women choose to cater to their family farms once a week, working the majority of time at *galamsey* mines, many women have stopped attending to their farms altogether. For example:

25 year old Jane is a married woman with five children from Ntronang. She came to work at the *galamsey* site on her own. She has not been to the farm for a long time since she started doing *galamsey* that was four months ago. Her husband goes to the farm instead.

Since the local farming in the area that supplies local markets has inevitably reduced, the reliability of these communities on marketed food has increased as well as food prices. In Noyem, the new economic activity brought about a number of changes to the livelihoods of local communities: accommodation has become a significant issue in the district with the housing now in short supply and the increase of migrant labour leading to higher rental prices. The workers who cannot find accommodation at the camp sites or rented accommodation in the villages use public facilities such as schools for shelter at night. The complaints heard from the local teacher and environmental health officer are that these workers leave schools in poor hygienic conditions, leaving refuse, urinating and defecating at school sites.

4.2 Health

It is widely acknowledged that labour in artisanal mines has increased risk of illness, injury and stress due to enhanced level of dust and noise pollution as well as extreme exertion from highly labour-intensive jobs (Hinton et al., 2004). Hard labour at *galamsey* camps poses high risk to the health of women and their children due to a total absence of basic mine safety. None of the women have protective gear (helmets, masks, gloves, clothing and shoes); they along with little children are exposed to dust and noise.

Many female interviewees complained about common problems associated with carrying loads such as headaches, waist, neck and back pains and minor injuries such as cuts and bruises. The local health authorities reported malaria, anaemia, hypertension and diarrhoea as the common diseases that women working in *galamsey* camps complain of. *Galamsey* camps, especially those which have been in existence for some time are unsanitary. According to observation of *galamsey* sites, refuse and toilets were located next to workplaces, eating and sleeping facilities.

One of the most potent health risks in small-scale mining is exposure to mercury, which is used in processing of gold (Hinton et al., 2004). Although women are usually not directly involved in heating amalgam of mercury with gold, they along with their young

children are exposed to mercury vapours and mercury in water, which is released during washing and panning operations. Interviews with *galamsey* miners throughout Birim North District as well as community meetings in Noyem and Ntronang themselves suggest that there is a widespread lack of knowledge concerning health hazards associated with mercury and overall absence of environmentally safe technologies and methods for recovering gold. Water which could be contaminated with mercury after washing operations is used for various purposes at the *galamsey* sites even for washing children. The health authorities consulted linked the increasing number of respiratory diseases in children of the district with the effects of mercury from gold mines. Communications with selected *galamsey* suggest that although the extent of exact knowledge about mercury poisoning, health and environmental hazards remain poor, some improvements are being made. Notably, previously, *galamsey* miners after a day's work used to bring amalgam home and burn it in their residences, the practice was stopped after it was observed to cause coughing amongst children, and today most burning is carried at the *galamsey* sites and downwind.

Galamsey women are extremely vulnerable to HIV/AIDS and other sexually transmitted diseases (STD), because of their limits to control their sexuality due to socio-cultural barriers (lack of sexual education, religious opposition for the use of contraceptives in case of catholic communities in Ntronang), a shortage of family planning services in the area (lack of birth control advice available and lack of free contraceptives offered) and economic imperatives that force women into sexual exchange for survival. Many women interviewed at *galamsey* sites near Ntronang and Noyem, admitted that they are sexually harassed by men at camps both physically and verbally. Some are forced into sexual intercourse, for example, exchanging sexual favours with *galamsey* bosses for an opportunity to get a job at the site. According to the staff in Ghana Health Services of Birim North District, incidents of STDs have considerably increased since *galamsey* started working in the district.

According to the local education authorities consulted, since *galamsey* operations commenced in the district, school children have started to work at the mines. Local education and health authorities also associate the recent increase in reported teenage

pregnancies in the district (3 teenage pregnancies in 2003; 4 in 2004; and 7 in 2005) with *galamsey* mining in Noyem, Ntronang and Nyafoman.

