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The Economic Impact of Corporate Social Responsibility on the Development of Indigenous Communities: Evidence from Ghana's Mining Sector

ABSTRACT

This study examines the socio-economic and environmental impacts of mining activities as perceived by communities in Ghana, with data being drawn from primary and secondary sources. A total of 90 community residents were interviewed, with 15 from each of six selected communities. The findings revealed a positive perception that corporate social responsibility practices of mining companies contribute to the development of mining communities in Ghana by creating jobs and generating income. However, it became clear that mining activities, particularly small-scale mining, create many social and environmental challenges as well. This includes land degradation, which reduces the fertility of community-owned land suitable for agricultural use. Additionally, pollution of waterways and streams intensifies the plight of community residents living in mining areas.

Since 2011, the mining industry has invested between US\$12 million (in 2013) and US\$44 million (in 2011) in Ghana's communities. The amount spent in 2019 was US\$24 million. The funds were spent by the industry in areas such as roads, education, health, and electricity, among others. Still, it seems more effort is needed by the mining companies to harmonise the CSR practice and gain better impression by local people.

Despite the mining industry's investment levels, more than half of the community respondents said it was insufficient. One-third of the respondents went as far as suggesting the mining companies had a negative impact on infrastructure improvement and community development.

INTRODUCTION

Society requires organisations to be accountable for the needs of their stakeholders (Freeman et al, 2010). Freeman states ‘... isolating “social issues” as separate from the economic impact which they have, and conversely isolating economic issues as if they had no social effect, misses the mark both managerially and intellectually’.

This fulfilment of societal needs has been referred to as Corporate Social Responsibility, or CSR (Lantos, 2001), a business strategy that has recently garnered widespread global attention. Queen (2015) argues that there is no contradiction between shareholder interests and taking into account the interests of all stakeholders. In a similar direction, Choudhary and Singh (2012) and Porter and Kramer (2013) noted that businesses can be successful and remain competitive if they contribute to society by creating jobs and improving people’s living standards in the communities in which they operate. This supports Freeman’s statement about the importance of understanding the interconnections between the economic and social forces.

This study examines mining companies’ corporate social responsibility activities in Ghana, their contributions to indigenous communities and economic development, as well as the residents’ perceptions of these activities undertaken by the companies.

This study will evaluate mining companies’ attempts to improve indigenous communities’ socio-economic development by reviewing their financial results and interviewing local people in various communities to ascertain their perceptions. The purpose of this study is to determine whether there is an interconnection between mining companies’ CSR efforts and community recognition.

The mineral extraction industry is one of Ghana’s economic development pillars (Down & Stocks, 1977; Aryee, 2001). Table 1 presents information on mining companies in Ghana derived from various resources.

Insert Table 1 here.

The data in Table 1 shows that most of the companies are foreign-owned and work mainly in gold extraction.

The mining industry generates significant amounts of foreign exchange earnings, contributes to gross domestic product (GDP), and provides revenue to the government through taxation and royalties (Aryee, 2001; Sarfo-Mensah, et al., 2009).

Insert Table 2 here.

Table 2 above presents the figures compiled from the Ghana Chamber of Mines for the period from 2011 to 2015, and shows that mining companies, as a sector, invested millions of dollars in community development financing projects, such as education and health, to improve the well-being of the mining communities. According to the Ghana Chamber of Mines (2014), the industry employed 12,382 people which contributed to a reduction in poverty (Aubynn, 2009).

To offer more context Table 3 presents figures per key mining companies to confirm the earlier observations in Table 2. After accessing the sustainability reports of those companies and comparing them to the overall production within the same period, we found that those

companies produce on average 81% of total production. As a result, we consider those companies to be industry leaders in the sector, but our research does not aim to evaluate each company individually. Nonetheless, it is worthwhile presenting those additional figures in order to align them with the information in the earlier tables and provide the reader with a more complete picture.

Insert Table 3 here.

On the other hand, there is a widespread perception that mining companies' activities have had a negative impact on the people living in these communities. Many stakeholders have claimed that mining companies have left their areas of operation in a deplorable state (Opoku-Antwi, Amofah and Nyamaah- Koffuor, 2012). Many communities have suffered from poor quality of life as a result of excessive pollution of water, rivers, and air (Wood, 1999) as the result of exploration, extraction, mineral processing, and operational decommissioning (WGEA, 2010).

As illustrated in Table 1, the majority of large-scale mining companies in Ghana are owned and controlled by foreigners. Ghanaian nationals are only allowed to engage in small scale mining (Akabzaa and Darimani, 2001). Since gold production represents more than 95% of the total production of mineral output in Ghana, as documented in Table 2, this study mainly focuses on gold mining as the mining sector in Ghana

This study particularly examines the extent to which mining companies contribute to the socio-economic development of the local communities in which they operate, and assesses the environmental impact associated with mining companies' activities. The study concludes by looking at mining community residents' perceptions of mining companies' CSR practices. The study covers mining communities in Kenyasi, New Abirem, Tarkwa, Wassa, Damang, and Bogoso.

