SURFACE MINING AND ITS SOCIO-ECONOMIC IMPACTS AND CHALLENGES

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Abstract

The mining industry remains the backbone of many economies in the developing world. Its resurgence in Ghana since 1989 was driven by the global paradigm which emphasizes private sector-led development as the engine of economic growth in developing countries. The historical importance of mining in the economic development of Ghana is evident in the country’s colonial name, Gold Coast (Akabzaa T. and Darimani A., 2001).

Ghana earned $2.5 billion from mineral exports in 2007. 20,000 people are employed in large-scale mining whilst 500,000 are employed in the small-scale sector. Mining contributes about 7% of Ghana’s total corporate tax earnings, 41% of total exports, 12% of revenue collected by the Internal Revenue Service and 5% of Gross Domestic Product (Ghana Chamber of Mines, 2008).

Gold dominates the mining sector and the country is Africa’s second largest gold producer after South Africa.

Surface Mining, which refers to a method of extracting minerals from the earth by their removal from an open pit or borrow, requires a large tract of land for its operations (Wikipedia, 2008). There is therefore a continuous divergence of interest between land required for surface mining and other land uses such as farming and housing, among others.

In recent years, surface mining has been promoted in many mining countries because of the following reasons:

- Cost considerations compared to underground mining;
- Safety considerations, compared to underground mining;
- Low grade ore which requires processing huge quantities;
- Location of the ore bodies; and
- Competition among gold producing countries for investors.

This paper looks at the socio-economic impacts and challenges of surface mining by using Gold Fields Ghana Ltd. Tarkwa, Ghana as a case study. The company has a concession of about 208 sq km located in the heart of the Wassa communities in the Western Region of Ghana and undertakes surface mining like most of the other mining companies in the country. Gold Fields, Tarkwa mine produces 700,000 ounces of gold a year with the potential of increasing this output to 800,000 ounces after its current expansion programme.
Some of the effects of surface mining identified were:

1. Relocation/Resettlement of host communities and its negative effects;
2. Disturbance to Flora and Fauna;
3. Disturbance to Sacred Places;
4. Land Degradation;
5. Noise and Air Pollution; and
6. Water Pollution.

This paper sought to investigate the measures put in place by the government and the Gold Fields Ghana Ltd. to mitigate the above effects in order to ensure peaceful coexistence between the mining company and its host communities.

It concludes that most mining companies presume the provision of socio-economic development in mining communities will lead to the company securing a social license to operate. This however is not true but rather effective community relations combined with socio-economic development.

According to Gold Fields Ghana Ltd’s model, this involves continuous community engagement, conflict resolution and comprehensive environmental monitoring programme which will all lead to effective community relations. The strategies to ensure socio-economic development involves community development programme, livelihood restoration programme and community training and employment. All these will then lead to sustainable development which will ensure the company’s social license to operate. Gold Fields’ model is in line with the principles of responsible mining. With this model, the community feels they are part of the company and the social license of the company is guaranteed.

Gold Fields’ model, which has been tried and tested for the past five years, could serve as a template with suitable modification for local conditions for other mining countries where surface mines operate.

1.0 Introduction

The mining industry remains the backbone of many economies in the developing world. Its resurgence in Ghana since 1989 was driven by the global paradigm which emphasizes private sector-led development as the engine of economic growth in developing countries. The historical importance of mining in the economic development of Ghana is evident in the country’s colonial name, Gold Coast (Akabzaa T. and Darimani A., 2001).

Ghana earned $2.5 billion from mineral exports in 2007. 20,000 people are employed in large-scale mining whilst 500,000 are employed in the small-scale sector. Mining contributes about 7% of Ghana’s total corporate tax earnings, 41% of total exports, 12% of revenue collected by the Internal Revenue Service and 5% of Gross Domestic Product (Ghana Chamber of Mines, 2008).
Gold dominates the mining sector and the country is Africa’s second largest gold producer after South Africa.

1.1 Objective

The objective of the study is to assess the socio-economic impacts and challenges of mining, using Gold Fields Ghana Ltd., which is the leading producer of gold in Ghana, as a case study. The company is located in Tarkwa in the Western Region of Ghana.

The study specifically looks at the measures put in place by Gold Fields Ghana Ltd. to ensure its social license to operate.

