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PREVENTING THE TRAGEDY OF THE EMERGING MINERAL RESOURCE BOOM IN NORTHERN GHANA: WHAT ROLE FOR CIVIL SOCIETY ORGANISATIONS?

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Abstract

Northern Ghana has become a hub for mining with both small- and large-scale mining actively taking place. Whilst some development experts see this as an opportunity to lift the poorest part of Ghana out of poverty, Civil Society Organisations (CSOs) and environmentalists are concerned about the negative effects of mining on community members. This study used a mixed research approach to assess the state of mining in Northern Ghana, CSOs capacity to play their watch dog role and the concerns associated with mining in Northern Ghana. The study established that the Minerals Commission has approved five large scale mining licenses, 112 small scale licenses and 162 prospecting licenses in the zone. The study further established the CSOs capacity to be weak as many of them did not have well developed programmes in the extractive sector and lacked understanding of the relevant principles, laws, tools, and indexes related to extractive industries. The key concerns included conflicts between small-scale miners and the large-scale miners, displacement of farmers from their lands and, child labour. The study concluded on the note to strengthen the capacities of CSOs in the extractive sector to enable them advocate for transparent and responsible mining practices in Northern Ghana.

Keywords: Environment, Extractive Industries, Mining, Northern Ghana, Civil Society Organisations

Introduction

Ghana remains a mineral rich country with gold, diamond, manganese, and bauxite being the main ones which are being mined by small- and large-scale mining companies. There are also deposits of iron ore, limestone, clays, mica, columbite-tantalite, feldspar, silica sand, quartz, and salt. According to the Ghana Extractive Industries Transparency Initiative (2019), the mining and quarrying sub-sector with oil and gas inclusive employed a total of 74,663 people above the age of 15 years out of Ghana's workforce of 12.5 million people. According to the same source, in 2017, the mining sector contributed 6.0% to the national

Gross Domestic Product (GDP). Minerals exports also accounted for 42.7% and 37.7% of the total merchandise export in 2017 and 2018 respectively. This therefore clearly shows that mining could contribute to the rapid development of Ghana and the narrowing of the deepening spatial inequalities in the country. This is important because the increasing spatial inequalities, if not addressed, have the potential to undermine democracy and even stimulate violent conflicts. In Ghana currently, the existing inequalities between the northern and southern parts of the country, as well as within the peri-urban areas in southern

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Ghana, the traditional fisher communities along the coast, former cocoa producing areas in Volta, Central and Brong-Ahafo regions and mining towns that once thrived at the height of the extraction of precious minerals have become a source of concern to development experts. Therefore, mining in contemporary times ought not to further aggravate these inequalities.

Ghana is currently ranked as a Lower Middle-Income Country, but in the case of Northern Ghana, the average per capita income (GHS 4,241) of the people is below the national average (GHS 21,819). This is because productivity is lower in this part of the country as compared to the rest of the country. Foreign Direct Investment is less than 0.5% (UNDP, 2018) due to the poor status of infrastructure. Consequently, poverty rates are 3-times the national average and more than 60% of the extremely poor reside in the northern Savannah (GSS, 2019). The state underdevelopment of Northern Ghana has persisted for decades despite the area being endowed with the needed natural resources for sustainable transformational developments.

Northern Ghana's relative underdevelopment has been attributed in part to its dependence on small scale and rain-fed agriculture. For decades, commercial and export-led agriculture and minerals extraction have been largely limited to the southern part of the country. However, in recent times, there has been some limited exploration in minerals, oil and gas in Northern Ghana. These limited exploratory activities have already confirmed the existence of significant deposits of manganese, diamond, iron ore, gold, limestone, and clay. Northern Ghana lies within the Volta Riverain Basin and this presents the good prospects for onshore oil and gas production in Ghana. Currently, active exploration is on-going in the southern part of the basin. An emerging booming and thriving mining and oil economy in Northern Ghana will obviously come at a cost to the people and the environment. These will include water pollution, noise pollution, displacement of people from their agricultural lands, destruction of flora and fauna, particularly economic and indigenous trees such as shea, dawadawa and baobab which are not only sources of income for women but also used for medicinal purposes and other associated vices including sex trade to mention but a few. The questions to be answered are: what consultations are on-going to ensure local community participate and benefit from the emerging economy? what capacity

building activities are taking place for local organisations? and what structures are being built or strengthened to adequately engage with the new players in the emerging economy?