The research addresses the following questions:

1. What have mining companies contributed to the socio-economic development of the indigenous communities in which they operate?
2. What are the impacts of the activities of mining companies on the indigenous communities?
3. What are the perceptions of the mining companies' CSR practices?

While the first three tables present secondary data from various resources, the researcher will take additional steps to incorporate indigenous people's perspectives, as explained in further detail in the following sections.

Corporate Social Responsibility

The literature suggests that the activities and actions of the various organisations have a significant impact on society (e.g. Du and Vieira, 2012), driving companies to implement Corporate Social Responsibility (CSR) activities to address the concerns of both internal and external stakeholders, such as customers, employees, suppliers, labour unions, and local communities (for example, Dawkins, 2004). Profit maximisation for shareholders should not be the only legitimate company goal; other stakeholders should also be recognised (e.g. Clarkson, 2005).

CSR was widely practised by 1953, when Howard R. Bowen published his book “Social responsibility of the Businessman” (Doucin, 2011). Many businesses have embraced CSR as a way of reducing the social and environmental impacts of their operations while also increasing social investment, particularly in developing countries (Utting, 2005).

Carroll (1979) defined CSR in four dimensions: economic, legal, ethical, and philanthropic or discretionary act. The economic dimension relates to issues of profitability; the legal dimension refers to doing what the law requires; ethical means engaging in fair and just business practices; and the philanthropic dimension is concerned with directing charitable resources to society. According to Porter and Kramer (2006), CSR creates more opportunities and competitive advantages. It is evident that CSR is a significant consideration for businesses.

Dashwood (2012) found that companies have moved away from the traditional profit maximisation orientation and have become more responsible in social and environmental issues. According to the UNECA and AU (2010), social responsibility initiatives in the mining and other extractive industries focus on the environment, social and community development, employment and labour, and human rights (p.128).

Mining and Corporate Social Responsibility

According to the International Council on Mining and Metals (ICMM), the mining and metals industry was in crisis by the 1990s. There was growing community unrest, civil society criticism, and broader public opposition, all of which posed a threat to the industry’s social licence to operate (ICMM, 2020).

In response, the Global Mining Initiative (GMI) was founded by a group of mining and metals CEOs. In addition, the World Business Council for Sustainable Development (WBCSD) launched the Mining, Minerals and Sustainable Development (MMSD) initiative. These initiatives resulted in the establishment of ICMM in 2001. The ICMM encourages companies to operate in a way that would be socially acceptable. It promotes ten principles for mining companies. These principles include social performance improvement and stakeholder engagement, both of which appear to be aimed at enhancing the industry’s social acceptability. Mining companies spend significant amounts in CSR initiatives, such as the LEAD Project (BHP contributed \$8.8 mls), the Devonshire Initiative (I Am Gold is a founding member), the Heart of Gold Fund (from Barrick Gold), and Zimele (from Anglo American) (Mining Global 2020).

The literature suggests that mining drives the economic growth of many countries (Campbell, 2012). Australia’s mining sector, for example, generates high exchange earnings to their government, contributing 35% of revenue from 2005 to 2011 (Corden, 2012). Canada’s mining sector employs more than 375,000 employees and contributes about US\$ 90 billion representing roughly 20% of export earnings. It also contributed US\$ 3.8 billion as tax and royalties to the government (Gratton, 2006).

There is evidence to suggest that in the developed world, there are strict rules that regulate and monitor the activities of mining companies, whereas in developing countries, legislation is rarely enforced (Hilson, 2012).

In Ghana, mining companies have been the main drivers in rural community development through the provision of schools, roads, hospitals, pipe-borne water, electricity, and other infrastructural domains. The mining industry's boom has increased investment in developing nations, such as Ghana, South Africa, and India. Another school of thought, however, argues that the activities of these mining companies have a negative impact on mining communities in developing countries.

Mining Companies' CSR Activities in Africa

Turner (2013) observed that over the past 20 years multinational mining companies have invested in the African continent due to the abundant endowment of natural resources. Africa has become the destination for multinational investment for mining companies since the continent is seen as the largest mineral resource deposit in the world. Gold, oil, gas, and diamond are very common in Africa (Turner, 2013). In Sub-Saharan Africa, Ghana contributes 70 per cent of the total gold production (Hilson, 2002). One-third of the gold produced in Ghana comes from Birimian rocks (Grubaugh, 2001). This mineral boom has attracted foreign direct investment. According to Standing (2014), in 2011, mining companies paid a total of US\$131.3million to the government as revenue, which constituted 14% of internally generated revenues. 10% of this revenue was transferred to the Office of the Administration of Stool Lands for the development of mining communities. In 2011, the Ghana Chamber of Mines Annual Report indicated that the mining industry contributed 27.61% of domestic revenue collection to the government, 38.27% of income tax, 40% of export revenue, and 14.4% of gross domestic product (GDP), and directly employed 14,257 workers (Ghana Chamber of Mines, 2011). Since the introduction of the government's economic recovery programme (ERP) in Ghana in 1983, the mining industry in Ghana has been the pillar of economic growth (Jonah, 1987).