2.0 Surface Mining

Surface Mining, which refers to a method of extracting minerals from the earth by their removal from an open pit or borrows, requires a large tract of land for its operations (Wikipedia, 2008). There is therefore a continuous divergence of interest between land required for surface mining and other land uses such as farming and housing, among others.

In recent years, surface mining has been promoted in many mining countries because of the following reasons:

- Cost considerations, compared to underground mining- The cost of mining inputs has gone up drastically in the last two decades. The price of fuel, power, chemicals and other consumables have all increased sharply during the last decade or two. Comparatively, surface mining is relatively cheaper than underground mining. Also demand for power, especially in developing countries, far outweighs supply. There is therefore inadequate supply of power for mining in certain countries. Underground mining however requires significantly more power as compared to surface mining. In the face of high cost of mining inputs and inadequate supply of power, surface mining therefore becomes the favourable, cost effective and preferred option.

- Safety considerations compared to underground mining- There is also low numbers of accidents and fatalities as compared to underground mining. An example is depicted in the Table 1.
Table 1 - Lost Day Injury Frequency Rate (LDIFR) and Fatal Accidents in Selected Gold Fields' Mines (2007)

<table>
<thead>
<tr>
<th>TYPE OF MINE</th>
<th>UNDERGROUND</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOLD FIELDS’ MINE</td>
<td>KLOOF</td>
<td>DRIEFONTEIN</td>
</tr>
<tr>
<td>LDIFR</td>
<td>15.4</td>
<td>12.97</td>
</tr>
<tr>
<td>FATAL ACCIDENTS</td>
<td>13</td>
<td>11</td>
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</table>

Source: Gold Fields Ltd., Annual Report (2007), Pg. 103

It is evident in Table 1 that the Lost Day Injury Frequency Rate (LDIFR) is higher in underground mines than in surface mines. Also, there are high numbers of fatal accidents in underground mines than in surface mines.

- Low grade ore which requires processing huge quantities- The ore grade in Ghana, particular Tarkwa, is very low (average yield: 1.0g/t). Large volumes of ore need to be mined and processed for a small yield. In this situation the only option left for a successful and profitable mining is surface mining which is relatively cheaper.

- Location of the ore bodies- In some parts of the country, as in the Tarkwa area, the ore body is located very close to the surface, hence the need to undertake surface mining; and

- Competition among gold producing countries for investors- Three decades ago, when one talked about gold in West Africa, Ghana was the only country that came to mind. Today, the situation is different. Countries like Mali, Burkina Faso and Guinea are all gold producing or prospecting countries. This situation has created competition among these countries as an investor destination. Investors are easily attracted to countries whose laws allow surface mining.

2.1 Socio- Economic Impacts and Challenges of Surface Mining

Mining, it has been realised, affects environmental and social change no matter where it occurs. Mining-related disruptions can impact the physical environment and or local communities (Miranda M et al, 2005).

Some of the socio-economic impacts and challenges of surface mining identified are:
2.1.1 Relocation/Resettlement of host communities and its negative effects

Mining communities are compelled by law to vacate the land or are restricted to safe zones where the land is required for mining purposes. There is invariably conflict between mining companies and their host communities. The main problem is with enumeration of properties and rate negotiations. Furthermore there is also difficulty in acquiring suitable alternative land for resettlement of communities.

Relocation of communities leads to loss of social ties, psychological problems and disturbance to the communal way of life.

To allow for surface mining in the Tarkwa mine, twenty thousand (20,000) people had to be financially compensated or resettled in a different environment altogether. The loss of social ties and disturbance to the communal way of life is a problem that the company is still battling with. Fig. 1 shows a ‘before’ and ‘after’ situation of a resettled community.

![Resettlement Community](image)

**Fig. 1- Resettlement Community**

Before Resettlement  
(Old Atuabo)  
After Resettlement  
(New Atuabo)

2.1.2 Disturbance to Flora and Fauna

Flora and fauna are disturbed due to activities of mining companies. Examples are destruction of vegetation, removal of topsoil and stream diversion. These activities also lead to water turbidity, disturbance to the ecosystem, especially wildlife and loss of farmlands.

2.1.3 Disturbance to Sacred Places

In all Ghanaian communities, there are ancestral places such as shrines, cemeteries and sacred places that bind the inhabitants culturally and spiritually. However, it may become necessary sometimes to have these ancestral areas relocated. This, in most cases, results in conflicts between surface mining companies and their host communities.
In instances where such conflicts need to be resolved by paying compensation for the
disturbances, it becomes very difficult to quantify and measure the level of discomfort or
inconvenience or disturbance caused to allow for fair and equitable compensation. A
picture of a shrine in Tarkwa is shown in Fig. 2.

