American Journal of Environment and Sustainable Development
Vol. 6, No. 3, 2021, pp. 94-106
http://www.aiscience.org/journal/ajesd

Human and Environmental Rights Vis-À-Vis the Impacts of Unregulated Artisanal Small-Scale Mining

Isaac Eshun[1, *], Thomas Prehi Botchway[2], Pamela Ekua Payne[3]

[1]Department of Social Studies Education, University of Education, Winneba, Ghana
[2]Department of Political Science Education, University of Education, Winneba, Ghana
[3]Centre for Conflict, Human Rights and Peace Studies, University of Education, Winneba, Ghana

Abstract

This study examines human and environmental rights issues in unregulated artisanal small-scale mining and its impact on the communities in the Mpohor District of the Western Region of Ghana. Mixed methods approach and descriptive survey design were employed in this study. Purposive and simple random techniques were employed to select 117 participants. Structured questionnaire and semi-structured interview guide were the instruments used for data collection. SPSS software was used to analyse the quantitative data, while thematic analysis was used to analyse the qualitative data. Findings of this study were that unregulated mining activities polluted most of the water bodies within the district. This led to the destruction of most farmlands and removed the vegetation containing important species supporting mans' survival. It also increased erosion and loss of viability for agricultural purposes, among other uses. Also, unregulated Artisanal Small-Scale Mining (ASM) denied residents the right to clean water, health, and arable land, displacing people from their natural residence and inflation occurring which negatively affect the wellbeing of the local population. Also, children engaged in mining and this deprive them of their education and spreading problems of psychological or behavioural nature such as alcoholism and prostitution. It is recommended that government should embark on education of the effects of unregulated ASM on the health, environment, and the livelihood of the indigenous populace, and its associated socio-economic impact on posterity. Also, the government can develop and invest in legalizing unregulated ASM and enforcing laws and policies to reduce the environmental hazards in the communities.

Keywords

Environmental Rights, Human Rights, Ghana, Mpohor District, Small-Scale Mining, Unregulated Mining

Received: July 21, 2021 / Accepted: August 13, 2021 / Published online: September 15, 2021

1. Introduction

Researchers and policymakers have long expressed concerns over the illicit activities of artisanal mining, yet efforts to tackle the somewhat irreversible impacts have inadvertently stalled [1]. It is mainly due to the multifaceted nature of small-scale mining. On the one hand, the environmental, social and economic cost cannot be underestimated whiles, on the other hand, systemic disparities in development evident in rural and urban regions to some extent justify such activities [2].

The adverse impact of mining, particularly artisanal mining (euphemistically called Galamsey) on sustainable development, has been well documented. A universal definition of ASM is not established yet [3]. The criteria for defining small scale mining differ from country to country. In Ghana small-scale mining refers to operations of individual Ghanaians or organized groups of Ghanaians (4-8

* Corresponding author
E-mail address: isaaceshun@uew.edu.gh (I. Eshun)

individuals), or a group often of more individuals, entirely financed by Ghanaian resources at a specific limit, and carried out on a full-time basis using simple equipment and tools [4]. It also refers to prospecting and mining in an area designated, and which uses specialized technologies and methods not involving substantial expenditure [5]. The "actors" in the artisanal mining sector at the local level constitute residents in the mining communities, migrants, nomadic peoples, seasonal subsistence farmers, and retrenched large-scale mine workers. The power dynamics in the ASM encompasses sponsors, gold buyers and landowners with collaborations with traditional authorities. The artisanal mining sector has non-compliance to environmental regulations, low level of productivity due to inadequate skills and qualifications of miners evident at all levels of the operation culminating in low income and salaries [3, 6], The application of rudimentary tools is highly prevalent in the artisanal mining sector [3].

A research by the Forestry Research Institute of Ghana and Council for Scientific and Industrial Research (CSIR-FORIG) revealed that unregulated mining impact on the environment, water bodies and agriculture [7]. Consequently, stakeholders have been called upon to address this menace. Ghana's mining sector comes in two main ways; large scale or corporate mining and small-scale mining. The small-scale mining, by law, is the preserve of the indigenous people who primarily do surface mining with pickaxe, hoes, and pans. However, a phenomenon of unregulated mining as part of small-scale mining has developed in the wake of a growing unemployed youthful population.

Galamsey is a term typically used to describe ASM activities in Ghana. The term galamsey was from the phrase "gather them and sell" [8, 9]. According to a report by a South African Human Rights Commission (SAHRC), experts and researchers working on ASM have divergent views on the term illegal and informal mining. However, there is no formalized or agreed on distinction on informal or illegal. Thus, be it illegal or informal has similar characteristics to artisanal and small-scale mining in other parts of the world [10]. Consequently, this study uses the term unregulated ASM as synonymous and interchangeable with informal or illegal or any ASM operating without a permit and outside the regulatory framework [11].

In Colombia, 3,600-6,000 mines operate without a permit [12]. Though the numerical strength and areas of operation of unregulated mining activities remain mostly unknown, Osei-Bagyina's estimate places the figure at approximately 100,000 to 200,000 [13]. Likewise, Abdulai, argues that an estimated 85 per cent of small-scale miners operate without a license [9].