Esau and Malone (2013) explored historical practices and developments on CSR initiatives in African extractive industry. They note that regulations governing the industry were typically not very stringent until 1990s. During that decade a significant amount of negative press emerged that focused on social and environmental impacts that mining, oil and gas industries in Africa were having on the local communities within which they operated. In 1995 Shell was accused of being complicit in the execution of activists in Nigeria. To rebuild its reputation Shell started producing CSR reports and undertaking various initiatives. As mentioned earlier, the mining industry started working on the Global Mining Initiative. This led to establishment of the International Council on Mining and Metals (ICMM). Ansu-Mensah (Ansu-Mensah et al., 2021) investigated stakeholder engagement in the gold mining company Newmont Ghana's CSR practices. The company's operations are based in the Ghana's Ahafo and Eastern regions. Interviews were conducted with 21 respondents, who included management, employees, community representatives, governmental agencies, and non-governmental institutes. The study focussed on the company's Ahafo operation.

The research found that Newmont's CSR initiatives include areas such as health, education, water and sanitation, poverty alleviation, rural development, environment, and agriculture.

Ansu-Mensah reported that Newmont have taken initiatives that have added and extended services offered at the Ntotroso Hospital. This hospital is located in the Ahafo region, where the company operates. The respondents expressed support for these initiatives in education which include adding classrooms, providing student resource packs, and sponsoring

educational events, for which the research found support among the respondents. This study found such support from respondents for Newmont's initiatives in other areas such as water and sanitation, poverty alleviation, rural development, and agriculture. According to the researchers, mining operations have damaged the forest. However, the report excludes comments from the respondents who are opposed to Newmont's initiatives.

Ansu-Mensah's study reported support for Newmont Ghana's CSR activities. The study focussed on one company, with 21 respondents including company managers and employees, as well as external stakeholders. However, there is a clear absence of any responses opposed to the company or its activities.

Essah and Andrews (2016) studied the CSR initiatives that were undertaken by the gold mining companies Goldfields Damang and Newmont. Their research included interviews with 52 respondents from a variety of stakeholder groups, including company managers, government officials, community members, youth leaders, and community representatives.

Essah and Andrews reported that the reasons for companies undertaking CSR initiatives include perception of profitability as well as government intervention in terms of policies and legislation.

The study reports that Goldfields and Newmont's CSR initiatives include a community development program that focuses on economic growth, wealth creation, improvement in quality of life, empowerment, and educational scholarships. Both of the companies have consistently received gold ratings on Ghana's Environmental Protection Rating Disclosure (also known as AKOBEN) from 2009 to 2012. The only exception during this period was 2011, when Goldfields did not receive a rating.

Essah and Andrews, however, also report that community members have raised concerns about pollution (air, water, and noise), inadequate compensation for land, mining-induced displacement, land degradation, and unemployment. The report quotes one respondent saying that mining activities pollute the water which leads to long term effects for generations to come.

Cronje (Cronje et al, 2017) analysed the experiences of the Zambia Copperbelt mining communities through the eras of colonial rule, nationalisation, and privatisation. During colonial rule, the copper mines in Zambia were owned by foreign businesses. In 1982, the Zambian government nationalised these businesses. From 1997, the government sold these mining businesses to private organisations, many of whom were foreign companies.

The researchers conducted interviews and focus groups with respondents including community members, mine workers, public service workers, NGOs, and politicians.

According to Cronje, during the colonial era, mining companies provided accommodation for their workers. There was also the provision of food, healthcare, and recreation facilities. However, the report claims that black Africans were subjected to discrimination.

Nationalisation saw significant change to the position. The study reports that during this time there was comprehensive welfare support from the company to the miners and the wider community. This provision included hospitals, roads, youth development programmes, and women's empowerment initiatives.

According to Cronje, when businesses began to be privatised in 1997, the new companies did not provide welfare support. According to the report, community members reminisced about the CSR activities that were carried out during the nationalised era.

As seen in the literature reviewed, there is significant difference of opinion regarding the contribution of CSR activities carried out by mining companies. Ansu-Mensah's study found support for the initiatives undertaken by the mining company. On the other hand, Essah and Andrew's study found both support and opposition to the activities carried out by mining companies. Cronje's study (in Zambia) found that when the mining sector stopped carrying out CSR activities, the community members missed the perceived benefits. Thus, one of the contribution elements of our study presented the two views and hoping that our findings will help in bridging any gap to lead to better practice of CSR within the Ghanaian mining sector. The next section presents the methodology inspired by the earlier discussion that we used to address the research questions and achieve our intended objectives.

METHODOLOGY

This study focuses on community members' perception of the impact of CSR initiatives undertaken by mining companies on the socio-economic development in Ghana. The study includes respondents from six mining communities New Abirem in the Eastern Region, Prestea, Bogoso, Wassa, and Tarkwa in the Western Region, and Kenyasi in the Brong Ahafo Region. These communities were selected due to their proximity to the various mining sites. Large scale mining operations for mineral resources with significant deposits of gold and diamond are located in these areas.