Already, over the last decade, both small- and large-scale mining is actively taking place in Northern Ghana. Among the large-scale mining companies operating in Northern Ghana are: Azumah Mining Resources, Shaanxi Mining Ghana Ltd, Cardinal Resources, Cassius Mining Ltd, Savannah Cement Company Ltd and many others. Whilst the country has the needed regulatory frameworks as in the Minerals and Mining Act, 2006, (Act 703) and the Minerals Commission established by Minerals Commission Act, 1994 (Act 450) to regulate the mining sector, there are institutional constraints. The Minerals Commission has limited offices and staff across the country. That is why the watch dog role of CSOs is important.

Statement of the Problem

The expansion of mining activities across Northern Ghana has the potential to contribute to reducing north-south inequalities if done in a responsible and transparent way. Whilst the resources underground and in-land belong to the people, all the current ongoing mining activities are taking place without any effective consultations and agreements communities. Unlike Southern Ghana where most of the national CSOs platforms in the extractive sector such as the Civil Society Platform on Oil and Gas (CSPOG), the National Coalition on Mining (NCOM) and Ghana Extractive Industries Transparency Initiative (GHEITI) are based and active, the situation is different for Northern Ghana. Except occasional flyin visits by big CSOs based in the south, raising concerns intermittently, Northern Ghana Community-Based Organisations and CSOs engaged in the extractive sector are few, poorly organized and poorly resourced to support communities affected by these extractive activities. There is limited support to communities to claim better share of benefits and to protect their lands and water resources from the adverse effects of mining. In an environment where regulatory institutions are weak and suffer from political interference in the discharge of their mandates, and where huge challenges still remain with contract transparency principles and revenue management, the absence of well organized, coalesced and skillful CSOs to play the needed watchdog roles present

opportunities for unbridled rent-seeking behaviours by corporations, elite capture of resources and abuse of the rights of resource rich communities and the environment.

Purpose of the Study

The study is guided by the following objectives:

- 1. To deepen understanding on the state of mining in Northern Ghana.
- 2. To assess the capacity of CSOs in the mining sector in Northern Ghana.
- 3. To understand the emerging concerns in the mining sector in Northern Ghana.

Research Questions

In order to provide shape and structure to the research, the following questions were posed.

What is the state of mining in Northern Ghana?

- 1. Do CSOs have the capacity to play their watchdog role in the mining sector in Northern Ghana?
- 2. What are the emerging concerns in the mining sector in Northern Ghana?

Transparency and Accountability in the Extractive Sector

A country's natural resources including gas, oil and minerals belong to the people. Their extraction should therefore benefit the people in terms of socioeconomic development. The management of natural resources is important, because if not done well could result in negative environmental impacts, illicit financial flows, and conflicts (https://eiti.org/). Therefore, openness and transparency in the way a country manages its natural resources will determine the extent to which citizens benefit. The Sustainable Development Goal (SDG) 16.5 seeks to substantially reduce corruption and bribery in all its forms and SDG 16.6 admonishes countries to develop effective, accountable, and transparent institutions at all levels. However, many regulatory bodies in Africa are weak and unable to prevent capital flight due to tax avoidance, bribery, corruption, and illegal commercial practices. UNCTAD (2020), estimates the cost of illicit financial flows to African countries at US\$88.6 billion a year, far more than official development assistance to these countries. In order to deepen transparency and good governance in the oil, gas and minerals, the Extractive Industries Transparency Initiative (EITI), was adopted by 55 countries. The EITI has a set of 12 global standards referred to as the EITI principles that countries have signed up to promote good governance and transparency in the oil, gas, and minerals sector. EITI principle 5 emphasizes the need for companies involved in the extraction of natural resources to be accountable to government by declaring revenues to governments.