A research conducted by an international NGO, reveals that unregulated mines produce 87 percent of Colombia's Gold [12]. According to the same research, there is a similar situation in Peru, where unregulated gold mining is estimated to generate USD 3 billion annually. Similarly, Abdulai, asserts that artisanal and small-scale mining (ASM) account for 60 per cent of the total mining labour force, providing employment directly or indirectly to over one million people [9]. Consequently, in 2013 gold export from artisanal and small-scale mining operations accounted for 34 per cent of Ghana's total gold export, which was equivalent to the total contribution of the three largest multinational companies in the country.

Even though unregulated mining activities serves as a source of livelihood, it is, however, a threat to the environment [14]. Agbesi, argues that the principal environmental problems emerging from gold mining are mercury pollution from gold processing and land degradation [15]. Thus, the alluvial mining techniques employed by the unregulated miners pollute rivers, streams and lakes [16]. When humans consume traces of mercury or inhale gaseous mercury, it endangers the central nervous system [15]. This assertion is confirmed by Abdulai, that, the Ghana Water Company warned that the spate of water pollution by unregulated ASM operators is approaching alarming levels and that the country risks importing water for consumption [9]. This claim is reiterated by Boadi et al., that, in most of the regions, large tracts of forests have been invaded and degraded by both mining companies and ASM operators. For instance, about 4.4%, representing 2.5 km^2, of the total area of the Offinso Shelterbelt Forest Reserve in the Ashanti Region have been degraded [8]. Also, the issue of the right to life comes to play as many unregulated miners die in their dugout pit as a result of walls collapsing and falling on them [17].

Most of their activities are done at the blind side of the public. To buttress that, Djurfeldt et al., assert that, galamsey operations are highly practised in the rural part of Ghana since their activities are illegal. Gold extraction begins mostly in the evenings [18]. The results of their activities are enormous in the environment, such as the loss of farmlands. To curb this unregulated mining menace, the Ministry of Lands and Natural Resources (MLNR) which is mandated to ensure the sustainable utilization of the country's resources has over the years instituted several measures. In 2012, a ministerial taskforce was formed by the government to fight the menace [19]. Then in 2015, mining committees were instituted at the various districts to monitor mining activities in their jurisdictions. Also, in 2016, the Mineral and Mining Act, 703 (Act 2006) was amended to give the police and the task force and their collaborators the legal authority and momentum required to seize the proceeds and equipment

(excavators) used for unregulated mining [17].

The recent effort by the government of Ghana to end unregulated mining in the country led to the forming of a joint task force named Operation Vanguard and the recent Operation Halt. With all these, however, unregulated mining still persists regardless of MLNR's effort to curb it. These approaches have yielded little desired benefits in terms of improving the standard of living of residents in mining communities. It appears the fight against unregulated mining activities has not incorporated a more sustainable approach [14, 20].

The study, therefore, sought to examine the human and environmental rights issues in unregulated ASM and its impact on mining communities in the Mpohor District of the Western Region of Ghana. The study was guided by this research question-What are the impacts of human and environmental rights issues in unregulated ASM in mining communities in the Mpohor District of the Western Region of Ghana? The study was delimited to the human and environmental rights issues on unregulated small-scale mining in the Mpohor, Banso and Community 9 communities in the Mpohor District of the Western Region of Ghana.

2. Literature and Theoretical Review

Theoretical perspective of this research is grounded on the Human Rights-Based Approach (HRBA). The first U.N. development agency to champion the HRBA in its programming is UNICEF [21]. The 1980s to the 1990s witnessed a move towards a more human-focused developmental process by UNICEF. Further, they stressed on the need to empower the vulnerable in the process of development instead of side lining of the poor [21]. As a result, in 1997, the then U.N. Secretary-General Kofi Annan launched a programme for reforms and called for integrating human right into all programs and activities of the U.N. systems [21]. Subsequently, a host of developmental agencies started adopting HRBA in their activities. However, in 2003 a common understanding on an HRBA was established in U.N. which allowed U.N. bodies, governments and NGOs to apply it to their developmental project. The guide stipulates that the realization of human right should be at the core of all programmes of developmental cooperation, policies and technical assistance as stated in the Universal Declaration of Human Rights (UDHR) and other international human rights instruments. The guide further instructed that all developmental cooperation and programming in all areas and all stages of the programming process should be guided by human rights and values derived from the UDHR and other human rights instruments. Arguably, all programmes of development cooperation should build capacities of duty-bearers to meet their obligation and right-holders to claim their rights [22].

A human rights-based approach is a conceptual framework based on international human rights standards to uphold and shield human rights in a developmental project [23]. Analytically, a human rights-based approach closes up the space between right holders and duty bearers through enhancing the understanding of their associations. Thus, human rights-based approach calls for the integration of international human rights standards to reinforce people's human rights in the very core of policies and developmental agendas. HRBA was simplified by incorporating the norms, standards and principles of international human rights law into the plans, policies and processes of development [24]. Gready and Vandenhole, widens the scope of HRBA framework by including its dependence on national laws, public and customary norms. On this note, HRBA implies using human rights as the foundation for formulating the aims for development cooperation [24].

