INTERSECTIONALITY OF GALAMSEY, HEALTH, ENVIRONMENT & CHILD PROCTECTION (IGHEC)

A study of cocoa-growing communities in Ghana



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About Challenging Heights

Challenging Heights is a human and environmental rights organization that has been working across 14 regions in Ghana for the past 20 years. The organization was founded by James Kofi Annan, a survivor of child trafficking in the fishing industry in Ghana. James, the last of 12 children of his mother, was sold into slavery at the age of six. He eventually escaped at age 13, put himself through school, graduated from college, and became a banker. He quit his banking career to start Challenging Heights.



We collaborate with mandated state institutions such as the Ghana Police Service and the Department of Social Welfare, we conduct rescue missions each year. Our Rescue and Recovery activities are comprehensive and cumulative, providing victims with holistic rehabilitation in all areas, including physical health, education, behavior, and trauma-sensitive psychology. Every rescued child and their family receive comprehensive support throughout the reintegration process. Our Youth Empowerment Program is a free training course for young community members, aged 15-25. As a part of the course, the participants learn a trade under the supervision of a teacher. Some of the trades include sewing, beauty therapy, barbering, phone repair, digital TV installation, and driving, among others. Through research, advocacy, community engagement, and targeted interventions, the organization continues to address the complex interconnections between and among environmental issues such as mining, water pollution, deforestation, etc. and its linkages to climate change, migration, and modern slavery, livelihoods, food security, health, social development.



"TO WHOM MUCH IS GIVEN, MUCH IS EXPECTED"

Executive Summary

Problem Statement

Cocoa farming is the primary livelihood in many rural Ghanaian communities. However, the proliferation of mining activities, both legal and illegal, poses significant challenges to these agrarian economies. This study focuses on understanding community-level perceptions and experiences regarding the coexistence of cocoa farming and mining activities.

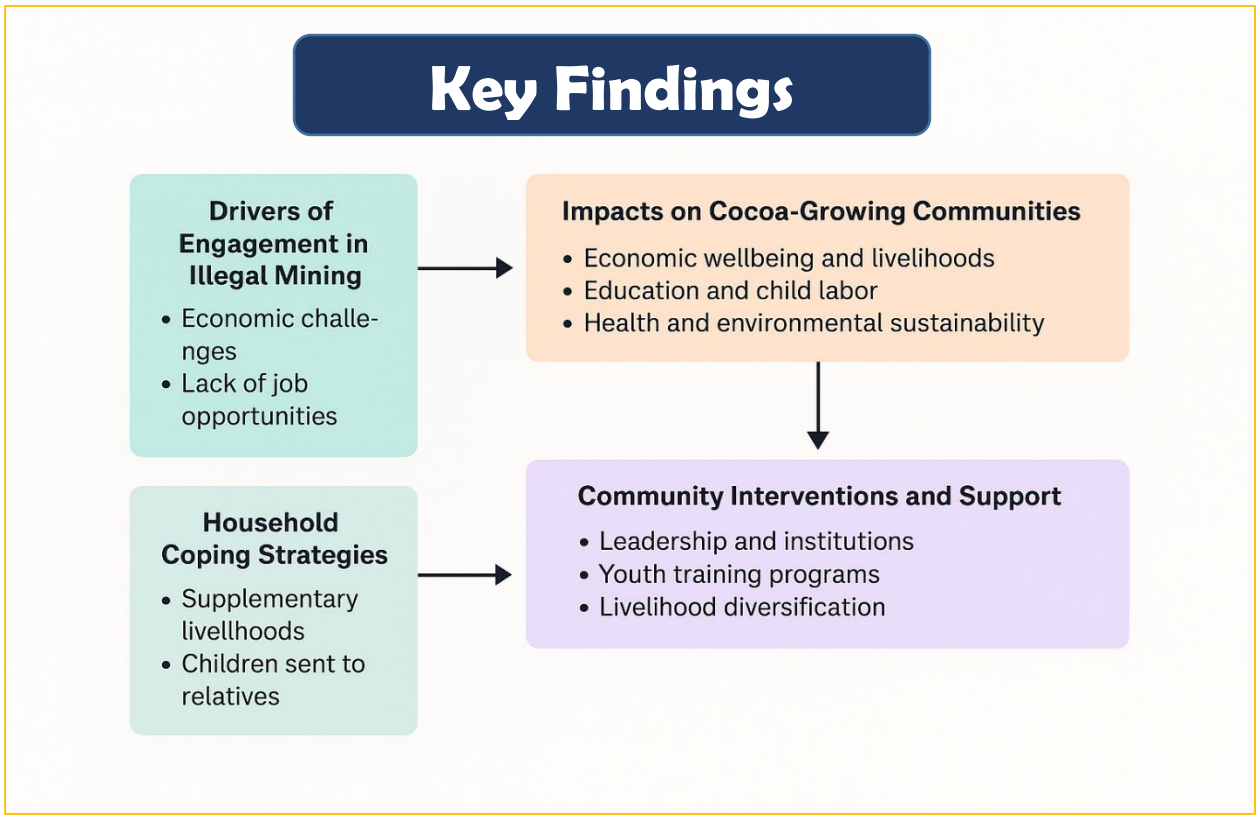


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Background

Illegal small-scale mining, commonly referred to as galamsey, has emerged as one of the most pressing socio-environmental challenges in Ghana. While mining contributes significantly to the national economy, the proliferation of unregulated mining activities poses severe threats to rural livelihoods, especially in cocoa-growing communities where agriculture and mining interests intersect. The competition between these sectors has intensified, often leading to land use conflicts, environmental degradation, and adverse health and social outcomes.