**Fig. 2- A Relocated Shrine at Tarkwa**

It is often the impression that no amount of money can pay for the cultural and spiritual
implications of exhuming bodies or for moving gods (idols) on a mine’s concession. The
truth in this argument is obvious and it poses a great challenge for both the company and
the host community.

2.1.4 Land Degradation

Land degradation occurs during construction, mining and processing stages of surface
mining. A picture of a degraded land is shown in Fig. 3.

**Fig. 3- Degraded Land**

During the construction stage, there is the removal of top soil and vegetation cover, stream
diversion and constructional blasting which all lead to land degradation.
There is also the removal of topsoil, blasting and excavation during the mining stage. The
above invariably mean the loss of farmlands and source of livelihood for the community
members.
During the processing stage, a large tract of land is required in the construction of tailings dams. Extensive rehabilitation is needed to make such tracts of land arable in future.

2.1.5 Noise and Air Pollution

Blasting and earth moving machinery cause a lot of noise in communities that are close to mining operations. Air pollution is also a problem in mining areas, especially in the dry season. This is usually as a result of dust from blasting and movement of vehicles, especially trucks.

2.1.6 Water Pollution

Streams are sometimes polluted as a result of mining activities. There are rare spillages which may result in fatalities. Most communities depend on these streams as their main source of drinking water.

3.0 Mining Communities

There are two types of mining communities. These are:

- Resettled communities - Surface mining requires a large tract of land for its operations at the expense of the host communities. In the process of acquiring land from the communities for their operations, mining companies pay compensation for all properties at the acquired areas and get settlements moved to give way for mining operations. Those compensated property owners, however, have the strong feeling of loss for crops, farm lands, lands for grazing, natural or serene atmosphere and surroundings with its attendant loss of certain plant species used for herbal medicines, sacred places including shrines and cemeteries as well as aesthetic values.

- Communities close to mining operations – Some communities are very close to the mines operations and bear the direct effects of the mines activities. These communities have had to adapt to living with high noise levels from machinery, blasting effect, dust and water pollution, among others.

Consequently, mining communities perceive mining companies that operate surface mining as intruders, usurpers, invaders, cheats, “you name it”! There is therefore the need to ensure a peaceful co-existence between mining companies and their host communities.

4.0 Mitigating Measures

It has been realized that although some degree of disturbance is inevitable even in the best-managed mines, nearly all negative social and environmental impacts are avoidable if companies would operate according to the best possible standards (Miranda et al, 2005).
The main challenge here is how to ensure that mining communities benefit from the presence of mining companies and to reduce the negative effects of mining in such communities. This, in recent years, has been termed ‘responsible mining’ and has been successfully campaigned by Civil Society Organisations all over the world.

According to the Mongolian River Resources (2008), responsible mining is a complete set of activities in the minerals sector, respecting the rights of all stakeholders, including local communities; environmental friendly; having no negative effects on human health; open; respecting the rule of law; and which contributes sustainably to the benefit of the nation. It further states that the principles of responsible mining are:

- Ensure multi-stakeholder engagement;
- Transparency and openness;
- Uphold law and its enforcement;
- Responsibility for the safety of people and the environment;
- Investment in future development;
- Ensure fruitful productivity and efficiency;
- Humane and ethical; and
- Based on advanced and modern technology.

This is in line with what Miranda et al (2005), states as the principles of responsible mining which are sustainable development, equity, participatory decision making, accountability and transparency, precaution, efficiency and polluter responsibility.

In Ghana, both the government and the mining companies have put measures in place to ensure that there is a win-win situation for both mining companies and their host communities. Acquiring a social license to operate is key to the success of any mining company.

### 4.1 Measures by the Government of Ghana

The government of Ghana has put in place certain measures to mitigate the above effects in order to ensure peaceful coexistence between the mining company and its host communities. Examples of such measures are:

- Minerals and Mining Law; the law provides the regulatory and legal framework of mining in Ghana. It promotes as much as possible, peaceful co-existence between mining companies, their host communities and empowers regulatory agencies. The law is periodically amended to address new challenges;

- Establishment of regulatory agencies such as Environmental Protection Agency, Minerals Commission, Mines Department, Water Resources Commission among others;
• Setting up of a Minerals Development Fund for community development; and

• Payment of taxes and royalties to the government for development of mining areas.