Over the years, various approaches to developmental interventions were adopted. The initial approach embraced by developmental stakeholders was the charity approach, then to needs and now HRBA. All the approaches had their peculiar characteristics; the charity approach stressed the moral responsibility of the rich to the poor. The need approach highlighted on needs as a lawful entitlement. HRBA is more about identifying individual and group rights as lawful and moral claims to duty-bearers [25]. No wonder most states commitments to human rights are made more visible in applying HRBA in all stages of developmental intervention. Also, HRBA authorizes people to know and claim their rights by forming strong accountability so people can seek remedies when their rights are compromised [25]. It also analyses inequalities, redress discriminatory practices, abuses and unjust distributions of power that impede development progress [23].

Consequently, HRBA is an essential prerequisite for attaining good governance and reinforces the social contract between citizens and their governments [26]. That is why the government of Ghana and related agencies are relentless in curbing unregulated gold mining activities with their associate human right issues. In most cases, people's right to clean water, health and arable land through the activities of these miners is violated [27]. Therefore, until HRBA is used to fight this cancer, the unregulated mining menace would continue to hinder Ghana's development [28].

Noticeably, data on HRBA varies depending on the nature of the organization concerned and their area of operation.

Universal principles are summarized with the acronym PANEL-Participation, Accountability, Non-Discrimination, Empowerment and Linkage to Human Rights norms [24].

Participation here deals more with the mindset, where developmental projects cooperatively involve both duty-bearers and right holders.

Accountability implies calling on duty-bearers to account for their obligation. As HRBA empowers the right-holder to claim their rights, it also makes duty-bearers to accomplish their responsibilities [29].

Non-discrimination and equality: involve accepting that all human beings are equal and are entitled to their human rights without discrimination including sex, ethnicity, age, language, religion disability among others [30]. It is on this premise that the planning and operation of HRBA require exceptional attention to people in a vulnerable position in the project so that the plan does not enhance discrimination but guarantee all individuals in having equal access to the process and benefit of the project.

Empowerment is the manner of building the capability and self-reliance of residents to assist them in claiming their entitlements as well as becoming public actors and taking charge of their lives. Individuals are empowered to be in charge of their lives by furnishing them with awareness, expertise, an attitude that widens their alternatives and self-reliance [29]. Education plays a vital role in fully developing the human personality, empowering women, safeguarding children from exploitative and hazardous labour, and sexual exploitation, promoting human rights and democracy, protecting the environment and controlling population growth [31].

Empowerment is an essential principle in attaining development by right-holders themselves. Thus, residence feel a sense of ownership and actively participate in a project that will enhance change; because they have access to choices, assets, and abilities to transform their lives and lead their developments.

Linkage to Human Right: The principles of HRBA approach are geared toward the realization of human right. The HRBA as an approach is confidently grounded on international human rights being incorporated into development. Countries with ratified human right treaties are indulged to convert them into state laws so that human rights can be legitimately mandatory and the lawful duty-bearers are held responsible for accomplishing them [22]. Also, as HRBA guarantees to safeguard right-holders to claim their rights, organizations dedicated to this approach ensures that to realize one's human right no other right should be violated in the process.

Human rights have unique characteristics which make them different from other rights. These are natural/inherent, not exchangeable, universality, equality and feasibility. It is natural/inherent in the sense that none acquires it by any unique quality of reputation. It is not the charity of any person or any social system. Everyone is entitled to these rights [32]. Human rights being universal, stand out as the underlying value of rights and that everyone is entitled to all the rights and freedoms outlined in the UDHR. It has to be shaped by the social values, norms, culture and institutions. This helps shape the concept of environmental rights.

According to Hayward, man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and wellbeing, and he bears a solemn responsibility to protect and improve the environment for present and future generations [33]. The author also maintains that the natural resources of the earth including the air, water, land, flora and fauna and uniquely representative samples of natural ecosystems must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate. Hancock, recognizes this right by reiterating that the right to a healthy environment include the enactment and enforcement of more robust and more comprehensive environmental laws [33]. A level playing field should be ensured. There should be government and corporate accountability protection of vulnerable groups who currently shoulder a disproportionate burden of environmental harms and increased citizen participation in decisions and actions to protect the environment.

Opponents argue that any prospective advantages outweighed by problems such as the low likelihood of effectiveness redundancy with other rights negative implications for democracy, the excessive focus on individual's adverse effects on other rights anthropocentrism and the creation of false hopes. There is an absence of discussion on realizing the right to a healthy environment and these anticipated effects; either positive or negative. The debate has taken place in the absence of any empirical evidence about the actual effects of constitutionalizing environmental protection [34]. Hayward, in one of the leading texts on this subject, discounts the possibility of conducting such an assessment because of methodological difficulties [33].

This notwithstanding, illegal mining is prevalent in most African communities where minerals are found, and Ghana is not an exception. Illegal mining has been given a lot of media publicity and has created public concern on the perceived extensive damage it has caused to forest cover. It is estimated that about 300 000 to 500,000 Ghanaian artisanal miners work without an official license or illegally and they have contributed about $ 461.1 million to Ghana's economy since

1989 [35]. Thus, a significant contribution to mining revenue is made by the artisanal and small-scale mining sector whose operations are mostly classified as illegal [1].