Cocoa farming remains a critical source of income and employment for many rural households in Ghana. However, the expansion of galamsey has resulted in the loss of productive farmland, soil degradation, deforestation, and contamination of water bodies with hazardous chemicals such as mercury and cyanide. These environmental impacts not only undermine food security but also jeopardize the long-term sustainability of cocoa production, a key export commodity for Ghana.

Beyond the environmental and economic consequences, galamsey activities have significant social and public health implications. The involvement of children in illegal mining operations exposes them to hazardous working conditions, undermines their education, and contributes to a rise in social vices such as drug abuse and transactional sex. Communities also face increased risks of waterborne diseases, respiratory ailments, and reproductive health challenges due to pollution and poor occupational safety practices.

Despite efforts by traditional authorities and government agencies to curb illegal mining, enforcement remains weak, often hindered by political interference and the complicity of local stakeholders. Community members, especially the youth, are caught between the immediate economic gains of galamsey and its long-term detrimental effects on their health, environment, and livelihoods. Given these dynamics, it is imperative to understand community-level perceptions of the impact of mining on livelihoods, child protection, health, and the environment in cocoa-growing areas. Such evidence is crucial for informing policy responses and designing context-appropriate interventions to mitigate the adverse effects of illegal mining while addressing the root causes of participation, notably unemployment and poverty.

Objectives of the study

The study sought to achieve the following:

1. Explore the socio-economic factors influencing community members' engagement in small-scale illegal mining (galamsey) within cocoa-growing communities in Dunkwa.
2. Examine the impact of illegal mining activities on education, health, environmental sustainability, and livelihoods in cocoa-producing communities.
3. Investigate the coping strategies adopted by households in response to the socio-economic and environmental challenges posed by galamsey.
4. Identify community-driven recommendations for sustainable livelihoods, youth development, and policy reforms in the context of mining-affected areas.

Research questions

To achieve the purpose of this study, we were guided by the following research questions:

1. What are the primary socio-economic drivers of community members' engagement in illegal small-scale mining within cocoa-growing communities?
2. How does illegal mining affect education, health, environmental sustainability, and traditional farming livelihoods in these communities?
3. What strategies do families and households adopt to cope with the negative impacts of mining on their wellbeing and livelihoods?
4. What interventions and support mechanisms do community members recommend for promoting sustainable livelihoods and reducing dependence on mining?

Methods

Study design

This study employed a qualitative exploratory research design to understand the socio-economic and environmental impacts of galamsey on cocoa-growing communities in the Dunkwa areas of Ghana. The exploratory design was chosen due to the limited empirical data available on how galamsey influences local livelihoods, education, health, and community dynamics within these specific rural contexts. The adoption of a qualitative approach was to

ensure that the study captured rich, in-depth perspectives and lived experiences of community members, enabling a nuanced understanding of the multi-dimensional effects of mining at the household and community levels. A phenomenological orientation guided the inquiry, focusing on participants' subjective experiences and interpretations of how galamsey has shaped their economic activities, social wellbeing, and environmental conditions.

Sampling procedures

The study employed a purposive sampling strategy to select participants who had rich, first-hand knowledge of the issues surrounding galamsey and its impacts on cocoa-growing communities in the Dunkwa areas of Ghana. Purposive sampling was chosen because the study sought in-depth insights from individuals directly affected by, or knowledgeable about, the phenomenon, rather than statistical generalization. The selection criteria targeted adult community members aged 18 years and above who had resided in the area for a minimum of three years. This residency criterion ensured that participants had sufficient lived experience to reflect meaningfully on the socio-economic and environmental changes attributed to galamsey.

To capture a broad range of perspectives, the study utilized maximum variation sampling within the purposive framework. This involved deliberately including participants with diverse socio-economic roles, such as cocoa farmers, individuals engaged in galamsey, traditional leaders, women involved in farming or petty trading, and parents of school-aged children. Including these varied groups allowed for a comprehensive understanding of how mining affects different facets of community life, from household livelihoods to education and environmental sustainability. Efforts were made to balance gender representation, recognizing that men and women experience the impacts of galamsey differently, particularly in relation to household dynamics, child welfare, and livelihood responsibilities. Recruitment of participants was facilitated through a combination of community entry protocols, engagement with local leaders, and snowball referrals. Initial interviews with key informants provided further referrals to other community members with relevant experiences, ensuring a networked and contextually grounded recruitment process.

In total, 18 semi-structured face-to-face interviews were conducted across five cocoa-growing communities within the Dunkwa areas. The sample size was deemed adequate for a qualitative exploratory study of this nature, as it allowed for thematic saturation – the point at which no new information or themes emerged from the data. The sampling approach prioritized depth over breadth, focusing on the richness and diversity of lived experiences to generate nuanced insights into the impacts of galamsey on economic wellbeing, livelihoods, and community dynamics.

Data collection procedures

Data for this study were collected through semi-structured, face-to-face interviews conducted with community members in cocoa-growing areas within Dunkwa (Figure 1). The choice of semi-structured interviews allowed for a balance between consistency in exploring key research domains and flexibility to probe deeper into participants' unique experiences and perspectives. An interview guide was developed to steer the conversations, covering core areas such as economic drivers of galamsey participation, impacts on farming, education, health, coping strategies, and community responses. This guide was informed by a review of relevant literature and refined through consultations with local experts familiar with the Dunkwa context.

