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The Lived Experiences of Illicit Miners In Orkney Northwest Province, South Africa

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Abstract: The proliferation of illicit mining operations within the South Africa's extractive industries, particularly in Orkney located in Northwest Province has emerged as a pressing socio-economic and law enforcement concern. Recent intervention of the South African Police Service (SAPS) regarding operation "Vala umgodi" (seal the holes) have sought to disrupt subterranean networks by obstructing supply routes used to sustain unauthorised miners operating underground. In light of these developments, this study investigates the lived experiences of illicit miners and critically examines the operational strategies employed by the SAPS to mitigate illicit mining activities. The research is situated within the broader context of systematic youth unemployment, which has contributed to the entrenchment of informal and illicit economic practices among marginalized populations. A qualitative research design was adopted to facilitate nuanced inquiry into the phenomenon. Purposive sampling enabled the selection of law enforcement personnel directly engaged in anti-illicit mining operations, while snowball sampling was employed to access dispersed networks of illicit miners and elicit their perspectives. Data collection was conducted through semi structured interviews, allowing for rich contextualised insights into both enforcement challenges and the socio-economic drivers of illicit mining activities. This study further disclosed that illicit miners are educated human being who came to south Africa with the purpose of finding greener pastures, of major concern is that there are different groups of illicit miners who also wants to partake in illicit mining activities. Illicit miners are constantly burnt to death underground due to lack knowledge on how to use chemicals. Likewise, police official and red dot trained security personnel often retrieved charcoaled bodies with no heads, arms, and legs. The study further discovered that law enforcers often traumatised by such issues and some further attends employee health and wellness (EHW) to receive counselling. The major concerns from law enforcers are that illicit miners came to South Africa illegally and it is extremely problematic to trace family members of the illicit miners. The study also revealed that the address given to police officials is not valid, thus situation further led to the government to organise pauper funeral for all illicit miners. The findings of the study reveal that participants engaged in mineral extraction often resorting to re-opening sealed shafts through explosive means. The study further identifies a nexus between illicit mining and broader patterns of criminality underscoring the complexity of underground economies in post-industrial mining regions. The article therefore recommend that illicit activities should be legalised, and new legislative should be formulated with the aim of supporting illicit miners.

Keywords: Abandoned mines, Illicit miners, Illicit mining, Mining shaft, Small scale mining

Definition of Key Terms

Abandoned mines: described as old and unused mining sectors that are no longer active, and the permission have been terminated (Minecraft Guides, 2013).

Illicit miners: the research conducted by Bester & Uys (2023:2) explain illicit miners as a set of people who extract

precious metals illegally without mining documents that permits them to conduct such activities. For the purpose of this research report, illicit miners are defined as an individual who participate illegally in mining sectors to extract minerals without legitimate documents from the Department of Mineral Resources (DMR).

Illicit mining: refers to illicit mining activities conducted in mining sectors without having mining licenses that permits them to conduct such activities. In countries such as Burkina Faso, illicit miners refer to artisanal miners (United Nation Office on Drugs and Crime 2023:3).

Mining shaft: these are perpendicular passageways that exist underground where precious minerals are extracted by illicit miners (Bester & Uys, 2023:4).

Small scale mining: the research by Field, (2024:2) define small scale mining as illicit mining activities conducted by group of illicit miners with the purpose of extraction precious minerals. In majority cases, small scale mining also involves family members to participate in such activities with the purpose of extracting more precious metals for incentives gain.

Introduction

Illicit mining activities has emerged as a pervasive and economically destabilizing phenomenon within the South Africa's mineral extraction landscape. According to Mining Review (2024), the formal sector incurs an estimated annual loss of 7 billion due to unauthorized mining activities underscoring the scale of the crisis. The United Nation Office on Drugs and Crime (2023:3) characterizes illicit mining as the extraction of mineral resources conducted without requisite legal authorization often facilitated by armed individuals operating outside regulatory oversight. This form of extractive criminality poses multifaced risks, not only to the integrity of the mining economy but also to public safety and national security. A notable incident noted by Luning (2024:1) elaborates that the law enforcement retrieved 225 illicit miners from subterranean operations which exemplifies the hazardous conditions and organizational complexity underpinning these activities. The study discovered that such cases reflect the urgent need for robust policy interventions, enhanced enforcement mechanism and reconsideration of socio-economic drivers that perpetuate informal mining economies.