The catch phrase here is “responsible mining”. Agencies charged with ensuring responsible mining need to make sure the right thing is done to ensure sustainability while deriving the advantages of mining.

Unfortunately, as regards development, the mining communities have high expectations which the government is not able to meet. To fill this gap, most mining companies have therefore resorted to ensuring socio-economic development of their host communities by providing them with development projects in order to secure their social license to operate.

4.2 Gold Fields Ghana Ltd.’s Model

Gold Fields Ghana Ltd. is located in the Western Region of Ghana. The company has a concession of about 208 sq km located in the heart of the Wassa communities in the Western Region of Ghana and undertakes surface mining like most of the other mining companies in the country. Gold Fields, Tarkwa mine produces 700,000 ounces of gold a year with the potential of increasing this output to 800,000 ounces after its current expansion programme.

The vision of the company is ‘Tarkwa, the gold mining company of choice that delivers value to its stakeholders and cares for the environment’. An effective community relationship is key to achieving this vision. The company has a Community Relations Policy in place (Appendix 1) which shows the commitment of the company to effective community relations.

The company is strongly committed to its corporate social responsibility. According to the Ghana Chamber of Mines (2006), the responsiveness of mining companies to their social responsibility motivates them to contribute to the development of their host communities.

As part of the company’s commitment to responsible mining, it has collaborated with Newmont Ghana Gold Ltd. and the United States Agency for International Development (USAID) to come out with what is known as the Ghana Responsible Mining Alliance. The Alliance joins the industry and development expertise, experience and resources of the three organisations in a commitment to build prosperous, healthy and lasting communities in the mining areas of Asutifi District and the Tarkwa-Nsuaem Municipality and also develop a roadmap for responsible mining in Ghana. Gold Fields, Newmont and USAID view the Alliance as more than a programme or set of activities. It is a pledge to ensure the Asutifi and Tarkwa-Nsuaem communities are stronger, not weaker, because they are homes to mining and major mining companies (GRMA, 2007). The measures put in place by Gold Fields Ghana Ltd. to ensure its social license to operate are summarised in Fig 4.
Fig. 4: Gold Fields Ghana Ltd.’s Model
4.2.1 Effective Community Relations

Effective community relations are very important in achieving sustainable development. This is because the community members are involved in the decision making process. The measures put in place by Gold Fields Ghana Ltd. to achieve this are as follows:

4.2.1.1 Continuous Community Engagement

Community Participation in decision making is very important to the success of any programme. Community members are therefore engaged in every decision making process. Eight (8) communities that bear the direct effects of Gold Fields’ mining activities have been selected as the company’s primary stakeholder communities. Community Committees have been set up in each of the communities. These committees comprise the traditional leader, an elder, a youth representative, women’s representative and any other member that the community deems fit. Monthly meetings are held with these committees in order to understand their problems and develop ways of solving them.

A higher body, known as the Tarkwa Mine Consultative Committee, has also been formed. The committee comprises the political head of the Municipal Assembly (Local Council), the administrative head, the traditional leaders of the area, representatives of the various departments such as the Health Service, Education, Food and Agriculture, Water and Sanitation, Feeder Roads, Gold Fields Representatives, NGOs, including anti-mining NGOs, and a Representative from the Regional Administration. The committee meets quarterly and is responsible for taking major policy decisions that will help in the development of the primary stakeholder communities in particular and the Municipal Assembly as a whole. It is also a forum to update the Committee on the development projects being undertaken by the company in the communities and also to ensure that the Municipal Assembly commits themselves to manage such projects.

Community Fora are organised for each community quarterly. During such fora, community members are given the opportunity to ask questions, suggest solutions to problems etc.

Mine Tours are also organised bi-annually for the community members. The areas that are visited are usually based on major issues that need to be explained to the community members such as blasting, dust suppression, rehabilitated areas, tailings dam, mining activities, processing activities, cyanide management among others. Fig 5 shows a picture of a mine tour on rehabilitation issues for community members.
4.2.1.2 Conflict Resolution

Timely resolution of conflicts is paramount to effective community relations. A Crises Management Plan (Appendix 3) has been instituted and is being followed to help address crises/ complaints. Relevant stakeholders are invited to dialogue in order to resolve a particular conflict.