The interviews were conducted at locations deemed convenient and comfortable for participants, including their homes, farms, and community meeting spaces. To ensure meaningful engagement, interviews were conducted in Twi, the predominant local language, with real-time translation and clarification provided where necessary. This approach ensured that participants could express themselves fully and accurately in a language they were comfortable with.

Each interview lasted about 27 minutes, depending on the participant's availability and the depth of responses. Audio recordings were made with participants' informed consent, complemented by detailed field notes to capture non-verbal cues, contextual observations, and immediate reflections from the interviewer. These field notes provided valuable supplementary data during the analysis phase. To ensure the accuracy and credibility of the information collected, informal member checking was conducted at the end of each

interview. The interviewer summarized key points back to the participants, allowing them to verify, clarify, or expand on their responses. The study was conducted between May 5 to May 9, 2025.



Figure 1: Conducting face-to-face interviews

Data analysis

The study employed a thematic analysis approach to systematically examine the qualitative data gathered from the interviews. Thematic analysis was chosen because it allows for the identification, analysis, and reporting of patterns (themes) within qualitative data, making it particularly suitable for exploring complex social phenomena like the socio-economic and environmental impacts of galamsey. The analysis process was iterative, reflexive, and guided by Braun and Clarke's six-phase framework for thematic analysis.

The recorded interviews were first transcribed verbatim, with attention paid to maintaining the authenticity of participants' voices, including local expressions and context-specific nuances. Since the interviews were conducted in Twi, they were translated into English in a meticulous way to preserve meaning of what was being communicated. The transcripts were reviewed multiple times to ensure accuracy and to facilitate immersion in the data.

An initial open coding process was conducted manually and with the aid of NVivo-14, where meaningful segments of data were labelled with descriptive codes. These codes were both data-driven (inductive) and theory-informed (deductive), allowing for flexibility in capturing emergent insights while ensuring alignment with the study's objectives and research questions. Following open coding, related codes were grouped into categories and sub-categories, which were then refined into overarching themes and sub-themes. Thematic maps and matrices were developed to visualise relationships between themes, sub-themes, and participant narratives. This process was conducted collaboratively, involving peer debriefing sessions with research team members to challenge assumptions, discuss alternative interpretations, and enhance analytical rigour. The analysis continued until thematic saturation was achieved, where no new themes emerged from the data, and existing categories were sufficiently elaborated. The final themes presented in the study are grounded in participants' lived experiences and directly supported by unedited quotes from the transcripts to preserve the authenticity of community voices.

Results

Drivers of Galamsey in the Dunkwa Cocoa-Growing Areas

Economic hardship as a driver of mining engagement

Economic hardship remains a fundamental driver of community members' engagement in mining activities, particularly illegal small-scale mining (galamsey). Unemployment, particularly among school leavers and young adults, further exacerbates this dynamic, leaving mining as one of the few accessible livelihood options. Several participants highlighted the struggle of securing formal employment, noting that even educated individuals fail to find jobs, making mining a practical alternative. The pursuit of mining is thus portrayed less as a choice and more as an economic necessity for survival, driven by the urgent need to meet daily expenses, support families, and achieve aspirations that farming alone cannot fulfil.

The participants' narratives below illustrate how the interplay of unemployment, poverty, and diminishing farming returns compel individuals to engage in mining as a means of livelihood:

> *"The reason for engaging in illegal mining is because there are no jobs here, we don't have any other means to survive. The cocoa farms we solely depended on in the past are not yielding as much as they used to."* – Transcript 7

> *"For many of them, life after completing school, especially SHS, is tough, as they don't get direct financial support from their parents…this is what drives them into illegal mining."* – Transcript 6

Others intimated that:

> *"The main reason young people from our community are now very engaged in illegal mining is due to poverty."* – Transcript 5

> *"If you analyze this and realize that they can easily get enough money from galamsey to feed their children three times a day, then they quit the farming and move to mining."* – Transcript 2

> *"This community has a large population, but there's a lack of employment opportunities. The mining authorities prefer hiring people from cities, which leads to locals engaging in illegal mining"* – Transcript 13.

Seasonality of cocoa farming and its low economic appeal

The seasonal nature of cocoa farming was highlighted as a critical factor limiting its economic viability in comparison to the consistent and immediate income generated from mining. Participants across all transcripts consistently emphasized that farming, especially cocoa farming, no longer provides sufficient income to sustain households due to declining yields and market instability. For many, the lengthy gestation period of cocoa cultivation contrasts unfavourably with the immediate financial rewards offered by galamsey. This results in seasonal unemployment and financial strain for farmers. This gap compels many to

supplement their income through galamsey, particularly during off-seasons. Moreover, the returns from cocoa are perceived as increasingly inadequate to meet basic family needs, including food security and educational expenses. The structural limitations of farming, exacerbated by market volatility and reduced yields, make it less appealing to younger generations seeking faster and more reliable sources of income.

