



Exploring Environmental and Safety Challenges Faced by Out-of-School Youth Gold Miners in Masbate, Philippines: A Phenomenological Study

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ABSTRACT

The research examined small-scale gold mining among out-of-school youth in Masbate, Philippines, focusing on their experiences, perceived challenges and impacts of health on the community environment. Despite it being economically dependent on gold mining, escalating environmental destruction and safety hazards caused significant worries. Adopting qualitative interviews, descriptive phenomenology probed into the phenomenon of the lived experiences of ten miners who were out-of-school youth. Three key themes emerged. First, miners were pushed by financial need, stemming typically from family tragedies or debt. But their search for income exposed them to environmental risks like landslides, mercury contamination and physical injury in the absence of safety protocols and protective clothing. Second, the health risks and unsafe work conditions were unearthed as they were nowadays experienced and retorted by participants who mention the absence of safety tools and devices. Their stories have underscored the need for immediate safety enhancements and greater industry oversight. Third, the miners showed great resilience and adaptability, improvising security measures and taking solace from faith and mutual support, however they were insufficient. They called for interventions including safety training, alternative livelihood programs, financial aid, environmental remediation and more government and community presence. Tackling these concerns were identified as an integral part in the upliftment and survival of small-scale miners.

Keywords: out-of-school youth, small scale mining, environmental challenges, safety risks, phenomenological study

1. Introduction

Gold mining has been a major economic activity of almost all the countries in the world that possess gold-bearing mineral resources, including the Philippines. The province of Masbate was believed to have hosted approximately 5 million metric tons of gold, silver and copper (Mines & Geosciences Bureau, 2017). In consequence, mining outturn was highly profitable in Region V with a gross value added (GVA) of almost 12.8 billion pesos in 2016 and the sector contributed Php 2.704 billion or 1.7% to the region's total Gross Regional Domestic Product (GRDP) (Mines & Geosciences Bureau, 2017). Selling of low-quality gold had emerged as an important economic activity which was providing livelihood to the people and also aiding the country's mineral economy vis-à-vis the increasing demand and price of the commodity in the province (Adranyi et al., 2023). Nonetheless, with the industry's growth came an increasing concern towards the risks related to safety as well as potential environmental damage (Diaz et al., 2020). Environmental and health problems, which involved the use of mercury as well as cyanide, were associated with significant damage to ecosystems, communities, and human health. Cyanide deaths, as posited by Lawson-Smith and colleagues (2011) and Hamel (2011), had induced symptoms from nausea and headache to unconsciousness and death.

The out-of-school youth of Masbate, working under hazardous conditions in gold mining are examples of how their social being appears to be more complicated. Poverty and unemployment denied young people access to proper education and employment and they gravitated towards informal industries such as mining. Thus, it was typical for these youth to get involved in the trade untrained, with no safety precautions and without understanding of the environmental implications (Sarfo-Mensah, 2010). The Philippines is already at risk to natural disasters and eco-decline and that there was need to look at the detailed issues associated with small-scale gold mining in Masbate. However, there is a relatively small amount of prior research on this topic. Previous studies either used quantitative approaches, or concentrated on large-scale mining, failing to adequately address the subtlety of small-scale and artisanal miners. Little qualitative research had been undertaken into the lives of these miners, whose perspectives and experiences are unique. Comprehending their encounters with the environment, safety policies and local communities demanded a phenomenological approach that could elicit their reasons, thoughts and attitudes to offer more in-depth knowledge on the subjects of their lives.

1.1 Statement of the Problem

This study sought to explore the lived-experiences of small-scale gold miners in Masbate with particular emphasis on the environmental and safety concerns they faced. It examined the impacts of health and overall well-being among the health of miners and the wider community. The study also examined the coping mechanisms employed by the miners in their day-to-day activities to deal with these challenges. The study also aimed to identify interventions and policy recommendations that could be made in response to the findings thereon of the environmental and safety challenges associated with the practice of small-scale gold mining in the province.