A Complaints Register is also kept and tracked to ensure that all complaints are resolved in the shortest possible time.

4.2.1.3 Comprehensive Environmental Monitoring Programme

A comprehensive environmental monitoring programme is in place and is being carried out by the Mine’s Environmental Department. Noise, Blast, Water Quality and Dust are all monitored to ensure that the company is within statutory limits. Any figures above the minimum requirement is investigated and resolved as soon as possible.

Regulatory agencies such as the Environmental Protection Agency and Mines Department also undertake independent monitoring exercises to ensure that the company is within acceptable limits.

The company is accredited with International Standards Organisation’s Occupational Health and Safety Management System (OHSAS-18001) and Environmental Management System (EMS- 140001).

The above three (3) measures have led to the company achieving effective community relations.

4.2.2 Socio-Economic Development

Implementation of Community Development Programmes, Livelihood Restoration Programme and Community Training and Employment are the strategies being adopted by
the company to ensure the socio-economic development of the primary stakeholder communities.

4.2.2.1 Community Development Projects

Gold Fields Ghana Ltd. is committed to ensuring sustainable development of its primary stakeholder communities. The company has since 1993, when it started operations, assisted its stakeholder communities by providing projects in the various sectors i.e. health, education, water and sanitation, alternative livelihood programme, among others. Initially, this was done in an ad-hoc manner when the company was just meeting the requests of communities. This however changed with the setting up of the Gold Fields Trust Fund in 2002 and later the Gold Fields Ghana Foundation in 2004.

The main objective of the Gold Fields Ghana Foundation is to ensure the development of the company’s eight (8) primary stakeholder communities. The Foundation was established when it was realized that the government was not doing much as regards development in the communities that are very close to the mine and that the company wanted the communities to get the direct benefits of mining. The Foundation is funded by $1 for every ounce of gold sold and 0.5% of pre-tax profits.

Also, some contractors on the mine such as Sandvik Mining and Construction, Mantrac Ghana Ltd., Caterpillar Global Mining, Shell Ghana Ltd., Engineers and Planners Co. Ltd., Banlaw Ghana Ltd., and Allship Ghana Ltd. have contributed either in cash or kind to the Foundations activities.

Fig. 6 shows community spending according to sectors from fiscal year 2002 to fiscal year 2008. The details of the expenditure are shown in Appendix 2.

**Fig. 6 - Amount Spent on Community Development**
From Fig. 6, it is evident that community development spending has increased drastically over the years. The company has to date spent $8.5 million in its stakeholder communities. The company is however less interested in the money spent in the communities but rather in the impact that this has on the community members. Expenditure on Alternative Livelihood Programmes has also been increasing over the years due to the current realization that there is the need to improve on the livelihoods of the community members.

In 2005, the company instituted what is known as the Sustainable Community Empowerment and Economic Development Programme (SEED). The SEED Programme is a five (5) year Community Development Plan for Gold Fields’ primary stakeholder communities.

Opportunities Industrialisation Centres International (OICI), an international NGO, has been contracted to help implement the programme in the communities.

The vision of SEED is to be a high impact, results focused, sustainable and integrated community development program that focuses on economic growth, wealth creation, quality of life improvement and empowerment through education, capacity building and infrastructure development, which will be a leading example for mine affected communities all over the world (OICI, 2005).

Gold Fields Ghana Foundation will spend about $1.5 million a year on the programme from 2005-2010. The major components of the programme are:

- Sustainable Agriculture/Animal Production - Training of Community Livestock Workers, Livestock Rearing, Vegetable Cultivation, Oil Palm Cultivation, Oil Palm Nursery and Cocoa Production;
- Health and Nutrition - Training of Community Health Facilitators, Construction of Clinics, Construction of Doctors/Nurses Quarters, Reproductive Health Training for Schools and Radio Programme on Health Issues;
- Micro-Enterprise - Batik Tie and Dye Making, Oil Palm Processing, Soap, Pomade and Powder Making, Bakery and Cassava Processing;
- Water and Sanitation - Training of Water and Sanitation Committees (WATSAN), Construction of Toilet Facilities, Provision of Refuse Disposal Facilities and Construction of Hand-Dug Wells; and
- Education - Provision of Scholarships, Construction of Schools and Teachers Quarters’ and Training of School Management Committees.