> *"If you do farming, it is seasonal. It will take a year or more for cocoa to mature for us to make profit of it. When that happens, it means that you will be seasonally unemployed if you do not engage in galamsey around that time. So, if you engage in galamsey, you will have some money to use for your daily bread and for your family. If you are someone who grows other produce apart from cocoa, then you can rely on that for feeding, but you will not even get money to buy meat. And so, you have no choice but to engage in galamsey."* – Transcript 1

A similar sentiment was shared by another participant:

> *"Farming, which is the main source of livelihood for most families here, is not as lucrative as it used to be, particularly for those involved in the production of annual crops like cocoa. This makes it difficult for families to afford higher education or even skills training for young people who complete basic education in our community school."* – Transcript 5

Another participant stated:

> *"The population of the community has grown significantly, and farming cannot sustain families anymore. It is the reason why the young ones engage in mining activities."* – Transcript 8.

> *"Largely, unemployment has been the main driver of the young people in this community engaging in mining. Another reason is that all our viable lands have been taken over by the large-scale mining company here, so we have no land for farming therefore making mining the only alternative left"* – Transcript 11.

Impact on Child Protection and Development

Educational disruption and child involvement in mining

While some participants reported minimal direct involvement of children in galamsey, the broader pattern indicates that economic pressures compel older adolescents, especially SHS leavers and school dropouts, to seek income through mining. The high cost of education, lack of financial support from parents, and limited employment opportunities create a situation where galamsey becomes a pragmatic alternative. Though primary and junior high school attendance remains relatively stable in some communities, others noted the gradual erosion of educational aspirations, where mining offers faster returns compared to the uncertain promise of further schooling. Mining thus represents both a stopgap and, eventually, a permanent livelihood choice for many youths. This pattern reflects systemic failures in providing accessible educational pathways and alternative livelihoods, making educational disengagement a by-product of socio-economic vulnerability rather than individual disinterest. The extracted narratives illustrate how financial hardship, the allure of quick mining income, and lack of alternatives influence children's educational choices and involvement in mining:

> *"For many of them, life after completing school, especially SHS, is tough, as they don't get direct financial support from their parents…this is what drives them into illegal mining."* – Transcript 6

> *"JHS leavers and SHS leavers from the community now see galamsey as the only option for them and not pursuing further education even when the opportunity is available. It starts as a stopgap for awaiting results from their final exams and then later becomes their livelihood with the excuse that the same money they will get after pursuing higher education is what they are making from illegal mining."* – Transcript 5

> *"Some children work as labourers at galamsey sites, while others accompany friends or parents. Some children also go there to do business"* – Transcript 12.

Others expressed similar sentiments:

"We have a lot of children who engaged in galamsey. The issue is that, if the child's family does not have money, how will they be able to cater for the child or sponsor their education or meet their feeding needs? So, when they get to 13 or 14 years, they involve themselves in galamsey. As a result of this, many children end up dropping out of school because there is no one to support their education and needs. So, they engage in galamsey to take care of themselves. In my view, if you take about ten children, six of them will drop out of school to engage in galamsey activities as labourers." – Transcript 1

"On the negative side, it has resulted in high level of school drop-out. Most of the children who are the future leaders have dropped out of school because of galamsey. So, the quality of education here has reduced. This community had a good reputation when it comes to the national exams, and even in sports. But ever since mining came, all of these things have become secondary. The children are just quitting education to make money in mining. The new educational system too didn't help. They will go to school for three months and stay at home for another three months. If their parents had alternative livelihoods like a shop, then they could have helped them there. But because the parents don't have such livelihoods, they enter mining sites to work there. So, by the time they are to return to school, they don't want to return to school again." – Transcript 2

"After some children have tasted money from galamsey work, they become hesitant to go back to school." – Transcript 4

Child vulnerability and teenage pregnancy in mining contexts

The interviews revealed how the economic power wielded by young miners makes them influential in shaping social dynamics, especially through transactional relationships with girls seeking financial support. While not all communities reported a surge in teenage pregnancies, the potential for exploitation remains a significant concern, particularly in areas with active galamsey operations. In some cases, girls are drawn to mining sites not for labour but to sell goods, during which they become susceptible to coercion and financial enticement. However, certain communities have proactively managed this risk through

parental guidance, skills training programs, and strong traditional leadership discouraging mining-related exploitation. Despite these efforts, the overarching concern persists that poverty, lack of opportunities, and the mining economy create conditions where children, especially girls, are at heightened risk of social harm.

> *"Females whose parents are unable to afford their needs come to the galamsey site to work there. Over there, because she is a girl, the men there will be using money to entice and coerce them to have sex with them. At the end of the day, they become teen mothers."* – Transcript 1

Another participant intimated:

> *"Because of the mining, a lot of the children get money and so end up doing whatever they want. Most of the young boys who engage in galamsey have money and have gadgets that adults who have worked for years don't have in their room. As a young person who has such gadgets, it will entice the girls. They like good things. So, if they know that you have such things, they will come to you. That is what has contributed to teenage pregnancy in this community."* – Transcript 2

Impact on Health

Health risks linked to mining activities

Community members described health problems resulting from chemical exposure, unsanitary working conditions, and physically demanding labour. Chemicals such as mercury and cyanide used in mining operations contribute to skin diseases, respiratory issues, and waterborne illnesses. Additionally, stagnant water-filled pits created by mining serve as breeding grounds for mosquitoes, leading to increased malaria prevalence. For instance, one participant stated:

> *"In Ayanfuri today, bathing with rainwater results in rashes all over the body. That was not the case then, but now we can't even collect and make use of rainwater because it has become toxic."* – Transcript 7

Another participant shared this view:

> *"What has become known are the visible changes in their skin colour and nail texture. I joined them for just two days and realized a lot of changes in my body especially my feet – which felt very dry and numb."* – Transcript 5

Another participant asserted that galamsey has promoted promiscuity, which has exacerbated the number new HIV cases:

> *"Illegal mining has contributed to an increase in HIV cases in our community because they engage in indiscriminate sex."* – Transcript 13.