No attempt has been made to link the outcomes with individual companies and their activities as the study aims to capture the nature of CSR initiatives undertaken by the mining sector as a whole, rather than individual companies.

Structured interviews were conducted with the residents of the mining communities and surrounding areas to ascertain the perception of the companies' actions. In addition, within each site cluster a sampling approach was followed in order to ensure the sample reflects the diversity in each community.

Randomly selected respondents were interviewed from various backgrounds, including opinion leaders, assemblymen and women, elected unit committee members, employees of District Assemblies, and two employees each from the leading mining companies in Ghana (the six selected companies in the study). A cap of 15 for each community was applied, resulting in a total of 90 respondents.

As per the research ethics approval, we obtained the consent of all participants. All identities were kept anonymous. The interviews lasted for anywhere from 15 to 25 minutes. All the interviews conducted were recorded and later transcribed, enabling the interviewer to moderate the discussion. The need to record discussions was explained to all participants, who all agreed to participate, and to the recording of the interviews. After the completion of each interview, the recorded tapes were played back to the participants, for their approval. The interviews were then transcribed.

There were both male and female respondents, with twenty-three (24) representing 27 per cent, and sixty-seven (67) representing 73 per cent males.

Table 4 shows the gender distribution of respondents for each community. This reflects the gender distribution among Assembly members in the communities under investigation.

Insert Table 4 here.

The structured interview included the same questions for each participant. We addressed questions that link to the intended goals of the study, as per the research questions and based on the related literature review, and we made sure to capture answers for the same questions from each respondent. Table 5 summarises the questions posed to each respondent.

Insert Table 5 here.

As shown in Table 5, the questions are designed to elicit respondents' perceptions of mining companies' CSR practises and their social impact. Because there is a field to express agree or disagree, and then converting the answer it's either positive or negative practise per the underlying assumptions of each element, the researchers can run both qualitative and quantitative analysis. We intended to keep it simple because the goal was to collect responses without confusing respondents into engaging in a complicated response. Meanwhile, we allowed each respondent to provide a narrative for CSR practise that they find relevant, allowing us to quote responses and provide additional details to aid in better reflection.

Thus, the authors managed to collate all responses in one table with the percentage of each sub-category, as presented in Table 6.

Insert Table 6 here.

The results in Table 6 present the respondents' answers as a whole with two options for each statement, but we found there were respondents who did not form an opinion around certain statements, so we added 'no answer' as a third option to capture this.

The answers were then entered into the SPSS software to generate the results shown in Table 6, where we presented responses and percentages for each CSR practise as well as social impact. We then ran a Chi-square test to see if there were any differences based on Gender and Community to ensure that no one community or gender had a significant impact on the perception of any of the CSR practises.

In addition to our efforts to interview respondents and collect responses in the manner described above, there were also field observations at various mine sites to assess and evaluate the environmental effects of the mining companies' activities. Some of the infrastructural projects in the various communities and surrounding areas were observed and assessed for their social and environment effects on communities as a result of the mining activities. Sources of data include company websites, as well as annual financial and sustainability reports.

Results of the Study

As previously discussed, Table 4 presents the distribution of respondents per gender for each community. The 90 respondents from the six communities were distributed as 67 Male

representing 73% and 23 Female representing 27% of the whole sample, while the gender factor was selected on a random basis. The outcome was dominated by males, with most of the elected candidates being male.

Reading the gender distribution among the different communities shows that females were represented in each community.

The variation in gender figures as presented in Table 4 is still insignificant since using the Chi-square shows that the variations in the Male-Female ratio among communities are not significant with a high P-value (0.63), which shows that there are no significant variations among the gender representation for various communities.

Table 6 presents the results of the study. On average, respondents acknowledge that the mining companies' activities led to an increase in jobs (63%), and in income (82%). Looking at the secondary data related to the companies analysed in the study (Table 2) for the sector reveals that there was a decrease in the number of employees after 2012, with a greater impact on local people. Ghanaian's labour was used here as proxy for the local community. According to Table 3, the decline in 2015 compared to the peak in 2012 as the base year was more than 50% for locals but only 35% for expatriates; the same trend was observed in 2013 and 2014. The results in Table 3 show the same trend for the dominant large mining companies, showing that local employees were more vulnerable. The figures show that for the period of 2013 to 2015, the number of local employees declined by 16%, 39%, and 51% respectively, while for the same period the decline for expatriates was 9%, 25%, and 36%. These findings may explain the decline in agreement that mining companies' activities improved local communities, as less than half of respondents agreed that mining companies' activities improved communities and improved infrastructure. In terms of the sufficiency of mining companies' contributions, the majority (52 percent) of respondents thought they were insufficient. From 2011 to 2015, the average contribution to communities by the mining industry was 0.05%, while the overall payment to the government was 10.8% of revenues. Similarly, the leading gold mining companies contributed 0.05% to community investment and 10.1% to government payments. The alarming results show that there has been a decrease in both payments to the government and investments in communities, with the lowest results for all categories since 2015. These figures show a decline in CSR practice by mining companies in Ghana, which is one of the contributions that need to be examined in greater depth on a company-by-company basis in a separate study.