The activity of illegal mining, which to a greater extent are not regulated and operate on a small-scale basis in the community, leads to severe environmental havoc and destruction. The most method employed is surface mining (of which strip mining is one form). The miners uncover the minerals by removing the underlying vegetation cover, rocks, and other strata. Also, enormous quantities of the vegetation cover are gouged out, inverted, and buried, converting the natural terrain into raw, bare, lifeless spoil banks [36]. Consequently, more enormous portions of the vegetation cover in the mined areas lose their properties to be used for any other purpose.

The nature of illegal mining is stereotyped. Women have always played critical roles in different stages of the operation. In Ghana, women often do the same labour as men in the gold industry. It has been noted that female participation in artisanal mining can be either direct (thus, direct engagement in mining operations) or indirect (thus, servicing the mine sites) [37]. Heemskerk, further described the roles played by women to include serving as panners, cooks, mining operators, nightclub entertainers, sex workers, and merchants, among other professions. While some women work marginal jobs, others are potent managers of multiple mining teams [38]. This distinctively shows that women occupy a distinctly marginal role in the management of small-scale mining operations. However, they are less involved in owning mining sites or in the decision-making positions as their male counterparts and owning concession [39, 40]. In most cases, women never work underground but predominantly engaged in panning, sluicing, and separation of gold [37, 40, 41].

Similarly, children have the role they play in the sector. ILO., notes that children perform all sorts of low-skilled tasks, including building trenches, carrying loads of gold ore on their heads to washing sites, washing the ore, amalgamating the gold using mercury, and selling the product [42]. Reports from the ILO indicated that small-scale mine operators principally engage children between ages 10 and 18 years old who are paid minimal daily wages. These children perform all sorts of low-skilled tasks. These tasks include digging trenches, carrying loads of gold ore on their heads to washing sites (done mostly by girls), washing the ore (done mostly by boys), amalgamating the gold using mercury, and selling the product [42, 43].

There are several implications of unregulated artisanal small scale mining activities. Unregulated ASM activities have several impacts on agriculture, human health, and movement (migration), environment, and others. Generally, agriculture is the dominant activity carried out where mining operations occur and serves as a principal livelihood for surrounding communities. However, the excessive spillage of chemicals such as cyanide and mercury affect crops and health threats to farmers resulting in unproductive farmlands [44]. The destruction of vegetation and farmlands by miners affect food security and also drives farmers from sustainable livelihood to other alternative income-generating businesses [45]. In this regard, alternative livelihood poses an environmental threat [43].

On the economic aspect, although high proportions of idle youths find solace at such mining site, the negative effect on food security is enormous [46]. Fertile expanses of land that are devastated and rendered uncultivable for an extended period of years deny the farmers' access to such scarce land, hence a general decrease in food production.

In most situations, the mined lands are degraded, which has a long- term loss on the ecosystem and overburden the land surface. Land degradation also directly affects losses of soil, organic carbon nutrients, and regulation and indirectly affects the loss of productivity and wildlife habitat. The 1992 Earth Summit has considered threats to sustainable development posed by land degradation and the 2002 World Summit on Sustainable Development; however, the response has been crippled [47].

Activities of mining and its consequences were recorded as degrading to the land and other resources significantly. The excessive removal from the mine area accounts for the reduced rain forest and fertile topsoil for cultivation. Also, among mining operations, blasting, or sophisticated machines results in destruction and generating of waste [48].

In Ghana, most lands are classified as low fertility and are subject due to degradation due to unwarranted mining activities. To sustain and restore crop production, proper soil management, and other natural policies should be enrolled to protect and preserve development. Ghana's endorsement and participation in the Stockholm Conference in 1972 and the Earth Summit in Rio signified environmental efforts toward sustained living conditions [49].

Boadi et al., estimated the influence of illegal mining operations within the Offin shelterbelt forest reserve in Ghana and its impacts on the livelihoods of fringe communities [8]. They noted that, within five years, illegal mining had degraded 2.5 km^2 (4.4%) of the total area of the forest reserve and had destroyed cocoa farms and water sources and that farming among respondents reduced from 90 per cent to 76 per cent after illegal mining.

Mancini and Sala, in their systematic review, also noted that

land competition could arise when mining projects are developed, endangering the wellbeing of the local population and leading to their impoverishment [50]. They noted that almost 30 per cent of the scrutinized studies report land expropriation, displacement, and resettlement of local communities. Again, they observed that mining could reduce the amount of arable land for the rural population, which implies a negative impact on livelihood and consequent food insecurity [50].

Also, other studies have documented how illegal mining activities impact lives and the environment as a whole [8, 51]. Tom-Dery, investigated the effect of illegal small-scale mining operations on vegetation cover of Arid Northern Ghana using Simpson's reciprocal diversity index [52]. They noted that mining significantly affected vegetation cover. In their further analysis, it was found that the Simpsons reciprocal diversity index of tree species at the mined area was 8.33 as compared to 10.8 for the unmined area. For shrub species, the Simpsons reciprocal diversity index was 8.33 for the mined areas while that of the unmined was 10.2. Additionally, the low mean density of 2.4 individual trees per 100 m^2 and 5.6 individuals per 100 m^2 was recorded in the mined and unmined areas, respectively [52]. This implies that, should such activities be left unchecked, the vegetation containing important species supporting mans' survival will go extinct.