Drug use linked to mining activities

Another serious consequence of mining is the rise in drug abuse among youth. Substances like tramadol, marijuana, and local energy boosters are commonly used by miners to endure the gruelling work, resulting in addiction, mental health issues, and social challenges. Some participants noted a lack of transparency about health conditions among miners, further complicating community health responses. While not all communities reported direct impacts, those closer to active mining sites face significant health concerns. One of the participants shared an experience of how her son became hooked to drugs after going into galamsey:

> *"Some of them even end up engaging in substance abuse. For example, they engage in the use of tramadol and weed (marijuana). So, by the time the child becomes an adult, their life would have been jeopardized. I have a personal experience with my eldest child. At a point, my husband was not taking care of my children. So, my eldest child decided to quit school to go and work in the mines to support me and his younger siblings. My child was not involved in drug use at the time he was going to work there. But he went there and realized what was happening there, he imitated the behaviour of the other miners there and started using drugs. This is not a small issue that I am talking about"* – Transcript 4

Impact on Economic Wellbeing and Livelihoods

Shift from Farming to Mining as a Preferred Livelihood

The introduction and proliferation of galamsey have significantly altered livelihood patterns and aspirations in cocoa-growing communities. Participants observed a widespread shift among youth from traditional farming, especially cocoa cultivation, to mining. This was motivated by perceptions of mining as a faster, more lucrative, and less laborious source of income. Farming, once the backbone of community livelihoods, is increasingly seen as unattractive due to its slow returns, declining yields, and intensive labour requirements. The tangible financial benefits of galamsey, including the ability to build homes, start small businesses, and meet personal and family needs, have further entrenched mining as a desirable occupation. This shift has also been normalized through peer influence and visible markers of success within the community. While some older farmers continue traditional agricultural activities, the younger generation's aspirations have pivoted towards mining, thereby reshaping the community's economic identity and long-term sustainability.

> *"Most of the young people have chosen illegal mining as a better option over farming. Some of these young men have reinvested some of the money they get from illegal mining into opening shops and businesses to bring in more returns, others are now building their own houses."* – Transcript 5

> *"The reason for engaging in illegal mining is because there are no jobs here, we don't have any other means to survive. The cocoa farms we solely depended on in the past are not yielding as much as they used to."* – Transcript 7

> *"Illegal mining has contributed to community development, as some youth have built houses with their earnings. However, the benefits are limited compared to the negative consequences. In terms of civilization, the youth have benefited from illegal mining, as they've been able to undertake projects for their families and dress well. However, it has also led to problems among the youth, such as competition and rituals to get rich quickly."* – Transcript 13.

Perceived economic benefits of mining for household development

Participants acknowledged that galamsey income has enabled some community members to undertake personal development projects, such as building houses, starting small businesses, and supporting family needs. These tangible outcomes are perceived as indicators of economic advancement, particularly in contrast to the limited returns from farming. However, participants also cautioned that these benefits are often short-term and outweighed by broader social and environmental costs.

This is what some participants had to say:

> *"The galamsey has been beneficial to a lot of people in this community. Some people have been able to build their houses with moneys they got from their galamsey work."* – Transcript 1

> *"Another thing is that, most of the community members have come to realize that cocoa farming cannot meet their needs and the kind of lifestyle they want to live. They have been doing cocoa for years, yet, they have not been able to build their houses. But they know that when they go for the mining and get one blade of gold, it is huge money and can do a lot of things for them. Moreover, you don't have to mine a big land before you get one blade of gold. It is a small area that you have to work on."* – Transcript 2

> *"Now, everyone wants to go into galamsey. The number of young people who would have gone into farming have all diverted into galamsey."* – Transcript 4

Rising cost of living

An unintended economic consequence of galamsey is the rising cost of living in mining-affected communities. Participants observed that reduced agricultural productivity, driven by land degradation and labour shortages, has led to increased food prices. As a result, household expenses for basic necessities such as food have escalated, placing additional financial strain on families. This inflationary effect has created a paradox where, despite increased mining income for some, the overall cost of living has risen for the entire community. These are some of the sentiments of the participants:

"*Before the mining activities got perverse here, 10 cedis worth of cassava was enough to feed a household. Today, the same household will need about 50 cedis worth of cassava before it can feed itself. This is simply because we don't cultivate as much food as was the case some time past. Agriculture and food production have been gravely affected by the mining.*" – Transcript 8.

"*Prices of goods have also seen a sharp increase making them very expensive to afford.*" – Transcript 11.

Impact on the Environment

Water pollution and loss of safe drinking water

Water pollution emerged as one of the most immediate and tangible environmental impacts of mining. Participants described how rivers, streams, and even rainwater have been contaminated with hazardous chemicals like mercury and cyanide. This has forced community members to abandon traditional water sources and rely on sachet or bottled water for drinking and cooking. In some communities, even boreholes and taps are deemed unsafe. This shift not only increases household expenses but also affects daily life, hygiene, and farming activities reliant on water resources.