While it is outside the scope of the study figures, it is worth noting that Table 3 shows a variation in the percentages of payment to the government and to local communities. This opens the door to further research on a company-by-company basis. Furthermore, these variations may explain a few differences relating to location, as different locations are supposed to be served by different companies, and variations in expenditure may reflect in changes in response among locations.

We ran a chi-square test at 5 per cent and then again at 10 per cent to provide more relevant insight. We found two differences at 5 per cent related to gender, and one difference at 10 per cent related to location/community.

The first is about income generation; the results in Table 6 show that indigenous communities in general recognise the positive impact of mining companies on income

generation in harmony across different sites and genders. For all CSR practise elements and their social impact, we used a level of significance of 5% for the figures listed in Table 6. Nonetheless, our results show relative differences at the 10% significance level, and when we ran the crosstab, we discovered that the respondents of Kenyasi, unlike other communities, have 35 per cent disagreement with this question that mining companies' activities that led to income generation, while the overall disagreement was only 12 per cent, highlighting the need to look at this community more closely in a future study for further investigation, despite the fact that the majority of the respondents are in agreement with the overall respondents from Kenyasi. The previous observations about variation among companies may indicate that different mining companies do not follow the same CSR practises for the local people.

Nonetheless, this is an important element because Essah and Andrews (2016) mentioned 'increased income' as an objective for Goldfields Ghana Foundation's SEED initiative. They report that the Foundation regards this objective as a success

The second is about the question of increased levels of prostitution: There was a difference at the 5 per cent level of significance, according to the Chi-Square test. Looking at the crosstabs output, it is clear that males and females respond differently to this point. Only 45 per cent of females agreed with the question, while 75 per cent of males did. To illustrate, 61 out of 61 respondents agreed with this question, with 82 per cent being male and 18 per cent being female. This demonstrates the variation, given that the male percentage is 73 per cent and the female percentage is 27 per cent of the total sample.

The variation in gender representation limits our ability to drive a better conclusion, but we recommend including more females in any future study to explore this element in-depth as there may be other factors that explain such variation.

The third point in Table 6 is about the question of rising levels of poverty. At the 5 per cent level of significance, there was a difference. This argument has been accepted by 80 per cent of males; however, only 50 per cent of females agree. To elaborate, 65 respondents agreed with this question, with 81.5 per cent being male and 18.5 per cent being female, demonstrating the variation, given that the male percentage is 73 per cent and the female percentage is 27 per cent of the total sample.

The fourth and last point relates to the increases in the community population. We end that all respondents agreed on this question. This suggests that the respondents agree that there is a strong association between mining activities and population growth in the local community. However, it will not be applicable to assess any differences as all participants' responses are the same.

Environmental Impact

This finding is based on the interviews. The purpose is to assess respondents' perception of the environmental impact of mining activities, such as land degradation, forest destruction, and pollution of water bodies in mining communities.

The majority of respondents indicated their dissatisfaction with the extent of damage that the mining companies caused to their land, forest, and water. The respondents indicated

that they had previously used their land for agricultural purposes, but the miners had now destroyed that land. About 90 per cent of the respondents stated categorically that most of the rivers and streams had been destroyed by the mining activities.

One of the respondents said:

In the past we used to drink water from our rivers and streams, but now we can't even use them to bathe. They have destroyed everything because of gold, and they even don't give us anything

We captured responses from an employee of a mining company, who said:

We agreed to the fact that the mining activities have destroyed some of the land the farmers used to farm, but they said that they still have enough land for farming.

Our participating respondents had all been residents in their community for at least eight (8) years, with the exception of mining company employees who had been in these communities for period of not less than three years.

Social Impact

This area is concerned with social implication as a result of mining operations in the catchment area communities. The respondents here focused on the cost of living, crime, prostitution, population increase, and employment. During the fieldwork exercise, the residents were interviewed about the social changes that the mining activities had brought to the community. Assessments were made and analysed on the following social impact areas.

High cost of living

The majority of the respondents indicated that since the mining companies began to operate in their communities, the price of goods and services, accommodation, and food items had increased drastically. 80 respondents (89 %of the respondents) said that the cost of living had increased. According to the respondents, these price increases are the result of the community residents believing that the mining company employees have enough money due to their good salaries, and they can afford to buy items irrespective of the prices charged. The other reason they gave is that the number of farming residents had reduced since the youth preferred to work for the mining companies instead of working on the farms, because they feel that the miners are better paid.

Ten (10) respondents (11 per cent) said that the higher cost of goods and services is due to economic hardships in Ghana in general, and not because of the impact of mining company activities.

Crime and Prostitution Increase

Two examples of social vices in the mining communities are crime and prostitution. 75 out of the 90 respondents interviewed (83 per cent) indicated that compared to the time before the mining companies were in place, the crime rate is now very high. They also stated that previously, the only crime they experienced was the theft of farm items, but never crimes

such as armed robbery. 60 respondents (67%) indicated that the rate of prostitution had increased in the communities since the mining companies had been in place.