Mensah et al., also focused on the mining activities' impact on the environment in Prestea in the Western Region, Ghana. They noted that those significant rivers in the area such as Ankobra and Asesree, which used to serve as the primary sources of water for domestic purpose in the surrounding townships, was heavily polluted by mining activities [51]. In the same vein, they found out that the mining operations especially that of the illegal small-scale mining, are carried out in the open air without appropriate safeguards and environmental standards and in the process releases contaminated water into the surrounding environment, thus polluting nearby rivers, soils and vegetation.

The findings from the study showed that mining activities, especially that resulting from illegal small-scale mining (popularly known as 'galamsey') deplete environmental resources such as water, soil, the landscape, vegetation, the ecosystem, among others. The study noted that significant rivers in the region had been heavily polluted, especially by illegal small-scale mining. Land in areas surrounding mines has been rendered bare and susceptible to increased erosion and loss of viability for agricultural purposes, among other uses. Also, they observed that increased clearing of vegetation for mining areas has adversely altered the hydrological regimes and patterns in the Western Region of Ghana. The authors further stress that, important soil organisms have been destroyed. Stable soil aggregates disrupted and eventually depriving the soil of organic matter and low levels of macronutrients and soil fertility necessary for plant growth and crop production [51].

Artisanal miners degrade vast expanses of forest, digging trenches and upturning of vegetation, which turns land bare and exposes to erosion [1]. It is estimated that 15,000ha of land are potentially affected by ASM activities [53]. Excavated lands and trenches are later become unsuitable for any other purpose, instead are seen as breeding area for malaria-infested mosquitoes as the lands are filled with stagnant water, resulting in excessive damages [1]. The impact is seen on the cracks and collapsing of buildings due to blasting to reach the targeted mineral deposit [46]. Deforestation involves cutting down trees and plantations, permitting galamsey operators to extract the minerals. The high risky nature of the job has led to fatalities in the mine sites due to uncovered pits, bad weather, etc.

Generally, galamsey operators are not educated and ill-informed about the procedural approach to mining activities within the country, making them deficient on the health threats that pose to them and also the unskilful nature of their activities poses a concern [46]. Environmental related problems from galamsey administratively have gained little attention, and efforts were made to curb and disseminate mercury retort in the 1990s [54].

In Ghana, most of the accessible rainforests are shrinking partly due to mining activities, and the situation is not different from illegal mining. From the country's original forest cover of 8.2 million hectares at the beginning of the 20th century, only an estimated 1.6 million hectares remain. The deforestation rate is 2.0% leading to an annual loss of around 135.000 ha [19].

Unregulated mining has also brought to the fray the issue of migration. As part of Ghana's history mining and mineral industry predates over centuries when ethnic groups used gold as an embodiment of power and influence of various tribal groups [55]. The introduction and expansion of the mining sector towards export product created a high demand for labour which indigenous people could not satisfy [56]. The mining industry in Ghana attracted labour migration during the pre-independence era. Migrants from Nigeria, Burkina Faso, and Mali engaged directly or indirectly in the mining sector with their skills ranging from skilled to semi-skilled also, shifted into the mining industry [55].

The issue of health is another impact the unregulated ASM is exerting on the lives of people in the mining communities. The mining sector is a very instrumental segment of the extractive sector. Still, it has one of the terrible

environmental consequences, especially among illegal mining, and having adverse effects on the livelihood and survival of resident communities [57]. Several illegal miners are dead as a result of their mining activities, and this continuous trend is a threat to society [58]. Additionally, the natural environment, which was somehow stable and safer in the past, has been threatened as a result of illegal or unregulated mining and all sort of extraction activities [59].

Although, mining operations add benefits to the people in mining communities, the adverse effects of health are immeasurable. A mineral deposit in the soil does not guarantee the wealth of miners [60]. The nature of mining operations is to exploit; therefore, it exploits not only the land but rather the human resource involved. The earth is mined for minerals, which in all its forms threaten, with diverse effects on human health in both large-and small-scale mining. Understanding the long-term implication of mining on the well-being of miners will help improve and mitigate the harm associated with mining.

OHCHR/WHO., defines health as a state of complete physical, mental and social well-being and not merely the absence of the disease or infirmity [61]. This definition indicates how productive one will be if one is physically fit. Health matters related to mining can be very sickening; the activities of mining mostly cause fire outbreak, explosion or collapse of buildings and mine tunnels. Miners usually get poisoned as a result of inhaling dust, and this causes the black lung disease which result in severe breathing problem. Usually, underground miners separating minerals from the rocks, mostly women and children are regularly involved in this section of mining, and it exposes them to these diseases. Chemical spills and heavy metals in the long-term lead to death. Again, heavy lifting, use of vibrating machines can affect the nerves and blood circulation. Working in a scorching environment without water can cause stress [60]. Children used for mining also have a high chance of getting affected by the dust from the mines.