"Some of our water bodies have been destroyed. Because of the mining activities, rivers and streams that we used to rely on for drinking water are now polluted with chemicals like mercury and cyanide. This makes it unsafe for us to drink or even use the water for cooking and bathing. It's also affecting our farms because the soil is no longer as fertile, and sometimes the dust from the mining pollutes the air we breathe. We don't get as much nutritious food as before because crops don't do well on the degraded land." – Transcript 3

"In Ayanfuri today, bathing with rainwater results in rashes all over the body. That was not the case then, but now we can't even collect and make use of rainwater because it has become toxic." – Transcript 7

Similar experiences were shared by other participants:

> "*I think we can all agree that drinking tap water is not safe anymore not because of galamsey or anything, it is just not advisable.*" – Transcript 8.

> "*Our water is not safer, both the stream and tap water. These days, the water from our tap is visibly dirty and we often fetch and leave it overtime to make the dirt settle before use*" – Transcript 11.



Figure 2: Image depicting water crisis in the community

Soil degradation and reduced farm yields

Participants reported that mining activities, particularly through chemical runoff and land excavation, have led to soil degradation, adversely affecting farm yields. Contaminants from mining seep into the soil, altering its fertility and negatively impacting the quality and quantity of agricultural produce. Farmers observed that even when crops survive, their taste, appearance, and marketability are compromised. This degradation directly threatens food security and the economic sustainability of cocoa farming.

> *"Most of the cocoa farms that are closer to the mining sites have their cocoa changed colours because it is absorbing the contaminated water."* – Transcript 2

"Crop production has also reduced significantly because of the shortage of labour and toxic environment. Now we go to the farm with sachet water for drinking, we can't drink from the water body anymore." – Transcript 5

Other participants narrated how galamsey has contributed to the loss of farmlands:

"Our trees and farmland have all been lost. This place was full of huge trees, but they are no longer due to the mining activities. The community is even warmer today than it used to be…It is our farmland that they buy for the mining activities, so obviously, it has affected our farming and livelihood. Both the mining company and illegal miners have taken over what used to be acres of farmland which was our source of livelihood." – Transcript 8.

"*As for the mining, it has really affected our farming and livelihood. A lot of our farmlands have been vested under the control of the mining company here and they have cleared everything on it. Today, we can't wake up and go to our farms again, so our livelihood is clearly affected*" – Transcript 11.



Figure 3: Image depicting soil degradation and loss of farmlands

Coping Strategies and Livelihood Adaptation by Families

Diversification of livelihoods through small businesses

Faced with declining farming incomes and the volatile nature of mining, families are diversifying their livelihoods by investing in small businesses. Participants described how earnings from farming or galamsey are redirected into ventures such as provision shops, petty trading, and rental properties. This diversification serves as a risk management strategy, offering alternative income streams that are perceived as more stable and safer than direct engagement in mining. These entrepreneurial adaptations reflect household-level efforts to build resilience amidst economic uncertainty and environmental degradation. The following quotes support this theme:

> *"We invest some of the money we get from galamsey into farming and other money generating ventures like provision shops and building for hiring."* – Transcript 7
>
> *"Some of the households try to diversify their livelihoods. They use the little money they get from farming to open up provision shops."* – Transcript 1.
>
> *"Those who engage in illegal mining say it is very profitable for them. Some use it to support other ventures."* – Transcript 6.

Vocational training as an alternative pathway for youth

To mitigate the risks of youth involvement in mining, families have turned to vocational training as a protective strategy. Parents seek to redirect their children, especially those vulnerable to mining influences, into skills acquisition programs such as dressmaking, carpentry, and trading. This approach not only offers a safer economic alternative but is also seen as a way to instil discipline and reduce the social risks associated with mining, including drug use and exploitation.

> *"What I know is that some community leaders call the children who have dropped out some school to ask them the reasons for the drop out. Some of them say that they want to learn a trade rather than go to school. So, they sometimes gather some money to get*

machines like sewing machines for those who want to learn dress making" – Transcript 1.

Others shared this view:

> *"When I realized that my child was now struggling with drugs as a result of his engagement in galamsey, I got him out and rather found another trade for him to learn."* – Transcript 4.

> *"Most of our young ladies are into skills training and so they are cautioned to stay away from premarital sex. This has helped to contain teenage pregnancy in this community."* – Transcript 6.

Calls for Institutional Support and Educational Reform

Community members consistently emphasised the urgent need for institutional intervention to address the negative impacts of mining on livelihoods, education, and social structures. Participants called for government and NGO support to provide sustainable and well-paying job opportunities, improve access to education, and develop alternative livelihoods through skills training programs. Many highlighted the inadequacy of the current educational system, particularly the long gaps in the school calendar that inadvertently encourage youth participation in mining. There was a strong demand for financial assistance, such as education funds or microcredit schemes, to support children's schooling and reduce economic dependency on galamsey. Additionally, participants recommended revitalizing cocoa farming by increasing its profitability, thereby restoring its appeal to younger generations. Community leaders were also urged to play a more proactive role in advocating for policy reforms and safeguarding community interests. Overall, these calls reflect a collective recognition that sustainable solutions require coordinated efforts beyond individual household coping mechanisms.

> *"If the government provides sustainable and well-paying jobs for our young people, then they will turn away from the galamsey which is affecting everyone."* – Transcript 5.