Ghana is a signatory to the EITI, and the Ghana Extractive Industries Transparency Initiative (GHEITI) is actively monitoring extractive industries activities in Ghana. Ghana according to the EITI (2020) report, has made meaningful progress overall. However, some work is required to improve the level of disclosures from companies, the quality of data, and reporting of expenditures. The country's mining sector was also ranked 69 out of 100 points according to the Natural Resource Governance Institute (NRGI) Resource Governance Index for 2021. This represents a marked improvement over the 2017 score of 56 points. The report however, noted gaps in Ghana's revenue management capacity. The importance of transparency and accountability particularly in taxation, beneficial ownership and revenue disclosures by companies is important in Ghana. That is why the current Minerals and Mining Act, 2006 (Act 703) is currently under review to tighten the loose knots.

Sustainable and Responsible Mining

The advocacy for sustainable and responsible mining can be traced to the Brundtland Report (1987) that called for global action to ensure a balance in the use of environmental, economic and social resources to meet the development needs of both present and future generations. Therefore, sustainable, and responsible mining should meet the interests and needs of governments, companies, CSOs and communities. According to the International Finance Corporation (IFC), responsible and sustainable mining is about getting a balance among the financial, social, and environmental issues. It involves engagements with community members, respecting the fundamental human rights of people, ensuring transparency and accountability in mining companies' operations. The

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African Union (2009) in carving out its mining vision had sustainable and responsible mining at the centre stage. The Africa mining vision focuses on principles of equity, transparency and optional exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development. Sustainable mining is also central to the United Nations. The SDG 12.2 specifically demands that by 2030, nations should achieve sustainable management and efficient use of natural resources by 2030. Ghana has signed up to the

SDGs and is therefore expected to work towards the achievement of this goal by 2030 and the other sustainable mining principles.

The researcher based the study's conceptual framework on the International Council on Mining and Metals (ICMM) 10 Principles for Mining and Sustainable Development presented in Table 1.

Table 1: Ten Principles for Mining and Sustainable Development

S/N	Principle
1	Implement and maintain ethical business practices and source systems of corporate governance.
2	Integrate sustainable development considerations within the corporate decision-making process.
3	Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities.
4	Implement risk management strategies based on valid data and source science.
5	Seek continual improvement of our health and safety performance.
6.	Seek continual improvement of our environmental performance.
7	Contribute to conservation of biodiversity and integrated approaches to land use planning.
8	Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products.
9	Contribute to the social, economic and institutional development of the communities in which we operate.
10	Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders.

Source: ICMM (2003)

These principles have served as a useful guide to mining companies, governments, mineral rich community members and CSOs. However, despite the promulgation of these principles, adherence to them have been minimal because of the over focus of the mining companies on profit maximisation. Reports of negative effects of mining companies in Ghana are widespread. These include environmental degradation, pollution of water bodies, threat to ecosystems, and displacement of community members from farmlands. Regrettably, the current Minerals and Mining Act, 2006, (Act 703) does not adequately address issues of mining and sustainable development. (Tuokuu et al., 2019 & Akabzaa, 2009).