Illegal mining activities infringe crucial effects on crucial persons involved. A study that compared socio-demographic profiles, work profiles and injury rates among miners working in licensed versus unlicensed small-scale gold mining sites observed 121 injuries among the workers [62]. In their further analysis, it was evident that the injury rate for those working in un-licensed mines was higher than their counterparts in the licensed mines.

3. Methodology

The pragmatist philosophy underpins this study. Pragmatism arises out of actions, situations and consequences rather than antecedent conditions [62]. In other words, pragmatism is concerned with what works when finding solutions to a problem, instead of strict adherence to positions as with positivism and interpretivism. Pragmatism, therefore, underpins the mixed methods approach to research and uses pluralistic approaches in acquiring knowledge. This research employs the qualitative and quantitative paradigms (mixed method) to explore human rights issues in unregulated ASM and its impact on mining communities in the Mpohor District in the Western Region of Ghana**.** Johnson and Christensen, argue that mixed methods research uses a method and philosophy that attempt to fit together the insights provided by qualitative and quantitative research into a workable solution [64].

The concurrent triangulation design under the mixed-method approach was then adopted as a means of data analysis and presentation. Creswell and Creswell, posit that researchers who are new to this approach most often think of it as just a combination of quantitative and qualitative data [63]. Though this might be true to some extent, he adds that in the concurrent triangulation mixed-method design, a researcher separately collects quantitative and qualitative data, analyzes them and then compares the results to see if it agrees with each other concerning a given phenomenon [63]. Using the mixed method research approach for a study provides strengths that offset the weakness of both quantitative and qualitative research approaches and provides more comprehensive evidence for studying a research problem than either quantitative or a qualitative research approach alone [63].

The population consisted of all police officers, EPA officers, traditional leaders, assembly men and officials of the Minerals Commission within the Mpohor District, who numbered five hundred and seventy (570).

Probability and non-probability sampling procedures were employed to select the sample in this study. Simple random sampling technique was used to select the participants for the quantitative aspect of the study. The reason for using simple random sampling was to remove biases. A total of one hundred participants were selected for the study. Purposive sampling was used to select participants for the qualitative aspect of the study. A total of seventeen participants were selected from the total population to partake in this aspect. The technique was chosen for the fact that it allows the researcher to attain enough information about the problem under investigation [65]. Krejcie and Morgan, pointed out that a sample should be large enough so that the validity and reliability of the data are achieved and proposes a sample of 30% of the population as being reliable [66].

The research instruments employed in gathering the data for

the study were questionnaires, interview guides and focus group discussions. Validity and reliability of the quantitative research instruments were also taken care of. Reliability of the questionnaire was determined through internal consistency of items where Cronbach's alpha coefficients were computed, and results revealed that coefficients of 0.76 indicated that the instruments were reliable. Also, trustworthiness (dependability and credibility) of qualitative instruments was assured.

SPSS was used to organize the quantitative data collected from the respondents into manageable data. It was done using simple percentages. Thematic analysis is the process that identifies analyses and reports the occurrence of themes in the data collected from the research areas. According to Braun and Clarke, thematic analysis follows six necessary steps.

1) Familiarizing with the data through thoroughly reading the transcriptions. This helps the researcher to have in mind what exactly is in the data.
2) Generation of initial codes. Putting labels or descriptions on a list of ideas developed from the transcription as already read by the researcher.
3) Searching for themes. Related codes are organized under different themes.
4) Reviewing the themes. The themes developed are reviewed for their relevance and legitimacy of being called themes.
5) Defining and naming themes developed. Defining the overall content of the themes and the message it carries in it before producing a report
6) Producing a report [67].

Reporting direct statements from research participants is essential because it helps to maintain the originality of data collected [65]. Also, researchers' view based on the informants' answers were given backed up by pieces of literature reviewed.

Ethics in research was strictly adhered to. Participants' confidentiality was ensured by destroying all the questionnaires and transcriptions after the work. Participants' anonymity was ensured by not disclosing any respondents name against the information given.

4. Results and Discussions

4.1. Demographic Characteristics of Respondents

Table 1 revealed that out of the total number of 117 respondents involved in the study, 75 (64.1%) of them were males whilst 42 (35.9%) are females depicting more males were involved in the study than females.

Table 1. Sex distribution of respondents.

Sex	Frequency	Percentage
Male	75	64.1%
Female	42	35.9%
Total	117	100

Source: Field work (2020)

Table 2. Age of respondents.

Age	Frequency	Percentage
20 – 29	18	15.4%
30 – 39	27	23.1%
40– 49	45	38.5%
50-59	12	10.3%
60 and above	15	12.8%
Total	117	100

Source: Field work (2020)

Table 2 revealed that out of the total number of 117 respondents, 18 (15.4%) were between 20-29 years, ages between 20-39 constituted 27 (33.1%) whilst ages between 40-49 were found to be 45 (38.5%). The Table further revealed that ages between 50-59 and those above 60 was disclosed as 12 (10.3%) and 15 (12.8%) respectively. This alludes that majority of the respondents involved in the study were between ages 40-49.

Table 3. Occupation of respondents.