In Noyem, the interviewees claimed to have changes in the socio-cultural dynamics of villages. Some complained about increased promiscuous behaviour of local women, associating it with the rise in *galamsey* activity. Although prostitution is not openly discussed, the remarks were made about an availability of sexual services in the area. Moreover, it was mentioned by one of the *galamsey* miners that “if you pay the right amount - don’t use condom”. The consulted health experts were predicting that a spread of HIV/AIDS is highly possible within *galamsey* communities, a serious issue given that the Eastern Region already has the highest prevalence of HIV/AIDS in Ghana, almost twice the national average of 3% for adults. Due to the increase in mining migrants to the area, prostitution, low use of prevention methods and some cultural stigmas such as catholic beliefs concerning contraception, including condoms, has led to an increase in STDs according to local health authorities:

“Before the mining operations started in the Birim North District, one woman could have infected three men with STI (sexually transmitted infection). Now, one woman could infect up to seven men.” [Local health authority, Birim North District]

Another ill-effect associated with the female participation in *galamsey* mining is illegal substance abuse. A community member noted: “some women smoke weed and police arrested some drug users amongst women”.

4.3 Family

Many women who work in *galamsey* camps from the villages of Noyem and Ntronang work alongside their husbands. For example, out of 18 women interviewed near Ntronang seven were single, two widowed and nine married, most work alongside their husbands at the *galamsey* sites. It is evident that families reorient their usual subsistence farming existence towards *galamsey* activities, although many remain at their small farms and attend to the farms on weekends. In some instances, husbands carry on

farming, while women do *galamsey* for the most of the week, returning to the farms on the weekends.

In Noyem, during the course of two years, some major changes have been noticed in the family lives of the local villagers: interviewees mentioned that some of the women who had joined *galamsey* have started to divorce their husbands and the number of divorces in on the rise. The role of women within families as a carer for children is transferred to *galamsey* sites, women bring their children who range in age (but are on average 1-3 year olds, according to observations) to work; some children are very small and are still breast fed. Older children stay cared for at home and attend nurseries and schools. However, since women spend the entire day at a *galamsey* site and neglect child care, this has resulted in worsening of nutritional standards that is linked to reduced subsistence farming and preparation of food at home, which was pointed out by district nutritionist from the Ghana Health Services.

New *galamsey* activities in Birim North District have affected not only the women, who joined *galamsey* camps. It has become difficult to prevent their teenaged children from joining *galamsey* activities, although some families do not discourage their children as young as 14 from working as *galamsey*, sieving and washing sand and gravel. School children, mainly boys, either go to *galamsey* site after school in the afternoon or truant schooling altogether. Some school leavers, instead of pursuing farming or further education, join *galamsey* mining. The main motivation for children, admitted by many interviewed parents and community members, is pocket money and peer pressure. According to one teacher consulted in Noyem, it is often not a parent who introduces children to *galamsey*, but children of the same age group who are already immersed in mining activity. Children working with *galamsey* are able to generate substantial amounts of money. Children, who earn money by performing washing and other activities in *galamsey* camps, usually keep earning for themselves, but some give money to their parents. For example, in Noyem, a school teenager was able to put up a compound within a house using wages earned from *galamsey* work.

Not all parents are content with children working with *galamsey*, and resulting school truancy and reduced school performance. Some parents have appealed to schools to stop their children from going to *galamsey* mines, while others resort to different measures by sending children to different schools in neighbouring towns such as Nkawkaw and other villages in desperate attempt to keep them outside of *galamsey* catchment area.

5.0 Discussion and conclusions

The common reason for women to join *galamsey* activities is a lack of productive employment in the area. Many women who try to engage in small-scale trading, food processing and services face difficulties in starting up their business due to lack of resources and limited access to loans and low cash flows in the communities. Many fail to reach wider markets with their produce such as food stuff, palm tree oil, etc.

Gender differences in enrolment for formal education have narrowed slightly since Independence but continue to persist particularly at higher levels. Drop out rates and literacy rates are still much lower for women than men. This continuing gender imbalance in access to education limits women's potential of getting employment and productivity (Baden et al., 1994). The meeting with *galamsey* women revealed that many women have received a primary school education, but have stopped schooling due to increasing economic pressures at home and loss of support for schooling from parents. Only a small group of women, among those approached at *galamsey* sites, admitted to have education higher than secondary school. It was also noticed that *galamsey* women have less fluency in English than men, possess lower educational training and fewer technical knowledge and skills and lack access to financial resources. This prevents them from participating in more lucrative areas of the industry such as trade, management and equipment handling and places women in dependable positions within small-scale mining.

It has been established that having a higher education level anywhere above primary school increases the possibility of women to participate in non-farm activities, such as

petty commerce as it is more rewarding in non-farm activities in rural areas. On the other hand, those with lower education, only with primary schooling are highly likely to stay in agriculture (Newman and Canagarajah, 2000). Increasing the levels of education amongst women in rural Ghana could improve their skills and level of participation in farming, trading and small-scale mining, thereby encouraging them to become more proactive in securing loans, developing businesses and improving the health of their families. However, there is a need to address many issues of public service provision in rural Ghana, especially in the areas of education and health services.