CSOs and Mining

The role of CSOs in community development has been well articulated several decades ago. However, multinational corporations and governments have often questioned the role, motivation and capacity of CSOs to adequately engage in the complex and commercial extractive sector. But the role of CSOs in extractive industries is clear. They play a catalytic role in community development initiatives in mining communities and serve as watchdogs over mining companies. CSOs have helped multinational companies to implement their corporate social responsibility programmes in mineral rich communities and have also

played mediation roles in resolving conflicts (ICMM, 2005). In Ghana CSOs have played a role in the implementation of the EITI. The EITI is a global initiative made up of multiple stakeholders including governments, CSOs and companies to promote transparency in revenue flows and reporting by companies in the extractive sector. Ghana signed onto the EITI in 2003. The GHEITI, Multi-Stakeholder Group (MSG) is co-chaired by representatives from the Ministry Finance and CSOs. The MSG prepares and publishes an annual report on the mining sector in Ghana. It deals with issues such as update of license databases; transparency in contracting, exploratory activities taking place, production going on; export prices and destination of minerals; beneficial ownership; state participation in the extractive sector; revenue collection, allocation and monitoring (GHEITI, 2019). This shows the level of involvement of CSOs in the monitoring of extractive industries in Ghana. According to Aghosa (2014), CSOs play several important roles in the extractive sector. These include agenda setting, public education and enlightenment, agents of change and social mobilization, monitoring and oversight, advisory functions: whistleblowing, feedback. These are obviously functions that are better performed by CSOs because of their human rights approach to development and focus on defending community rights from the powerful multinational cooperation. Improving access to information in the extractive sector is important for ensuring transparency and accountability. But it costs money and time to access information. That is why CSOs like the NGRI in Ghana goes the extra mile to publish two important reports periodically, the first being the Resource Governance Index for oil and gas and the second, Resource Governance Index for mining. These indexes rate Ghana's performance in the extractive sector and provide useful information for the advocacy actions of CSOs in the mineral rich communities. This is an important role being played by CSOs because governments and mining companies usually do not

consider access to information for community members as a priority.

The role of CSOs in the development of policies, laws and charters in the extractive sector is well known. In 2000, the United States and the United Kingdom governments, together with some extractive companies and CSOs prepared and published the Voluntary Principles on Security and Human Rights (VPSHR) to address the human rights and security challenges in resource rich communities. This clearly demonstrates the role of CSOs in the policy development space. The watchdog role of CSOs in the extractive sector has equally been recognized in Ghana. Under section 51 of the Petroleum Revenue Management Act (PRMA) 2011 (Act 815) which was enacted following the discovery of oil in 2007, a provision was made for the establishment of the Public Interest and Accountability Committee (PIAC). The membership of PIAC as indicated in section 54(1) (b) of PRMA includes "a member to represent civil-society organisations and communitybased organisations nominated by civil society". This is, therefore, a tacit endorsement by the people of Ghana that CSOs should play a watchdog role in safeguarding the revenue resources from the extractive sector for the country's development. In Ghana CSOs and CSOs' platforms including Third World Network-Africa (TWN-Africa), Centre for Public Interest Law (CEPIL), African Centre for Energy Policy (ACEP), Natural Resource Governance Institute (NRGI), TAMA Foundation Universal (TAMA Foundation), Integrated Social Development Centre (ISODEC), Wassa Area Communities Affected by Mining (WACAM), West Africa Network for Peacebuilding (WANEP), Ghana Integrity Initiative (GII) and Tropenbos Ghana (TBG), Civil Society Platform on Oil and Gas (CSPOG) and the National Coalition on Mining (NCOM) remain very active in the extractive sector. CSOs therefore have a role in all the stages of the life of a commercial mine as shown in Figure 1.