Occupation	Frequency	Percentage
Student	10	8.5%
Unemployed	9	7.7%
Government employee	22	18.8%
Private employee	27	23.1%
Self- employed	34	29.1%
Pensioner	15	12.8%
Total	117	100%

Source: Field work (2020)

Table 3 revealed that 10 (8.5%) of the respondents were students, 9 (7.7%) of the participants were unemployed whilst 22 (18.8%) were government sector employees. The Table again pointed out that 27 (23.1%) or the respondents were private employees, 34 (29.1%) of them were self-employed whereas 15 (12.8%) were pensioners. This illustrates private employees constituted majority of the research respondents.

Table 4. Educational level of respondents.

Level	Frequency	Percentage
Basic level	24	20.5%
Secondary level	36	30.8%
Tertiary level	57	48.7%
Total	117	100

Source: Field work (2020)

Table 4 above revealed that 24 (20.5%) of the respondents had completed the basic education, 36 (30.8%) had attained the SHS certificate whilst 57 (48.7%) of them have completed tertiary institutions. This is a clear picture that majority of respondents involved in the study have attained certificate from tertiary institutions.

4.2. How Human and Environmental Rights are Violated by Unregulated Artisanal Small-Scale Mining

The primary intent of this research question was to ascertain how human rights are being violated by unregulated artisanal small-scale mining in Mpohor District in the Western Region of Ghana. The results are presented in Table 5 below.

Table 5. How Human and Environmental Rights are Being Violated by Unregulated Mining.

Statements	A		SA		U		D		SD	
	F	%	F	%	F	%	F	%	F	%
1. Engagement of children in labour depriving them of their education.	45	38.5	47	40.2	0	0.0	20	17.1	5	4.3
2. Gender imbalance emerges due to the prevalence of male workers, undermining social cohesion, and spreading problems of psychological or behavioural nature	40	34.2	42	35.9	2	1.7	13	11.1	20	17.1
3. Unregulated ASM denies a person the right to clean water, health, and arable land especially those at the villages	31	26.5	64	54.7	0	0.0	17	14.5	5	4.3
4. Destruction of farmlands without adequate compensations to community members displacing them from their natural residence.	40	34.2	70	59.8	0	0.0	4	3.4	3	2.6
5. Inflation occurs due to illegal mining which negatively affect the local population wellbeing	58	49.6	36	30.8	0	0.0	10	8.5	13	11.1
6. Illegal mining results in discrimination of vulnerable groups, disrespect for indigenous populations, and human rights abuse	32	27.4	24	20.5	0	0.0	46	39.3	15	12.8

Source: Field work (2020)
Key: A=agree; SA= Strongly Agree; U= Undecided; SD = Strongly Disagree; D=Disagree

Majority of the respondents 92 (78.7%) as pointed in Table 5 either agreed or strongly agreed that ASM results in the engagement of children in labour, thus depriving them of their education, 25 (21.4%) of the participants either disagreed or strongly disagreed to the statement whilst none of them was indecisive. This suggests that when illegal mining activities are in communities, children engage themselves in search of "quick money" which deprives them of their education. To buttress this, Key informant No. 2 articulated:

> *Most of our children especially those from low-income families engage themselves in ASM depriving them of their education.*

Key informant No. 1 supported:

> *Sometimes we have to go to the ASM centres to drive children of school age from the place. The activities they engage the children in as child labour.*

ASM miners have subjected the children to the need to make money at this tender age. Their monies they give them is not enough but since they are young, any amount they gain makes them ignore their school and engage in their job.

The finding is similar to that of the reports from the ILO which indicated that small-scale mining operators principally engage children between ages 10 and 18 years old who are paid minimal daily wages. These children perform all sorts of low-skilled tasks, including digging trenches, carrying loads of gold ore on their heads to washing sites (done largely by girls), washing the ore (done largely by boys), amalgamating the gold using mercury, and selling the product which affects their education [42].

Majority of the respondents 82 (70.1%) either agreed or strongly agreed that gender imbalance emerges due to the prevalence of male workers, undermining social cohesion, and spreading problems of psychological or behavioural nature, 33 (28.2%) of the respondents either disagreed or strongly disagreed to the assertion, whilst 2 (1.7%) of them were indecisive. This suggests that ASM results in discrimination among gender concerning work. In support of this, a Key informant No. 7 opined:

> *The influx of miners from different towns into the mining communities breed gender imbalance because of dominance of male workers which result in emergence of social vices.*

Another Key informant said:

> *The galamsey activities in the district have resulted in the influx of people from different parts of the country. Gender disparity arises due to the prevalence of male workers. Because most of them are males from different socio-cultural background, their mining activities and its associated behavioural challenges, destabilise the indigenous norms and values. Some of them have psychological problems and are seen abusing the vulnerable, especially, women and children in the mining communities (Key informant No. 4)*

The finding is in consonance with Mancini and Sala, who pointed out that ASM is likely to attract workers from other regions causing migration flows and a change in the local demographic structure. Consequently, a gender imbalance can emerge due to the prevalence of male workers, undermining social cohesion and spreading problems of psychological or behavioral nature (for instance, alcoholism, drug addiction, prostitution and others) [50].