2. Methods

2.1 Research Design

This study sought to describe the lived experiences of out of school youth who are involved in small scale gold mining in Masbate particularly the environmental and safety issues they have encountered. It investigated the impact of such challenges upon health and well-being, both for participants and local community. The descriptive phenomenological research design was utilised as it provides the ability to understand a range of variables, perspectives and personal experiences. Contrary to drawing inferences from current state, this research design is concerned with discovering and revealing the hidden meanings (Onan et. al, 2021). The use of phenomenology was found appropriate in looking into on the Exploring Environmental and Safety Challenges of Out-of-School Youth Gold Miners in Masbate, Philippines.

2.2 Data Sources

Research data were gathered through in-depth interview from 10 out-of-school youth in small-scale gold mining in Masbate. They were selected purposively because they are directly involved and have first-hand experience in the mining operation, and, therefore, are most suitable to give a rich and meaningful source of information related to the environmental and safety issues in focus in the study. It was important to involve them in order to comprehend the everyday lives of young people who work in hazardous environments and to explore ways of dealing with such work through policy measures adapted to that context.

2.3 Research Procedure

The research followed a systematic procedure to ensure the accuracy and reliability of both data collection and analysis. The initial step involved the development and expert validation of the in-depth interview guides, with inputs from professionals in the field of education. A pilot test was then conducted to refine and improve the interview instruments prior to their full implementation. Data collection was carried out through face-to-face interviews with ten (10) out-of-school youth engaged in small-scale gold mining in Masbate. Ethical considerations were strictly observed, including obtaining informed consent and formal approval from the participants. The gathered data were analyzed using thematic analysis to identify recurring patterns and significant themes. Finally, the results were interpreted to provide a comprehensive understanding of the participants' lived experiences and to support the formulation of relevant conclusions and recommendations.

3. Results and Discussion

3.1 Theme 1: Challenges, Motivations, Resilience, and Environmental Impact as Critical Factors in the Lives of Out-of-School Youth Small-Scale Miners

The theme conveyed the complex issues faced by OSY in small-scale gold mining, interweaving economic need, personal preference, and environmental access and demand. The experiences of these young miners showed the complex situation in which they were living, made up of internal motivations and external constraints. The majority of the respondents started working in mining at an early age, between 12 and 15 years old, usually due to poverty, or losing family members, and the lack of accessibility to formal education (Caymo II, 2016). These three original situations powerfully affected the miners' choice of occupation and their daily battles and resistance.

But the road to financial success is not without consequences as miners face several environmental dilemmas. Land slides, a common risk in rainy season, make for unsafe and unpredictable working conditions. A landslide ruining crops and homes is one such story recalled by one of the respondents, drawing attention to the immediate hazards they face on account of their daily work. According to Hilson et al. (2022), the hazards at work expose gold miners to danger, often threatening their safety. The young miners faced many dangers such as poisonous materials, the possibility of collapse, and being crushed or hit by mining equipment. To this they added the ever-present risk of serious injury, or even death, in the physically demanding activity of mining. Furthermore, the hazardous working conditions frequently led to health problems, including difficulties in breathing and hearing loss (Buxton, 2013). These combined risks, had serious mental health implications for the youth miners and their family members. Thus, the lives of out-of-school youth who work as small-scale miners, were characterized by a blend of struggle, individual aspiration, and rebounding survival, with environmental complications. Mainly in the face of economic hardship and lack of livelihood alternatives, these youths engaged in hazardous and environmentally unfriendly practices to meet their and their families' needs.

3.2 Theme 2: The interplay of Risks Safety and Health Impact as Challenges to Out of School Youth in Gold Mining

In this section of the discussion of the results and findings of the study, using qualitative research designs centered on the key themes and sub-themes have surfaced themselves on the most salient difficulties faced by out of school youth who are small scale gold miners in Masbate. Theme 2 emerged that risks safety and health impact interplay as challenges encountered by out of school youth gold miners. Risks Safety and health impact played out as the risk posed by the out of school youth gold miners. Respondents' stories to this effect indicated the extremely high risks and health problems involved in mining. Their lives are put at risk every day from physical accidents [and the] long-term health risks of exposure to toxic substances like dust, chemicals and mercury.