During the interviews, it was revealed that the majority of women in these communities were unemployed and poor, so mining workers used money to influence them. Some of these women were married, and some of the young women turned to prostitution to make ends meet.

Poverty

Poverty levels have increased in communities, according to respondents from all of the communities, since mining began. This contradicts their expectation that mining would alleviate poverty in their communities. According to 65 respondents (72%), the level of poverty has increased since mining operations began.

However, 20 respondents (22%) indicated that the mining companies had improved their lives, while 5 respondents (6%) said that they could not tell if poverty had increased or not.

Population increase

All of the communities visited to interviews have seen an increase in population as a result of mining workers and people who have migrated to mining communities in search of work in the mining companies. All 90 respondents stated that there has been a significant increase in population in their communities.

Conclusions and Recommendations

This study has assessed residents' perceptions of the effect of mining activities on local communities from the natural environment and socio-economic perspectives. Under the natural environment, the study found that a large proportion of residents believe that mining activities have caused damage and destruction to the environment, such as pollution of water bodies, and removal of vegetation, etc. The socio-economic perspective revealed the impact that the mining industry has brought to the development of the Ghanaian economy. Residents reported that mining has created jobs and contributed to generating income for the local people. However, they also reported that mining has contributed to an increase in cost of living, crime rates, and an increase in poverty.

This study contributes to a better understanding of the mining industry's role in society, and its impact on socio-economic development and environment. Two main arguments emerged from the examination and evaluation of case studies. Some argue that mining companies have contributed to community development by providing jobs to locals and improving quality of life for community residents. Furthermore, mining companies generate revenue for the government through taxation and royalties. Some argue that the social and environmental costs outweigh the community benefits.

According to the findings, community residents believe that corporate social responsibility is merely lip service used to reduce government and social pressure. The mining industry provides thousands of jobs to mining communities as well as national development, but it is still viewed as insufficient by the local residents. Ghana's gross domestic product (GDP) and foreign exchange earnings benefit from the industry. Ghana's gold mining industry's practise of corporate social responsibility has resulted in infrastructure development in mining

communities. The authors documented various projects on the ground, such as new schools built by mining companies, but local people still expect more.

In Ghana, the majority of mining companies practise corporate social responsibility in order to improve the well-being of the community's residents. Because the companies adopted the concept of corporate social responsibility, the local communities granted mining companies a social licence to operate.

Corporate social responsibility combines two variables: corporate and social responsibility. Corporate responsibility is defined as profit maximisation, whereas social responsibility is defined as philanthropy, in which the community grants the organisation a social licence to operate in the community without any complications (Baker, 2001). It is undeniable that the mining industry is a significant source of revenue for the Ghanaian government. It promotes economic development and improves people's lives. The mining industry has made a positive contribution to economic development and growth. The industry employs a large number of people and provides infrastructure such as school buildings, roads, piped water, and other social amenities.

According to the study, corporate social responsibility currently comprises of voluntary activities carried out by organisations, but there is no binding regulation by law in developing countries, particularly in Ghana. Because the concept of corporate social responsibility is discretionary in comparison to legislation in Ghana, the lack of clear legislation governing the concept of corporate social responsibility creates a lot of confusion between communities and mining companies. Mining companies claim that they are doing what is necessary for communities, while residents claim that they cannot feel what mining companies are doing. Residents have negative perception of mining companies' socioeconomic contributions.

Along with the positive contributions to the development of the Ghanaian economy by mining industry, there are also negative effects on society and the environment.

The removal of trees and vegetation of topsoil by small scale mines has contributed to the erosion and reduction of soil fertility. The study further reveals social vices, such as an increase in the cost of living, and an increase in the rates of prostitution and crime. Most small-scale miners are not registered, and therefore it is often difficult for enforcement agencies, such as the Environmental Protection Agency or the Ghana Minerals Commission, to monitor and control activities.

The activities of these small-scale miners cause a lot of damage to the landscape. For example, the mismanagement of mercury during extraction creates health related diseases such as respiratory, tuberculosis, and skin diseases. The findings reveal major challenges faced by the communities due to mining activities. Most of the rivers and streams are polluted by small scale mining. This pollution increases the cost of water treatment, especially water for domestic use (Ghana Water and Sewage Company). This situation creates problems for people's livelihoods and the economy as a whole. Furthermore, mining pits are not reclaimed, and it is extremely hazardous to human health when it rains because it breeds mosquitoes that spread malaria.

Due to socio-economic development as a result of mining activities, the Ghanaian government has introduced methods to minimise environmental destruction. These

methods include the provision of District Centres through the Ghana Minerals Commission to advise small scale miners about mining best practices, and educate them about appropriate methods to reduce environmental damage. According to the respondents, there is an increase in the number of illegal miners “galamsay” as a result of youth frustration and dissatisfaction. Most of the mining companies have failed to provide the youth with mining jobs, claiming that the community residents are unskilled and uneducated.