"I believe that a greater responsibility lies on the leaders of the community to help take steps to help avert the negative impacts of the mining on the community particularly on children." – Transcript 7.

Others shared similar opinions:

"*You should give people some money for them to start a business for themselves. If they want to learn a trade too, then you can assist them to do that."* – Transcript 3.

"The government has to ensure that the timelines for school for the SHS students is reviewed. The system where they come to stay home for a long time doesn't help because the child who has tasted galamsey money will definitely go back." – Transcript 2.

"If you people can give us some alternative livelihood, it will help us because if you don't create alternatives for us, we will always go back to the galamsey." – Transcript 1.

Some participants expressed views about what the community leaders are currently doing:

"*Our chiefs have instituted sanctions for every family that allow their school-going children to engage in mining, especially during contact hours*" – Transcript 11.

"Traditional leaders and legal miners occasionally advocate for youth to stop illegal mining" – Transcript 12.

Conceptual Framework Emanating from the Findings

Based on the findings of this study we have developed a conceptual framework to guide the appreciation of the intersectionality of galamsey, environment, health and child protection in the cocoa sector (Figure 1). At the foundation of the framework are the underlying drivers that push individuals, especially the youth, into galamsey. Persistent economic hardship, limited employment opportunities, and the diminishing appeal of cocoa farming, largely due to its seasonal income, declining yields, and labour-intensive nature, emerge as the primary factors compelling community members to engage in mining as a survival strategy.

From these drivers emanate a range of adverse impacts that cut across livelihoods, the environment, education, health, and community wellbeing. Galamsey disrupts traditional

farming practices, leading to a shift in livelihood patterns where mining is favoured over agriculture. The environmental consequences are severe, with widespread water pollution, soil degradation, and the collapse of local ecosystems directly affecting food security and agricultural productivity. Social and educational impacts are also evident, as mining activities contribute to school dropouts, increased child labour, substance abuse among the youth, and heightened vulnerability of girls to teenage pregnancy and exploitation. Additionally, an economic paradox arises whereby, despite the influx of mining income for some, the overall cost of living in these communities has escalated, making basic necessities less affordable for many.

In response to these challenges, families and communities adopt various coping strategies. Households diversify their livelihoods by investing mining or farming proceeds into small businesses and petty trading, while others channel efforts into vocational training for their children to provide safer and more sustainable alternatives to mining. Some families persist with farming despite the mounting difficulties, while others rely on informal community support mechanisms to manage their vulnerabilities. However, these coping responses are often constrained by limited resources and lack of structured support, reflecting a reactive rather than proactive approach to the deep-seated challenges posed by galamsey.

The framework further emphasizes the community's strong call for external interventions. Participants consistently advocated for government and NGO support to provide alternative livelihood opportunities, improve the viability of cocoa farming, and implement educational reforms that address the root causes of school dropout and youth disengagement. Strengthening community leadership and enforcing environmental protection measures were also highlighted as critical areas for intervention. Overall, the conceptual framework encapsulates the cyclical nature of illegal mining's influence on cocoa-growing communities, showing how socio-economic drivers lead to adverse impacts, necessitate coping strategies, and underscore the urgent need for systemic interventions to break the dependence on galamsey.