A lot of infrastructural projects such as schools, clinics, teachers’ quarters, wells and toilet facilities have been provided in the communities. A lot more emphasis is now on building the capacity of the community members to manage projects and improving their livelihoods.
Over two thousand (2,000) community members have benefited directly from the alternative livelihood programme. There are however about 10,000 indirect beneficiaries of the programme. Community Livestock Workers have been trained in each community to give veterinary assistance to the beneficiaries. A Quarantine Station has also been constructed to serve as an observation point for animals to be supplied to the beneficiaries. The Municipal Agricultural Office is involved in all agricultural projects in the communities.

Water and Sanitation Committees (WATSAN) have been established in all communities to manage water and sanitation facilities. Refuse Containers have been supplied to three (3) communities which are peri-urban. Working tools such as Wheel Burrows, Pick Axes, Gloves, Rakes and Pump Repair Tools have been given to each committee to be use for hand pump repairs and clean-up exercises. The Municipal Environmental Health Officer is responsible for the disposal of refuse in the communities and also helps monitors the activities of the WATSAN Committees. A picture of a WATSAN Training programme is shown in Fig. 7.

*Cassava and Oil Palm processing machines have been given to communities that have the raw material base for these activities. The Ghana Regional Appropriate Technology and Industrial Service (GRATIS) supplied the machines which are all in very good working conditions and are being effectively used by the beneficiaries. Inputs have also been given to Bakery, Tie and Dye and Batik and Soap Making groups for their activities. All the micro-enterprise groups have been linked to the First National Bank for micro-credit.*

Community Health Facilitators (CHFs) have been trained in all the communities to assist in giving first aid to the community members. Serious cases are referred to either the community clinic or the Tarkwa Government Hospital. The CHFs also provide Behavioural Change Communication (BCC) education and Maternal Child Health and Nutrition education in the communities. Abstinence Clubs have been formed in all schools in the communities. The teachers have been trained to educate the clubs in reproductive health issues. A health programme is also being sponsored on an FM station in Tarkwa. Health
related topics such as HIV, family planning, malaria, hypertension etc are discussed every week. Listeners are then asked to phone in to ask questions. The resource persons are from the Tarkwa-Nsuaem municipal office of the Ghana Health Service. Fig. 8 shows a picture of a Community Health Facilitator at a Behavioural Change Communication session with pupils.

**Fig. 8- CHF at a BCC Session with Pupils**

A Rapid Assessment was undertaken after the first year to assess the benefits of the programme. A mid-term evaluation of the programme will also be undertaken this year to assess the impact of the programme to date.

### 4.2.2.2 Livelihood Restoration Programme

Gold Fields Ghana Ltd. believes that compensation to displaced farmers should not only be in the form of cash but also the establishment of a programme to restore the livelihoods of the farmers. In line with this, the company does all negotiations with the active involvement of the traditional leaders who own land in the area.

In all compensation issues, the displaced farmers are given cash compensation and also alternative land by the traditional land owners (the Apinto Stool) so that they can continue with their farming activities. The farmers are then given hybrid oil palm seedlings to cultivate. The few who are not interested in arable farming are given livestock (Sheep, Goats and Pigs) to rear. All the farmers have already been given technical and managerial training under the SEED programme.

### 4.2.2.3 Community Training and Employment

It has been realised over the years that most members of our stakeholder communities lack employable skills. The company has therefore provided educational infrastructure in the communities in order to make education accessible to all. It has also initiated a scholarship scheme for students to study in the various levels of education such as High School, Vocational and Tertiary. There are currently 129 students on Gold Fields Ghana Foundation Scholarship.
School Management Committees (SMCs) have also been trained to better manage educational infrastructure in the communities. Vacation employment or industrial attachment is given to some of the students who are undertaking mining-related courses. As regards employment, contracts have been given to traditional leaders so they could employ community members. The company has also formed a Community Employment Committee that is responsible for employing community members on the mine. The Mine Employment Procedure has been revised recently to ensure that all vacancies (both the company and its contractors) are passed through the Community Relations Office so they could employ people directly from the communities. It is felt that with this new procedure, employment from the communities will increase drastically. Table 1 shows the number of community members that have been employed by the mine to date.