Figure 1: Sustainable Mining Phases

Prospecting Exploration Planning Development Production Transport Market Reclamation Closure

Source: Authors construct (2022)

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Whilst CSOs are well placed to contribute to the mining process, they do face some challenges. Aghosa (2014), observed that a major shortfall in CSOs participation in the mining sector is that they sometimes get divided and suffer from ego and internal strife which weakens their advocacy activities. This phenomenon has been observed in the CSOs in the extractive sector front in Ghana. Whilst the momentum to stop the Ghana National Petroleum Corporation (GNPC) from acquiring stakes in the Aker Energy and AGM Petroleum Ghana oil blocks was initiated by fifteen CSOs, the enthusiasm has dwindled with members accusing each other of compromising their collective position for alleged financial gains. This means CSOs need to be guided by ethical principles if they are to remain credible in their engagements with the mining companies and governments. Similarly, most of the strong and technically equipped CSOs are based in the major cities and not really at the hub of the mining or oil operations. Rather, CSOs which are based in the mining communities are weak and lack the capacity to engage in high level technical discussions with the mining companies. There is therefore the need for capacity building for community based CSOs in Ghana.

Methodology

The location for this study was the five northern regions of Ghana made up of the Savannah, North-East, Northern, Upper East, and Upper West regions. This part of the country represents 54% of the land mass of Ghana (SADA, 2016). Both small scale mining and large scaling mining activities are currently on-going in these regions. Given the peculiarities of Northern Ghana with respect to mineral deposits, experience in mining and capacity of regulatory agencies, a case study approach was found to be the best approach for

this study. This made it possible to delve into the challenges facing the emerging Northern Ghana mining economy and implications for the environment and community livelihoods. The study also made use of both quantitative and qualitative research methods to collect and analyse data. The researchers purposively selected both international, national and community based CSOs and public institutions for the study. These included forty (40) local and national CSOs, three international NGOs and three public institutions (Minerals Commission, Faculty of Natural Environment, and University Resources Development Studies, and the Northern Development Authority). The data collection tools included semistructured interview guides administered to the selected respondents using the following data collection methods: Key Informant Interviews (KIIs), Focus Group Discussions (FGDs), survey and Indepth Interviews (IDIs). Besides the primary data that was collected and analyzed, the researcher also reviewed expert presentations by the following organisations: Third World Network, CEPIL, NGRI, WACAM, ACEP, Minerals Commission and the Faculty of Natural Resources and Environment, University for Development Studies, and League of Environmental Journalists. These presentations were made at a TAMA Foundation partnership and capacity building workshop for CSOs in the extractive sector held in Tamale from 24th-25th August 2021.

Results and Discussion

The findings and discussion are presented under the following sub-headings: State of mining in Northern Ghana; CSOs capacity to engage in the mining sector and Emerging concerns from mining in Northern Ghana.

State of Mining in Northern Ghana

As alluded to earlier Northern Ghana is well endowed with precious minerals as indicated in Table 2.

Table 2: Minerals resources in Northern Ghana

Type of mineral	Name of mineral	Mineralisation belt
Precious Mineral	Gold	Bole-Nangodi Belt, Wa-Lawra Belt, Nadowli-Kaleo-Jirapa Belt, Bawku West and Talensi, Bolgatanga Belt

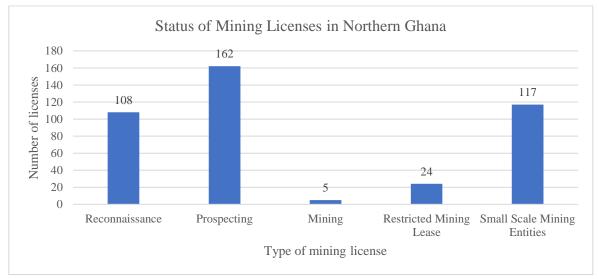
Base mineral	Iron ore	Zabzugu and Tatale (Sheini hills) Belt and Sissala East (Pudo)Belt
	Manganese	Mole National Park Belt
Industrial minerals	Limestone	Buipe Belt, Bango-Da Belt and Daboya Belt
	Granite	Talensi Belt and Pwalugu Belt
	Clay	Builsa North Belt, Builsa South Belt, Jirapa Belt, Lambussie Belt -Karni Belt

Source: Minerals Commission (2021)

The findings showed that both small-scale mining and large-scale mining activities were taking placed in the five northern regions of Ghana. There were also a lot of illegal mining activities popularly known as *galamsey* taking place.