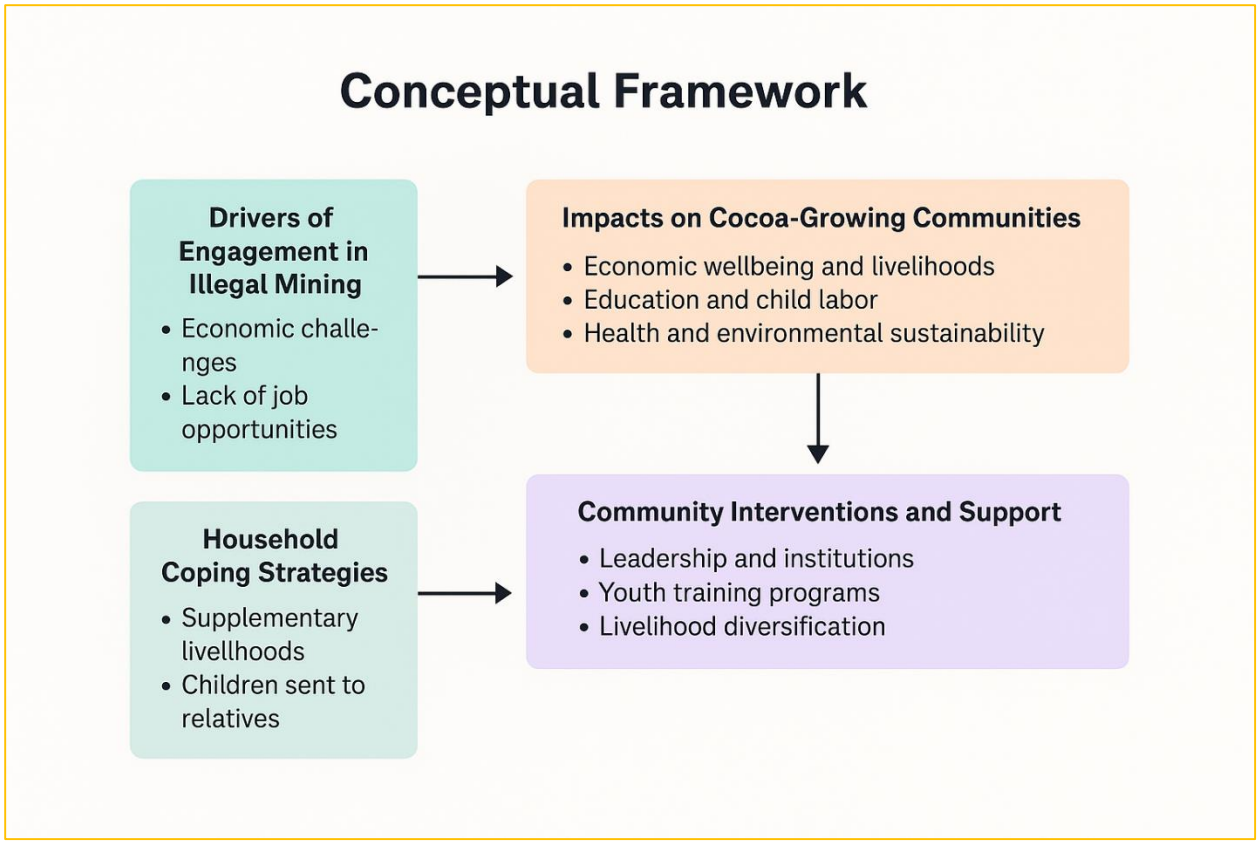


Figure 4: Developed conceptual framework

Discussion

One of the critical concerns raised by participants was the adverse effect of galamsey on children's education. Community members noted increased school absenteeism, poor academic performance, and instances of children abandoning school to engage in mining-related activities. These findings are consistent with Adu-Gyamfi (2014), Azuma and Onzaberigu (2018), and Baah et al. (2020), who documented how illegal mining contributes to higher dropout rates and disrupts educational attainment in affected communities. The labour demands of galamsey sites often lure school-aged children, further exacerbating labour shortages in formal education settings (Deh et al., 2022; Donkor et al., 2024; Owusu et al., 2022).

The health implications of mining were another dominant theme. Respondents reported increased incidences of diseases linked to chemical exposure, unsafe drinking water, and injuries from uncovered pits. Additionally, financial instability resulting from environmental degradation limits community members' ability to access healthcare services. These observations align with Fagariba et al. (2024) and Andrews (2015), who highlighted the dual burden of increased health risks and limited healthcare access in mining-affected communities. Ofori (2024) similarly emphasized how the economic volatility induced by illegal mining undermines household capacity to afford medical care.

Economically, participants expressed concern over the detrimental impact of galamsey on cocoa production, which remains a primary source of livelihood. The loss of arable land and soil fertility was cited as a direct consequence of mining activities, leading to reduced agricultural yields and heightened financial instability. These sentiments reflect findings by Donkor et al. (2024), Osman et al. (2022), and Appiah et al. (2024), who documented the decline in cocoa productivity and the escalating cost of living in mining-dominated communities. While some youth have derived short-term financial benefits from illegal mining, these gains are unsustainable and are outweighed by broader community-level economic hardships.

The environmental degradation resulting from galamsey was unanimously recognized by participants. Reports of deforestation, soil erosion, and contamination of water bodies with mercury and other toxic substances were prevalent. These findings are supported by Fagariba et al. (2024) and Ofori et al. (2024), who documented similar environmental concerns in mining zones. Furthermore, the destruction of biodiversity and long-term ecological damage identified by Clément (2025) and Golo (2024) were echoed in participants' descriptions of deteriorating environmental conditions and loss of agricultural productivity.

Despite limited external support, communities are employing coping strategies to mitigate the adverse impacts of mining. These include informal community meetings, limited advocacy by legal mining companies, and individual household adaptations. However, these efforts are fragmented and insufficient to address the systemic challenges posed by

galamsey. The study thus highlights the resilience of affected communities, while simultaneously exposing the inadequacy of community-driven initiatives in the absence of robust institutional support.

Conclusion

This study explored the multifaceted impacts of mining, particularly illegal small-scale mining (galamsey), on cocoa-growing communities in Ghana. Findings revealed that galamsey exerts profound and interlinked effects across educational, health, economic, and environmental domains, corroborating existing literature. However, this study extends current knowledge by highlighting critical but often overlooked themes: child exploitation, social degeneration among youth, escalating safety hazards, governance failures, and fragmented community coping mechanisms.

The normalisation of child involvement in mining, the moral and social erosion among the youth, and the daily physical risks to community members reflect a deep-seated structural crisis. These challenges are compounded by weak institutional responses and a lack of sustainable livelihood alternatives. The galamsey phenomenon thus emerges not merely as an economic activity but as a socio-political failure that undermines human security, public health, and community resilience. Addressing these issues requires an integrated, multi-sectoral approach that goes beyond punitive crackdowns and environmental rehabilitation to encompass social protection, economic diversification, and participatory governance.

Recommendations

Based on the findings of the study, the following policy recommendations are proposed:

1. Implement community-based child protection programs focusing on preventing child labour in mining.
2. Enforce legal frameworks on child labour through collaboration between traditional authorities, local government, and NGOs.
3. Develop and fund sustainable alternative livelihood programs (e.g., agro-processing, eco-tourism, vocational training) tailored to local capacities.

4. Facilitate access to microcredit for youth and women to reduce dependency on illegal mining.
5. Mandate the closure and rehabilitation of abandoned mining pits to prevent injuries and fatalities.
6. Ensure access to safe drinking water through infrastructural investments (e.g., boreholes, water purification systems).

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