**Table 2- Employment in Communities**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent Gold Fields Employment</td>
<td>121</td>
</tr>
<tr>
<td>Contracts to Chiefs</td>
<td>451</td>
</tr>
<tr>
<td>Short-Term Employment</td>
<td>140</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>712</strong></td>
</tr>
</tbody>
</table>

It could be summarised that achieving sustainable development through effective community relations and socio-economic development would lead to the company achieving its social license to operate. This is because all issues and concerns of the community members are addressed in a timely manner. They are therefore respected and see themselves as part of the company.

### 5.0 Conclusion

It could be concluded that most mining companies presume the provision of socio-economic development in mining communities will lead to the company securing a social license to operate. This however is not true but rather effective community relations combined with socio-economic development.

According to Gold Fields Ghana’s model, this involves continuous community engagement, conflict resolution and comprehensive environmental monitoring programme which will all lead to effective community relations. The strategies to ensure socio-economic development involves community development programme, livelihood restoration programme and community training and employment. All these will then lead to sustainable development which will ensure the company’s social license to operate. Gold Fields’ model is in line with the principles of responsible mining. With this model, the community feels they are part of the company and the social license of the company is guaranteed.

Gold Fields’ model, which has been tried and tested for the past five years, could serve as a template with suitable modification for local conditions for other mining countries where surface mines operate.
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APPENDIX ONE
COMMUNITY RELATIONS POLICY

TARKWA GOLD MINE
COMMUNITY RELATIONS POLICY

The Tarkwa Mine vision is ‘Tarkwa, the gold mining company of choice that delivers value to its stakeholders and cares for the environment’.

The management of community and local industrial relations is conducted under the framework established within Gold Fields Ghana’s policies for human rights, ethics, and sustainable development. Gold Fields Ghana places a high value on support and endorsement of its activities by the communities in which it operates. Gold Fields Ghana is committed to adopting business practices that meet the needs of its enterprise and its stakeholders today, while protecting sustaining and enhancing human and natural resources for future generations.

In consonance with this vision, the following objectives are set:

- Conduct business responsibly and with due regard for the rights and legitimate expectations of host communities
- Recognize and respect community norms, aspirations and values at all times by treating communities in a sensitive manner
- Be open, honest and transparent in describing any potential effects the Company’s activities might have upon local communities
- To the extent practicable, maximize opportunities to local communities for employment and business opportunities
- Recognise and respect the culture, values and traditions of local communities
- Increase the communities’ understanding and awareness of the Company’s activities
- Operate an open-door policy to foster trust and good relations with the communities
- Assist communities, especially those in the Tarkwa Mine catchment area, to identify their prioritized needs and systematically address them in a sustainable manner
- Support the communities to undertake sustainable development and livelihood enhancement programs
- To liaise and collaborate with other interested parties such as the media, other mining companies, non-governmental organizations, as well as governmental agencies at all levels to foster and maintain cordial working relationship, and
- To periodically review and revise our community relations policy and procedures to improve effectiveness and maintain their relevance.

Johan L. Botha                     Ludwig Eybers
Managing Director       General Manager- Tarkwa Gold Mine
# APPENDIX TWO

## AMOUNT SPENT ON COMMUNITY DEVELOPMENT

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**GRAND TOTAL**
APPENDIX THREE
CRISES MANAGEMENT PLAN

COMMUNITY AFFAIRS AND PUBLIC RELATIONS DEPARTMENT
CRISIS MANAGEMENT PLAN

COMPLAINT/ CRISIS
Wells, Alternative Livelihood Programme, Crops Destroyed, Culvert, Polluted Stream, Social Disturbance, Noise, Defects in Community Projects etc.

RECORD KEEPING
Record complaint in Complaints Book, stating Date, Time, Name of Complainant, Complaint, Action Taken or to be Taken and Person Responsible

INFORM RELEVANT PERSONNEL
Inform relevant Supervisor/ Manager/ Department/ Government Agency/ Organisation etc. of the Complaint

INVESTIGATE COMPLAINT
Community Affairs investigate Complaint with assistance of the relevant Department/ Agency/ Organisation etc. and find ways of resolving it

COMMUNITY MEETINGS
Meet with Community Leaders and/or the Complainant to find ways of resolving Complaint

CONSULTATIONS
Consult all those to be involved in resolving Complaint, indicating the role that each one will be playing and the logistics required

FOLLOW UP
Follow up on resolution one month after event

RESOLVE COMPLAINT
Resolve Complaint, record Date in Complaints Book and inform Environmental Department to be included in their Report