The study established that the Minerals Commission has approved five large scale mining licenses, 112 small scale licenses and 162 prospecting licenses in the zone as shown in Figure 2.

Figure 2: State of mining licenses in Northern Ghana



Source 2: Minerals Commission (2021)

An interesting revelation from the study was that many of the 112 registered small scale mining companies were owned by foreigners, mostly Chinese and Indians. This has been the case since 2006, when the Minerals and Mining Act, 2006 (Act 703) Section 81-99 legalised small-scale mining and the Minerals and Mining (Support Services) Regulations, 2012 (L.I. 2174), also opened the doors in 2012 for foreigners to provide support services to mining companies. This period heralded the introduction of semi-mechanised operations involving the use of equipment such as excavators, bulldozers and washing plants among others into the industry. This also marked the beginning of serious challenges with land and water resources usage,

environmental degradation, farmland destruction, violent armed conflicts, and killings. The mining licensing regime in Northern Ghana as shown in Figure 2 shows that, in the not-too-distant future, mining will grow exponentially, if some of the 162 prospecting activities are concluded with positive results for active mining. That is why the capacity of CSOs involvement in monitoring mining activities needs to be strengthened to ensure they can engage the mining companies for a win-win arrangement.

Assessment of Northern Ghana CSOs Capacity to Engage in the Mining Sector

The mining sector is a complex one involving many actors in the upward, downward, and side ward linkages. CSOs, therefore, require some level of understanding and skill sets to be able to effectively engage with these companies especially the multinational corporations. This study examined the knowledge and skill level of the 40 CSOs which participated in the study along the following domains: knowledge of key extractive industries principles, laws, tools and indexes. Findings as shown in Table 3 showed huge gaps in the knowledge and skills of the CSOs in the sector. The gaps generally stem from the lack of training and capacity building opportunities for CSOs in the extractive sector. As shown in Table 3, between 92.5% and 100% of the CSOs not having received any training in relevant principles such as: Extractive Industries Transparency Initiative (95%), International Council on Mining and Metals

(97.5%), Free, Prior and Informed Consent (92.5%), Polluter Pays Principles (95%) and Voluntary Principles on Security and Human Rights (100%). For the two relevant laws in the mining and petroleum sector, between 92.5% and 95% indicated that they had not received any training on the provisions of the Act. In terms of knowledge and skills in the use of key extractive industries tools such as Strategic Impact Assessment (SIA), Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA), between 70% to 87.5% of them have not received any training and all, 100% of the CSOs said they have not been trained in the methodology to use for the assessment and interpretation of the Resource Governance Indexes used in the extractive sector in Ghana as presented in Table 2. This clearly shows the limitation of the CSOs in understanding the nuances of the extractive industries to effectively defend the rights of people in the mining communities.

Table 3: Northern Ghana CSOs Knowledge of Extractive Industries Principles, Laws, Tools and Indexes.

Knowledge/	Question	Response					
skill domain							
Extractive	Which of these extractive industries principles,	Heard		Read		Trained	
Industries principles	laws, tools and indexes have you heard, read and trained on since the last five years?	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
	Extractive Industries Transparency Initiative	15 (37.5)	25(62.5)	10(25)	30(75)	2(5)	38(95)
	International Council on Mining and Metals	10(25)	30(75)	3(7.5)	37(92.5)	1(2.5)	39(97.5)
	Free, Prior and Informed Consent (FPIC)	35(88)	5 (13)	20(50)	20(50)	3(7.5)	37(92.5)
	Polluter Pays Principles (PPP).	30(75)	10(25)	25(62.5)	15(37.5)	2(5)	38(95)
	Voluntary Principles on Security and Human Rights	32(80)	8(20)	15(37.5)	25(62.5)	0(0)	40(100)
Mining	Minerals and Mining Act, 2006 (Act 703)	40(100)	0(0)	15(37.5)	25(62.5)	3(7.5)	37(92.5)
Laws	Petroleum Revenue Management Act 2011 (Act 815)	40(100)	0(0)	10(25)	30(75)	2(5)	38(95)
Mining	Strategic Environmental Assessment	40(100)	0(0)	20(50)	20(50)	5(12.5)	35(87.5)
Tools	Environmental Impact Assessment	40(100)	0(0)	30(75)	10(25)	10(25)	30(75)
	Social Impact Assessment	40(100)	0(0)	30(75)	10(25)	12(30)	28(70)
Mining Governance	Resource Governance Index: Ghana (Oil and Gas)	40(100)	0(0)	2(5)	38(95)	0(0)	40(100)
Assessment Indexes	Resource Governance Index: Ghana (Mining)	40(100)	0(0)	2(5)	38(95)	0(0)	40(100)