The large-scale mining companies, with the help of the National Security Committee on Land and Natural Resources, try to keep small-scale miners from encroaching on their concessions, but despite all of this security, they continue to do so. The respondents confirmed the mining industry's contribution to communities through the provision of health, education, community support, and other social amenities, but they also raised concerns about it. Some respondents went on to say that mining activities have an impact on communities and that they should be screened on a regular basis. Organizations can only meet their profit goals with the help of their employees, and mining companies can only meet their production goals if the community grants them a licence to operate.

During data collection in the field, the study encountered some constraints that could not be overlooked. Firstly, it was difficult to obtain information about some of the communities. Some of the residents interviewed were unwilling to answer questions, and it took a long time to explain the purpose of the interview to them. Second, the time allocated for fieldwork was insufficient because the interview was only conducted for one month, but this has no bearing on the research's credibility.

This study focuses on the gold mining companies' Corporate Social Responsibility practises in terms of socio-economic development, and social and environmental impact as a result of mining activities. Future research could focus on diamond, manganese, and bauxite mining in Ghana. Such research would offer opportunities for a wider perspective, and we recommend studying the regional levels, as we found various differences, as illustrated earlier. Finally, we recommend extending the study to cover small size companies as such an approach will offer opportunities for a wider perspective.

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Tables

Table 1
General Information on Mining Companies in Ghana

	Name	Mineral	Origin	Stock Exchange	Location	Ghana Government %	Concession size (km ²)	Licence Date
1	Chirano Gold Mine	Gold	Canada	Toronto and New York	Chirano (Western region)	10	36.34	April, 2004
2	Adamus Resources	Gold	Australia	Australia, Toronto and Frankfurt	Teleku-Bokazo and Nkroful (Western region)	10	75.7	Feb., 1995
3	AngloGold Ashanti	Gold	South Africa	Ghana, Johannesburg, New York, London and Australia	Obuasi (Ashanti region) Iduapriem (Western region)	1.7	599.24	Feb., 1988
4	Goldfields Ghana	Gold	South Africa	Johannesburg, New York, Brussel and Swiss	Tarkwa and Damang (Western region)	10	204.22	April, 1997
5	Golden Star Resources	Gold	Canada	Toronto, New York and Ghana	Prestea and Wassa (Western region)	10	382.07	Aug., 1987
6	Newmont Ghana	Gold	USA	New York	Kayasi (Brong Ahafo) New Abirem (Eastern region)	0	464.93	June, 2001
7	Perseus Mining Ghana	Gold	Australia	Toronto and Australia	Ayanfuri (Central region)	10	49.2	Oct., 1992
8	Prestea Sankofa	Gold	Ghana	Not listed	Prestea (Western region)	10	3.43	May, 1994
9	Ghana Bauxite Company	Bauxite	China	Not listed	Awaso (Western region)	20	29.39	Jan., 1997
10	Ghana Manganese	Manganese	Australia	Not listed	Nsuta (Western region)	10	175.94	Aug., 2001

Sources: Ghana Extractive Industries Transparency Initiative (GHEITI) 2014, Companies' Annual and sustainability report, and Ghana Chamber of Mines 2014.

Table 2

Key financial, % per year, and non-financial figures for Ghana's producing members companies (industry)(All figures in Millions of US dollars, except number of employees).

REVENUE-MINING	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)
GOLD	4,630 (96.9%)	5,309 (97.5%)	4,610 (96.3%)	3,842 (96.7%)	3,320 (97.7%)
DIAMOND	14 (0.3%)	11 (0.2%)	8 (0.2%)	11 (0.3%)	6 (0.2%)
MANGANESE	119 (2.5%)	98 (1.8%)	135 (2.8%)	91 (2.3%)	7 (2.1%)
BAUXITE	13 (0.3%)	28 (0.5%)	32 (0.7%)	29 (0.7%)	0
TOTAL REVENUE	4,779 (100%)	5,447 (100%)	4,786 (100%)	3,973 (100%)	3,397 (100%)
PAYMENT TO GOV'T	548 (11.5%)	614 (11.3%)	342 (7.2%)	347 (8.7%)	517 (15.2%)
COMMUNITY INVEST.	44 (1%)	26 (0.5%)	12 (0.25%)	21 (0.5%)	17 (0.5%)
EMPLOYEE:					
GHANAIS	14,022	19,955	16,819	12,148	9740
EXPATRIATES	235	313	284	234	199
TOTAL Employees	14,257	20,268	17,103	12,382	9,939

Sources: Ghana Chamber of Mines from 2011-2015.

1. Payment to government consists of corporate income tax, royalties and PAYE.
2. Community investment is referred to provision of education, health, water, rural, and electricity, etc.

There was no Bauxite production during 2015 due to the company closing down.