The engagement of women in *galamsey* mining is highly characteristic of conditions for workers in the informal economy, including absence of legal and social protection, limited access to public infrastructure and benefits; no effective representation and no voice at the workplace or in the socio-political arena (ILO, 2004). Moreover, employment in the illegal ASM sector is unstable, insecure, inconsistent, and short-term, often requiring long hours of work, but is also, given the low health and safety standards at sites, detrimental to health of women and their children. The case of Ghana's ASM mining shows that female participation in this new economic activity has brought many changes to the lives of rural households which affect other family members and particularly children, often in adverse ways (truancy, reduced educational performance and negative health impacts) and household economics (less subsistence farming and food processing). Given that *galamsey* mining is the only survival strategy, this places women in very vulnerable position. Female economic mobility in Ghana is very limited, and in small-scale mining, women often travel in a group, with relatives or connections. This could be a major constraint for women in rural areas to move along with the small-scale mining camps around the country.

In order to improve the position of women in artisanal and small-scale mining communities, there are three main areas that should be addressed by public policy, development agencies and nongovernmental organisations. First, to explore avenues to mainstream women's participation in the small-scale mining at all levels that could be incorporated in the existing government policy for regularisation and registration of illegal ASM activities. Second, it is necessary to provide women with alternative and

more sustainable income-generating opportunities, to draw vulnerable women away from hazardous and unstable illegal artisanal mining. Third, to strengthen to overall policies and strategies in areas of health and education, in order to improve the livelihood and empower the positions of women in the rural communities, where artisanal and small-scale mining activities are flourishing.

In order to improve the position of women in small-scale mining, the public policy needs to address the gender specific issues in all aspects of legislation, policies and procedures concerning the regularisation and registration of small-scale miners. Since women comprise up to 50% of the small-scale labour force in the world, much of which is illegal mining, there is a need not only to bring them into the legal field by registering and licensing as miners, but also provide them with opportunities to engage at all levels of the sector: gold traders, investors and licence holders. Policies addressing the needs of women in small-scale mining should also include training and education programmes designed to improve the technical knowledge and skills of women, who are willing to continue their participation in the artisanal sector, including education on health hazards of mercury and gold processing technologies.

Problems that women face in small-scale mining communities should be addressed not solely by gender mainstreaming in the ASM sector, but efforts should be also directed towards improving the livelihoods of women by developing mechanisms to support their non-farm and non-mining activities (such as trading and small businesses). The evidence from the Ghana case shows that many women use employment in artisanal mining as a way of generating money to invest in their small businesses, but this activity does not prove to be efficient method in terms of risks involved. Women abandon not only their trades, but farming, falling into dependency on artisanal mining. There is a great problem in accessing credit in African countries; instead, many female traders rely on informal sources of credit from relatives and relations, and on *susu* - a credit schemes and a popular source of loan (Newman and Canagarajah, 2000). There is a need to support female trading by providing them with affordable loans and educating women about access to loans and benefits of banking systems.

The case of Ghana *galamsey* communities shows that female participation in the ASM sector is highly hazardous not only for women themselves, but also for their children and families. In order to reduce the risks associated with small-scale mining that amongst which are health risks, economic dependency and social exclusion, there is a need to provide women with safer, stable and economically lucrative jobs outside of the current ASM sector. The challenge also lies in recognising and successfully developing local economic opportunities in rural areas that would involve production of goods or provision of services using local resources, markets and skills. One of the initiatives that could have immediate effect for improving the income-generation capabilities of women in the case of Birim North District would be an assistance in forms of affordable and flexible loans to start up food processing and preservation (such as palm fruit processing) and assistance in transportation of products and goods to larger market places.

Advancement of the overall educational level of women is undoubtedly a long-term task, but one that could greatly improve lives of women in small-scale mining communities. Greater education and training, improvement of literacy and language skills could assist women in positioning themselves within the ASM sector, improving health standards of their families, operating legal and financial systems more efficiently and seeking productive employment. Policy needs to address specific areas of education that can have more potent effects in tackling particular problems of small-scale mining communities worldwide, such as training for jobs in non-mining sectors, and environmental and health education. For example, in the case of Birim North District, investment in vocational school to train local residents could meet the demand for qualified workers in the public sector. Given high health risks in the small-scale mining, low health risks awareness, poor health practices as well as greater female responsibilities for child care, household and food supply, specific efforts are required to provide environmental and health education for women to change deficient practices for the benefit of all members of these communities.

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