Source: Field Survey (2021)

Emerging Concerns from Mining in the Northern Ghana

The findings showed that a number of environmental, security, livelihoods and health concerns were being expressed in the mining districts in Northern Ghana as indicated in Table 4.

Table 4: Mining Related Concerns in Northern Ghana identified by CSOs

Mining concerns	Current situation
Conflicts	Talensi concession disputes: The study observed that, in the Talensi district, there were conflicts between two small scale mining companies owned by indigenes of the district known as Yenyeya and Purbotabaa, joined by a host of other small-scale miners against a Chinese mining company known as Shaanxi mining company over concession rights. These have already resulted in street protests, physical and direct attacks on properties of Shaanxi Ltd, death of one local, and running conflicts with chiefs, opinion leaders and the youth. This state of insecurity and instability has affected economic activities including farming. The contestations over the access and control over these mineral resources in the Talensi gold enclave can only explode if not addressed.
	Gbani tragedy: The study uncovered that, in 2019, 16 miners working for a small-scale mining company known as A.K.A. Kwesi Batanma died following an alleged blast by the Shaanxi mining company. This created a sense of insecurity in the area.
	Bole cross border conflicts: The study established that Chache in the Bole District and Kalba in the Sawla-Tuna-Kalba District were vulnerable to rebel activities from Ivory Coast. The respondents gave insinuations of mercenary activities as some of the rebels were available for hiring. In Kui and Dollar-Power, two illegal mining towns, the study showed that rebels were controlling the mining concessions and taxing people. The rebels also claimed the revenue which was used to finance their activities across the border. This issue is worrisome because of the potential for violent extremism in Ghana. Young people aggrieved by chieftaincy and land tenure disputes which are commonplace in Northern Ghana can, therefore, easily become grounds for radicalization and mobilisation for violent extremism activities.
Child labour and women rights	From the study, it was observed that children and women were very much engaged in the mining activities by the small scale and illegal mining companies in Gbane, Kui, Dollar-Power, Buipe, Lawra and other areas. Children and women were considered as cheap source of labour for the mining operations. Besides the concern of child labour, the study established that, the involvement of the children in the mining activities have compromised their education. A number of them eventually dropped out of school whilst others missed classes which affected their performance in the Basic Education Certificate Examination. In the study communities, women also did a lot of the work which affected their health and household responsibilities. The researchers were also informed of cases of sexual harassment and exploitation in these mining towns in Northern Ghana. It is obvious from the study that the economic and social costs of the mining operations in terms of producing a well-educated and technologically sound work force stand the risk of being compromised.
Loss of livelihoods	The study showed that, due to the mining activities in the Gbani area in particular, some community members had lost their farmlands. Economic trees, including shea and dawadawa, had also been cut down to make room for the mining. The study revealed that the compensations