Illicit mining is widely recognized as a high-risk and unlawful activity, frequently carried out by individuals who are often armed with illegal firearms (Department of Mineral Resources, 2024). These miners typically possess and utilize explosives, which are repeatedly employed to create underground booby traps in pursuit of valuable minerals. According to the Chamber of Mines (2020:5), violent confrontations commonly referred to as turf wars are prevalent among these groups, as competing factions seek to assert control over specific underground mining territories. This study aims to assess the role of law enforcement, particularly the South African Police Service (SAPS), in addressing and managing illicit mining operations within the mining sector. Luning (2024:1) reports a significant incident in Stilfontein, Orkney, where over 300 illegal miners were trapped underground. Despite the severe risks associated with such activities including prolonged entrapment and fatalities many illicit miners persist, driven by the imperative to secure financial benefits for their families, often disregarding the life-threatening dangers they face.

Problem Statement

Illicit mining has evolved into a persistent and highly organized criminal enterprise that poses a serious threat to the safety and well-being of legitimate miners within the mining sector. A growing concern is the increasing dominance and unpredictability of these illegal actors, who have become entrenched elements in mining operations (Mail & Guardian, 2024). Typically, these individuals are young and lack formal training, spending extended periods often weeks or months underground in search of precious minerals. Due to the absence of proper equipment, they resort to using ropes to access mining shafts and operate in hazardous underground environments with rudimentary tools, frequently resulting in fatalities (Mail & Guardian, 2024).

Furthermore, illicit miners are known to carry illegal firearms, which they use to defend their territory and deter any perceived threats or intrusions. Alarmingly, the weapons in their possession are often high-calibre firearms, comparable to those depicted in action films, underscoring the severity of the threat they pose to both law enforcement and legitimate mining personnel. In Orkney, the local community is reportedly living in a state of fear due to the increasing presence and activities of illicit miners in the area. Majoni (2023:1) highlights that these individuals often reside in close proximity to mining operations, contributing to a noticeable rise in criminal activity linked to illegal mining practices. The same study notes that surface-level collaborators supply food to underground miners, albeit at exorbitant prices, as they are the sole providers willing to engage in such transactions. Despite the inflated costs, underground miners are compelled to purchase these supplies out of necessity, driven by hunger and the need to sustain

themselves during prolonged periods spent searching for precious metals (Majoni, 2023:2).

Majoni (2023:2) further hypothesizes that illicit miners endure extreme underground conditions, including high temperatures and limited access to fresh air. Within these subterranean environments, miners have established makeshift living quarters, including designated areas for cooking. These spaces are equipped with basic amenities such as two-plate stoves, pots, and small quantities of groceries, which enable them to prepare meals after completing their daily activities. According to Majoni (2023:3), these miners often engage in discussions and planning sessions for the following day, reflecting a level of organization within their operations. To effectively address the issue of illicit mining in South Africa, Majoni (2023:3) advocates for increased collaboration among stakeholders and shareholders, emphasizing the need for coordinated efforts to develop sustainable and practical solutions for mining communities affected by illegal mining activities.

Research Methods

This study adopted a qualitative research approach to identify and analyse relevant literature and empirical studies related to illicit mining. As Flick (2023:22) asserts, qualitative research is particularly well-suited for this inquiry, as it facilitates a deep exploration of subjective experiences, perceptions, and practices elements that are essential for understanding the multifaceted nature of illicit mining activities. To further enrich the study, a comprehensive review of existing literature was conducted, focusing on the lived experiences of individuals engaged in illicit mining within the sector. For the purpose of this research report, all information gathered from interviews was never distorted or misconstrued. To avoid being biased towards the research, the public has the access to a copy of the research report which further attests to openness and truthful reporting. Moreover, the researcher ceased from unfairly criticising research participants based on personal bias.

The researcher employed purposive sampling to deliberately select participants from the South African Police Service (SAPS) who are directly involved in handling cases related to illicit mining. Additionally, individuals actively engaged in illicit mining were included in the study to provide their perspectives on the issue, thereby ensuring a more holistic understanding of the phenomenon. Purposive sampling was specifically chosen for this report based on the researcher's assessment of the subject's level of expertise. Moreover, Bachman & Schutt, (2014:119) emphasizes that when purposive sampling is used, respondents are chosen based on their archetypal population features rather than just their availability or desire to participate in the study (Bachman & Schutt, 2014:119). On the other hand, Denscombe, (2002:15) asserts that in any research study, purposive sampling is utilized to collect more information on the subject under investigation and to gain a deeper comprehension of the issue from a group of people. This indicates that the research volunteers who would take part in the study were specifically picked because they meet the researcher's criteria.

Challenges Facing South African Mining Sectors

There are several encounters occurring in South African mining sectors due to illicit mining activities, they are covered next:

Life-threatening conditions underground.