Table 3**Summary of individual mining companies' contribution to the development of Ghanaian economy (2011-2015)**

Year	2011	2012	2013	2014	2015
GOLD REVENUE	\$Millions	\$Millions	\$Millions	\$Millions	\$Millions
AngloGold Ashanti	801	772	642	547	495
Chirano Gold mines	414	498	388	355	302
Gold fields Ghana	1,464	1,477	1,110	931	876
Golden Star Resources	471	551	468	329	255
Newmont Ghana	869	874	957	1,166	935
TOTAL REVENUE	4,019	4,172	3,565	3,328	2,863
Community Investment	\$000	\$000	\$000	\$000	\$000
AngloGold Ashanti	3,264	2,542	1,499	356	338
Chirano Gold mines	1,300	2,800	2,100	1,600	1800
Gold fields Ghana	3,300	3,000	3,000	1,400	2,300
Golden Star Resources	370	380	330	270	260
Newmont Ghana	35,342	7,211	8,820	3,532	6,587
Total Community Investment \$000	43,576	15,933	15,749	7,158	11,285
PAYMENT TO GOV'T \$000	\$000	\$000	\$000	\$000	\$000
AngloGold Ashanti	65,289	39,090	30,221	23,010	11,300
Chirano Gold mines	44,200	106,300	63,600	66,700	65,500
Gold fields Ghana	247,000	244,500	96,100	77,600	79,200
Golden Star Resources	32,279	45316	11,083	16,205	12,903
Newmont Ghana	124,000	74,800	128,000	112,940	60,500
TOTAL PAYMENT TO GOV'T \$000	512,768	510,006	329,004	296,455	229,403
EMPLYOMENT					
AngloGold Ashanti	7,081	6,921	6,784	4,893	2,421
Chirano Gold mines	2,200	1,980	1,970	1,813	1,875
Gold fields Ghana	3,544	3,901	6,607	6,132	6,670
Golden Star Resources	2,550	2,360	2,112	1,886	1,579
Newmont Ghana	9,733	9,528	6,354	5,726	4,790
TOTAL EMPLOYMENT	25,108	24,690	23,827	20,450	17,335

Sources: Ministry of Finance, Ghana Extractive Industries Transparency Initiative (GHEITI) 2014, Ghana Chamber of Mines 2014, and individual companies' Sustainability and Annual Reports, from 2011 - 2015.

Table 4**Distribution of respondents according to gender among communities**

Community	Gender		Total
	Male	Female	
Bogoso	9	6	15
Damang	13	2	15
Kenyasi	12	3	15
New Abirem	10	5	15
Tarkwa	11	4	15
Wassa	11	4	15
Total	66	24	90

Table 5**STRUCTURED INTERVIEW QUESTIONS**

Community: _____

Gender: _____

No	Question	Answer (Agree/ Disagree)	Additional Comments
1	Do you think the existence of mining companies in your community creates more jobs for local people?		
2	Do you think the existence of mining companies in your community generates income?		
3	Do you think mining companies manage to improve the infrastructure in your community?		
4	Do you think your local community has benefited from the mining company in your community?		
5	Do you consider the contribution to your community by the mining company sufficient?		
6	Do you think the activities of the mining company harms the natural environment in your region?		
Social Impact			
7	Do you think the activities of the mining Company increases the cost of living in your region?		
8	Do you think the existence of the mining company increases the level of crime in your region?		
9	Do you think existence of the mining company increases the level of prostitution in your region?		
10	Do you think existence of the mining company increases the level of poverty in your region?		
11	Do you think existence of the mining company increases the population of your community?		

Table 6

Perception of Respondents on the CSR Practice of Mining Companies

CSR Practice	Positive Impact	Negative Impact	No Answer	Differences among Communities at 5%	Differences among Gender at 5%
1. Job creation for local people?	Yes 57 (63%)	No 18 (20%)	15 (17%)	No Significant Differences	No Significant Differences
2. Income generation for local people?	Yes 74 (82%)	No 12 (13%)	4 (5%)	No Significant Differences*	No Significant Differences
3. Improvement in Infrastructure?	Yes 43 (48%)	No 33 (37%)	14 (15%)	No Significant Differences	No Significant Differences
4. Community Development?	Yes 42 (47%)	No 34 (38%)	14 (15%)	No Significant Differences	No Significant Differences
5. Contribution Sufficiency?	Yes 18 (20%)	No 47 (52%)	25 (28%)	No Significant Differences	No Significant Differences
6. Harming the Natural Environment?	No 2 (2%)	Yes 81 (90%)	7 (8%)	No Significant Differences	No Significant Differences
Social Impact					
7. Increases the Cost of Living?	No 10 (11%)	Yes 88 (89%)	0 (0%)	No Significant Differences	No Significant Differences
8. Increases Level of Crimes?	No 5 (6%)	Yes 75 (83%)	10 (11%)	No Significant Differences	No Significant Differences
9. Increases Level of Prostitution?	No 11 (12%)	Yes 61 (68%)	18 (20%)	No Significant Differences	There was Significant differences at 5%**
10. Increases Level of Poverty?	No 22 (25%)	Yes 65 (72%)	3 (3%)	No Significant Differences	There was Significant differences at 5%***
11. Increases the population of the Community?	All the 90 of respondents representing 100% have agreed to this question by answering Yes			NA****	NA****

* Differences at 10%, further discussion added in the text.

, * Differences at 5% due per gender.

**** Not applicable as all respondents agree on the same answer.

Number of answers is 90. Percentage in brackets found by dividing the frequency figures over 90 for each category.