Sub-Theme 1: Physical Hazards and Health Impacts

Studies, such as those by Leka et al. (2010), emphasize the physical risks associated with mining and excavation work. These risks include accidents that can lead to injuries, broken bones, and exposure to harmful substances. The respondents' accounts align with these findings, as they share personal experiences of falls into pits, inhaling toxic substances, and suffering physical harm due to the absence of protective gear. The implication of these experiences highlights the alarming lack of safety protocols, protective equipment, and proper working conditions in the mining industry.

These narratives underscore the immediate need for improved safety measures, stronger regulatory enforcement, and access to adequate protective gear to mitigate the risks associated with this line of work (Gibb et al., 2014). Moreover, the emotional toll of such hazardous conditions cannot be underestimated. Research by Zungu (2013) suggests that traumatic incidents in the workplace can lead to emotional distress and mental health challenges. Respondent narratives reveal emotional trauma, including feelings of fear, questioning of fate, and unexplained crying spells.

Sub-Theme 1: Call for Change and Safety Improvement

The respondents expressed a clear desire for change, advocating for improved safety protocols, access to protective equipment, and better resources. Studies by Choudhry et al. (2014) emphasized the necessity of proactive safety measures and an enhanced safety culture within industries prone to such hazards. The findings of this study were consistent with the responses of the participants. The interview revealed the urgent need for stricter safety regulations, enhanced safety training, and improved access to personal protective equipment (PPE) to mitigate the significant safety concerns associated with mining activities in Masbate, Philippines.

3.3 Theme 3: Resilience, Adaptation and Faith in the Face of Adversity

The out-of-school youth respondents in this study demonstrated remarkable resilience and adaptability in coping with the challenges of their work as small-scale miners. They exhibited resourcefulness and improvisation in devising makeshift safety measures, found solace and guidance in prayer, and fostered a sense of mutual support and shared responsibility within their work groups. While these coping strategies were not always fully effective in mitigating the inherent risks of their work, they reflected the participants' unwavering determination to provide for their families and navigate the demanding realities of their livelihood.

The implications drawn from the interview highlighted the resilience and adaptability of workers in hazardous industries, where limited resources and a lack of access to proper safety equipment posed substantial challenges. It underscored the necessity for increased support mechanisms, both in terms of providing necessary safety gear and fostering a safer work environment. These anecdotes also revealed the reliance on faith and prayer as a coping mechanism amidst the inherent dangers of their work.

3.4 Based from the findings, the following are the interventions and policies that can be proposed to address the environmental and safety challenges of small- scale mining:

1. Safety Rules formulation. Make strict safety rules on requirement and use of protection equipment (helmets, masks, oxygen), Work to rule requirement protocols for use of gears and equipment that ensure safety of the miners while mining.
2. Training and Educational Programs. Establishment of training programs that inform young miners about safe mining methods, the risks associated with dangerous products and the use of safety procedures and equipment.
3. Support for alternative livelihoods. Create programmes for miners that help them shift to other sustainable occupations, impart training in vocational skills, create other options for earning a livelihood away from mining.
4. Financial incentives. Provide financial support or subsidies to small miners to buy needed safety equipment, enabling them to obtain critical gear despite financial limitations.
5. Environmental Remediation Projects. Develop a program of activities for environmental rehabilitation of mining sites such as rehabilitation of abandoned pits, afforestation of old mining areas, reclamation of water bodies affected by mining pollution.
6. Sustainable Mining Practices. Encourage environmentally sound mining activities – minimizing the use of toxic substances (including mercury), responsible waste management and restoration of the impacted land.

7. Government support programs. Set up government support programs to serve the out of school youth small-scale miners need for effective implementation and monitoring of these initiatives.
8. Routine Monitoring and Evaluation: Conduct routine monitoring exercises of mining sites, level of safety when working, health status of miners to measure success, identify gaps and programme or policy adjust accordingly.
9. Alternative Learning Schools: Establishing alternative learning centers to provide continuing education support for out-of-school youth gold miners, allowing them to receive education despite their challenging work schedules and limited access to formal schooling.