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	paid were inadequate with no support for alternative livelihoods for the displaced farmers. The digging of pits all over the place and destruction of the vegetation had also affected the farming activities of the people in these areas. The study found that the drying-up of the Vea dam in the Bongo District was partly due to the unethical opening of the dam to flow downstream to the Bolgatanga Sirigu areas to be harvested for mining. This has affected the dam's capacity to support irrigation and fishing activities in the district.
Effects of mining and health related issues.	The respondents reported increasing cases of deafness being recorded at the Bolgatanga regional hospital mostly from the mining communities in the Talensi district. This they attributed to the noise pollution from the heavy blasting in the area. Health experts are also worried about the short- and long-term effects of mining on the people. The respondents confirmed that prostitution was taking place in some of the mining sites, and this was a worry due to the link between commercial sex and HIV/AIDs. This fear has basis because the mining sites had become a melting point of cultures and people from all walks of life, including neighbouring districts, other parts of Ghana, the West African sub-region and Chinese whose HIV status was not known. The long-term health conditions, such as respiratory infections, cannot also be ignored. These health issues will further burden the health budget and productivity of Ghana.
Land use policy incongruities	Northern Ghana remains largely an agrarian economy. However, the study established that many of the important zones earmarked for large scale irrigation and commercial agricultural activities were also endowed with mineral resources. These included the Fumbisi Valley which when developed could irrigate up to 242,000 hectares and the Pwalugu Multi-purpose dam with a potential to irrigate up to 100,000 hectares (Ghana, SADA, 2016). The development of these irrigation projects will engender up stream, downstream and side stream agro-processing activities which could accelerate the development of Northern Ghana. From the study it was discovered that in 2019, Shaanxi mining company limited rebranded itself as International Group Ghana Gold Limited and was granted a license to mine in the Talensi-Nangodi enclave, which included communities within the Pwalugu Multi-purpose dam project zone. CSOs and community leaders are positioning themselves to advocate against any mining operations in this area that will compromise the execution of the long awaited Pwalugu Multi-purpose dam project which will also address the flooding associated with the spilling of the Bagre dam and produce relative cheap and clean energy for powering industries.

Source: Field Survey (2021) & Savannah Accelerated Development Authority, 2016

Conclusions

First, it can be concluded from the study that Northern Ghana is a growing mining zone in Ghana. In the coming years, increasing mining activity is anticipated if the 162 companies with prospecting licenses find minerals in commercial quantities. Second, the study shows that the economic and environmental effects of mining are already visible and creating tensions and insecurity. There were on-going conflicts between small-scale mining and large-scale mining companies especially in the Talensi District, radicalization activities at the Kui (Dollar) town in the Bole District, drying up of the Vea dam in the Bongo District and loss of economic trees, including the high valued shea in mining concessions and increase in reported cases of deafness in the mining communities. Third, it is obvious that, with the growing mining activities and associated tensions in this part of Ghana, there is the need for strong and technically competent CSOs to play their watchdog role to ensure responsible and sustainable mining. The findings, however, show that only a few CSOs had dedicated programmes in the extractive sector, with many lacking understanding of the basic extractive industries principles, laws, tools, and indexes. There is also no CSOs platform in Northern Ghana capable of articulating strong positions on mining activities in this part of the country as compared to those in the Western and Ashanti Regions of Ghana.

Recommendations

Based on the above conclusions, the Minerals Commission should review its licensing regime to empower communities to check abuses of mining firms. This is possible through supporting and building the capacities of Community Watch Committees and empowering them with the right diagnostic tools to understand abuses when they arise and report accordingly. It is also recommended that development partners and international NGOs should invest in strengthening the capacities of CSOs involved in the extractive sector in Northern Ghana. This will enable them to defend the rights of community members in the mining communities. An enhanced capacity of CSOs will also ensure that they will be able to play their watchdog role and advocate for responsible and sustainable mining. It is also recommended that the existing CSOs involved in the extractive sector should form a CSOs platform for natural resource governance for Northern Ghana. This will make it possible for them to share knowledge and information and embark on campaigns that will ensure sustainable mining in the area.

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