In addition, Table 5 revealed that majority of the respondents 95 (81.2%) either agreed or strongly agreed that unregulated ASM denies a person the right to clean water, health, and arable land especially those at the villages. However, 32 (18.8%) of the respondents either disagreed or strongly disagreed to the statement whilst none of them was indecisive. This suggests that ASM results in all sorts of pollution within the Mpohor District which in turn denies the arable population the access to clean water and their health also at risk. To buttress this point, Key informant No. 1 purported:

People from ASM areas face all sorts of health complications. Most of what I have observed is lead poisoning which has detrimental effects on their health.

Another Key informant also supported:

The situation is very disturbing because some of the chemicals used in the process is harmful to humans and when they flow into rivers that serve as the main source of drinking water into nearby villages, they face all sorts of health issues and that is what we have been recording for some time now (Key informant No. 2)

Key informant No. 5 also commented:

Some of these ASM miners are very greedy. When they are not monitored, they can delve into your land without your permission and by the time you realise, they have used it up depriving you of your own land.

This finding is similar to the work of Kumah, who found that another human right violation due to mining activities is denying a person's right to clean water, health and arable land [27].

Furthermore, majority of the respondents 110 (94.0%) either agreed or strongly agreed that ASM leads to the destruction of farmlands without adequate compensations to community members displacing them from their natural residence, 7 (6.0%) of the participants either disagreed or strongly disagreed to the assertion whilst none of the respondents was indecisive. This purports that unregulated ASM activities deprive people from their habitat to other places. In support of this, a Key informant No. 5 commented:

I have heard of numerous complaints from land owners on the manner in which ASM miners destroy their lands without fulfilling their own part of the agreement when it comes to finances.

Key informant No. 2 articulated:

We have a lot of reports from land owners as a result of unregulated miners not being honest when it comes to payment. Many at times it is revealed that miners will not honour all the parts of the agreement for the land they work on.

Similar result was reported by Hilson, who reiterated that in most cases, farmlands are destroyed without adequate compensations to community members, humans are displaced from their natural residence and farm lands are finally destroyed. Additionally, mining companies illegally acquire acres of land without compensation [1].

Moreover, it was established by Table 5 that majority of the respondents 94 (80.4%) either agreed or strongly agreed that inflation occurs due to unregulated ASM which negatively affect the local population wellbeing, 23 (19.6%) thought differently whereas none of the respondents was indecisive suggesting that ASM brings about the increase in prices of goods and products which affect the wellbeing of the local inhabitants. In support of this, Key informant No. 3 said:

Prices of goods and materials have increased since the arrival of unregulated ASM in this town and the surrounding commodities. The miners can afford to pay for price given. We always bargain at the market; they hurriedly pay for what we desire, because there are miners with enough resources to spend.

Key informant No. 6 also articulated:

When ASM miners were not in our community, things were not expensive but there was a sharp rise in the prices of goods and services when they arrived.

Finally, majority of the respondents 61 (52.1%) either disagreed or strongly disagreed that unregulated ASM results in discrimination of vulnerable groups and disrespect for indigenous populations, 56 (47.9%) either agreed or strongly agreed to the statement whereas none of them was indecisive. This suggests that ASM does not lead to discrimination of vulnerable groups and disrespect for indigenous populations. To strengthen this assertion, a Key informant No. 5 commented:

How can ASM leaders disrespect local indigents? Then they will not be allowed to stay on our land.

Another Key informant supported:

Disrespecting local indigents as a leader of ASM leader cannot make you feel comfortable. When one engages in the act, you can even be beaten by the local residents (Key

informant No. 3).

The finding contradicts that of Mancini and Sala, who observed that violation of human rights during ASM can have different forms, including discrimination of vulnerable groups, lack of stakeholder inclusion and respect of indigenous populations, human rights abuse and impacts on cultural and aesthetic resources due to mining activities [50].

The foregoing, according to Eshun and Payne implies that, unregulated ASM is debilitating against the realization of the desired environmental rights. This is why HRBA can be brought on board to bridge the gap between theory and practice. HRBA can be employed in realizing environmental rights when citizens are given the opportunity to participate in decision making in ASM and its short-and long-term effects on the environment [69]. This would empower people in making concrete decisions that will help protect the environment in a sustainable way. That is the reason why development of cooperation should build capacities of duty-bearers to meet their obligation and right-holders to claim their rights [69]. Community members being aware of the effects of ASM would guide individuals to call for the need to protect and preserve the environment for posterity.

5. Conclusions and Recommendations

Children especially those from low-income families engage themselves in ASM depriving them of their education. People from ASM areas face all sorts of health complications. Besides gender imbalance surfacing owing to the prevalence of male workers, and spreading problems of psychological or behavioural nature in the form of social vices. There is also denial of people's right to clean water, health, and arable land especially those at the villages.

It is therefore recommended that government of Ghana should first provide education by creating awareness of the possible negative effects of unregulated ASM on the health, environment, livelihood and socio-economic life of the people in the community, now and the future generations. Training and credit facilities should be given to people who want to diversify their livelihood. In doing, so self-employment opportunities would be created.

In as much as we acknowledge the negative impact of unregulated ASM activities in Mpohor District, its benefits should not be ignored. The government can legalize the ASM operations by putting up measures in place, like laws and policies that will reduce the environmental hazards in the communities. This will ensure that ASM in the Mpohor District adheres to rules, norms and principles laid down by the relevant ministries in the country.

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