4. Conclusion

The study explored the lives of out-of-school young people involved in small-scale gold mining, unfolding a fragile balance of economic survive, individual incentive, perseverance and the intricacies of the impact on the environment. These children – often out of desperation as a result of poverty and financial need, family tragedies or due to a lack of educational opportunities – are compelled to work in mines at a young age to support themselves and their families. Quick profit dreams frequently outweigh the hard work aspect of the job, creating a shaky foundation for an indispensable vocation.

But this search for financial stability in a difficult economic climate carries a heavy price. They are exposed to various environmental risks such as landslides in the rainy season, mercury poisoning of water sources and physical hazards. These difficulties go beyond the physical and also involve emotional pain, challenging their beliefs in their destiny and a figurative attack on their psychic health.

The danger around them poses the miners to serious risks, reaching from physical injuries that occur due to sudden accidents, reaching to long-term health impacts due to the exposure to harmful substances. Their accounts reveal that safety measures were not in place, the rooms were poorly equipped and there was no safe working atmosphere. This is a grim reality that calls for strict and pro-active safety protocols, legislative enforcement and appropriate personal protective equipment available to help curb the dangers of this line of work.

In the midst of these challenges, the out of school youth miners have demonstrated remarkable resilience, flexibility and hope despite the odds. The obligations that workers in the industry developed such as making up safety measures, dependance on prayer, mutual support on chain and floor crews were some of the steps they took to try and live with the rigors they knew all too well.

The findings highlighted the urgency of holistic interventions and policies to tackle the plural problems of the artisanal miners. These include stringent safety norms, educational programs, alternative livelihood support, environmental remediation, as well as greater cooperation between the government, the Non-Government Organizations (NGOs) and industry associations. These interventions are targeted at reducing immediate dangers, encouraging sustainable mining practices, as well as to contribute to the health, security and environmental sustainability of artisanal and small-scale mining.

In summary, the lives of out-of-school-youth miners represent a complicated mixture of problems, motivations, resilience and environmental impacts. The results of this study underscore the need to implement multi-pronged interventions to protect the lives and identity of these young men working in small-scale mining settings in Masbate, Philippines.

References

- Adranyi, E., Stringer, L. C., & Altink, H. (2023). The impacts of artisanal and small-scale gold mining on rural livelihood trajectories: Insights from Ghana. *The Extractive Industries and Society*, 14, 101273.
- Buxton, A. (2013). Responding to the challenge of artisanal and small-scale mining. How can knowledge networks help?
- Caymo II, A. L. (2016). Analysis of the Child Labour Issue in Small-Scale Mining Operations in the Philippines.
- Diaz, F. A., Katz, L. E., & Lawler, D. F. (2020). Mercury pollution in Colombia: challenges to reduce the use of mercury in artisanal and small-scale gold mining in the light of the Minamata Convention. *Water International*, 45(7-8), 730-745.
- Gibb, H., & O'Leary, K. G. (2014). Mercury exposure and health impacts among individuals in the artisanal and small-scale gold mining community: a comprehensive review. *Environmental health perspectives*, 122(7), 667-672.
- Hamel, J. (2011). A review of acute cyanide poisoning with a treatment update. *Crit Care Nurse*, 31(1), 72-82.
- Hilson, G., & Hu, Y. (2022). Changing priorities, shifting narratives: remapping rural livelihoods in Africa's artisanal and small-scale mining sector. *Journal of Rural Studies*, 92, 93-108.
- Lawson-Smith, P., Jansen, E. C., & Hyldegaard, O. (2011). Cyanide intoxication as part of smoke inhalation – A review on diagnosis and treatment from the emergency perspective. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 19(14).
- Leka, S., Jain, A., Zwetsloot, G., & Cox, T. (2010). Policy-level interventions and work-related psychosocial risk management in the European Union. *Work & Stress*, 24(3), 298-307.
- Onan, A., & Toçoğlu, M. A. (2021). A term weighted neural language model and stacked bidirectional LSTM based framework for sarcasm identification. *IEEE Access*, 9, 7701- 7722.