Coetzee and Horne (2023:95) report that legitimate miners face numerous underground challenges as a result of illicit mining activities. One significant concern is the use of mercury by illegal miners during blasting operations to extract minerals, which releases toxic gases that are inadvertently inhaled by legitimate miners, posing serious health risks. In contrast, Salamon (2022:1) emphasizes that mercury is a regulated substance, typically used to polish extracted precious metals, and its purchase requires a valid license. Salamon (2022:1) further notes that illicit miners often operate without protective clothing, exposing themselves to hazardous substances, which frequently leads to severe health conditions such as skin diseases and cancer (World Health Organisation 2024). Alarmingly, over 40 illicit miners reportedly die each month due to their lack of experience in handling dangerous chemicals. Oosthuizen (2021:45) concurs, stating that mercury exposure can severely damage critical human organs, including the brain and central nervous system, resulting in incurable illnesses. The scholar argues that due to limited knowledge and inadequate safety practices, illicit miners remain vulnerable to long-term, irreversible health consequences.

Organised Crime Syndicates

The research conducted by Njau, (2022:46) contends that illicit mining operations in South Africa appear to be systematically organized into a multi-tiered structure, each with distinct roles and responsibilities, indicative of coordinated criminal syndicates.

First tier: This group comprises undocumented immigrants residing in South Africa without legal authorization. Many were formerly employed in the formal mining sector but lost their jobs due to corruption. Notably, they possess substantial experience in handling chemicals used in refining precious metals, owing to their previous employment.

Second tier: Known as surface-level illicit miners, this group is responsible for supplying underground miners with essential resources such as food and water. Despite the availability of some legitimate mining equipment among underground miners, surface miners play a critical role in ensuring their sustained operations.

Third tier: This tier focuses on the bulk sale of stolen precious metals. The extracted materials are traded on international markets, with the objective of maximizing financial returns from foreign buyers.

Fourth tier: Members of this group distribute stolen metals across South Africa, often through seemingly legitimate corporate channels, thereby concealing the illicit origins of the products.

Fifth tier: This final group specializes in facilitating transactions with international buyers who offer higher financial incentives for illegally extracted precious metals.

The structure outlined above underscores the organized nature of illicit mining, revealing a complex network of actors working collaboratively to sustain and profit from illegal activities. Each tier plays a strategic role in ensuring the continuity and success of the operation, highlighting the need for a multi-stakeholder response to effectively combat illicit mining in affected regions.

Smuggling of Gold

Illicit mining presents significant challenges to the South African mining sector, contributing to the closure of several mining operations due to declining profitability. Hoksen (2023:17) reports a notable increase in the trafficking of precious metals, driven by the proliferation of illegal mining activities. Socioeconomic factors such as poverty and unemployment have further exacerbated the issue, with many young individuals turning to illicit mining as a means of survival. Hoksen (2023:18) further highlights that this phenomenon is not unique to South Africa; countries such as Zimbabwe, Tanzania, and the Democratic Republic of Congo (DRC), which have gold-rich mining sectors, are similarly affected by illicit mining practices (Busacca, 2020:60). The improper use of blasting techniques by untrained individuals has led to structural damage in underground mining environments. Shoko (2024:1) supports this view, noting that these African nations continue to face substantial challenges related to illegal mining. For instance, in 2019, approximately 959 tonnes of gold were extracted illegally, a figure that rose to 1,500 tonnes by 2023. These findings underscore that illicit mining is a transnational issue, affecting not only South Africa but also other African countries with significant mineral resources (Mining Fact Sheet Report, 2022). The widespread nature of the problem calls for regional cooperation and comprehensive strategies to mitigate its impact on legitimate mining operations and national economies.

Disruptive Operational Plan Conducted by Law Enforcers to Eradicate Illicit Miners

One of the key strategies employed by law enforcement and relevant stakeholders to combat illicit mining is the implementation of a disruptive operational plan. During the data collection phase, law enforcement officials confirmed that this strategy is regularly executed in collaboration with various stakeholders to address illegal mining activities. The operational plan involves over 100 participating entities, including the Department of Energy, Rand Water, and the Road Agency, among others. A major challenge faced by these stakeholders is the frequent adaptation of tactics by illicit miners. Once aware of planned operations, these individuals often alter their modus operandi, which significantly undermines the effectiveness of enforcement efforts. This strategic agility makes it difficult for law enforcement and associated agencies to achieve sustained success in curbing illicit mining.

As part of the disruptive operations, law enforcement dismantles unauthorized informal settlements and disperses illegal businesses operating near mining sites. Additionally, mining equipment used in illicit activities is confiscated. These operations typically span approximately three weeks, during which law enforcement is granted authority to destroy any tools or infrastructure associated with illegal mining. Police participants uttered below words to the researcher:

“Mam, we conduct disruptive operational plan because we know that illicit miners are working unlawfully in the abandoned mining sectors. The main purpose of conducting the operational plan is to send a message to these people that they must stop what they are doing because they are damaging the tunnels underground, though we understand that these mines were abandoned, but there are pipes that contains dangerous chemicals that might explode”.

Following the conclusion of a disruptive operational plan, law enforcement officials convene with relevant stakeholders to evaluate outcomes and develop new strategies aimed at supporting mining sectors affected by illicit activities. One of the proposed strategies, as highlighted by a participant, involves the implementation of electronic authorization systems for all legitimate miners. This would include the installation of biometric technologies such as fingerprint scanners and facial recognition systems at entry points to mining sites. These systems would serve to authenticate individuals and distinguish between authorized personnel and illicit miners attempting to gain access.

The scholar further advocates for the integration of biometric scanners and facial imaging technologies as a means to enhance security and assist formal mining operations in identifying individuals involved in the illegal extraction of precious metals. Such technological interventions are seen as critical in strengthening access control and deterring unauthorized entry into mining areas.

Results

The primary goal of the research report is to arrive at the findings which answers the queries of the study. The below section outlines the findings of the study culminating in the formulation of data collection process are discussed below:

Life-threatening conditions underground

This study uncovered that illicit miners frequently use mercury during underground blasting operations, a practice that has led to fatal consequences. In Orkney, for instance, over 20 illicit miners were reported dead due to mercury exposure. Scott and Grayson (2022:45) affirm that numerous incidents within mining sectors are directly linked to the use of mercury, which poses severe health risks. The scholars further emphasize that mercury exposure often results in incurable skin conditions. The findings also revealed that the majority of illicit miners operate without personal protective equipment (PPE), significantly increasing their vulnerability to chemical-related illnesses. On a global scale, the study found that exposure to hazardous chemicals not only causes severe skin conditions but can also lead to permanent damage. Another critical health concern identified is the physical strain associated with lifting heavy objects underground, which often results in chronic back pain. Due to the confined nature of underground tunnels, miners are forced to crawl for extended periods, exacerbating musculoskeletal injuries.

Additionally, the study postulate that some illicit miners suffer from swollen legs, a condition worsened by prolonged working hours driven by the need to earn more income. Despite South Africa's rich mineral resources, the study concludes that gold-producing sectors are experiencing a decline in output, largely due to the widespread impact of illicit mining activities.

Organised Crime Syndicates

The article highlights that organized crime syndicates involved in illicit mining are heavily armed and operate with a high level of coordination. Illicit miners are often recruited by these criminal networks and become integral components of broader syndicate operations. The nature of illicit mining poses significant risks not only to the miners themselves but also to legitimate mining personnel. These risks include exposure to toxic chemicals and the potential collapse of unstable underground shafts.

Law enforcement officials tasked with combating illicit mining also face hazardous conditions, particularly due to the presence of harmful substances in mining environments. In response, authorities have sealed off many of the entry points used by illicit miners to transport supplies underground. The article further reveals that communities located near mining operations are increasingly affected by the presence of criminal syndicates, leading to a surge in serious crimes such as attempted murder, murder, and gang rape.

A particularly alarming trend is the occurrence of gang-related violence, often driven by disputes over control of underground tunnel networks. In October 2024, a violent incident in Orkney resulted in the deaths of more than 16 individuals, underscoring the severity of the threat posed by these groups. Law enforcement officials have expressed concern that illicit mining not only endangers local communities but also undermines the South African economy, which is no longer generating the revenue it once did from the mining sector (Department of Water Affairs and Forestry, 2013). The article concludes that these crime syndicates are highly acquisitive and maintain strong connections within the South African mining industry. These connections facilitate the recruitment of new members and the expansion of illicit mining operations, further entrenching the problem.

Smuggling of Gold

The smuggling of gold by illicit miners remains a critical concern within South Africa's mining sector. Stakeholders involved in combating illegal mining frequently implement disruptive operational plans aimed at sealing access points;

however, illicit miners often respond by blasting these sealed holes during nighttime hours to regain entry. This study found that illicit miners have shifted their operations to night shifts, a period during which law enforcement presence is minimal due to safety concerns, particularly as illicit miners are often armed with illegal firearms. In cases where physical access to mining sites is restricted, illicit miners' resort to bribing security personnel. Alarming, security guards who refuse such inducements are sometimes targeted and killed.

The study also revealed a growing demand for smuggled gold on the black market, which has led to increased recruitment into illicit mining networks. A notable hotspot is an abandoned mine near the FNB Stadium in Johannesburg, which is surrounded by illicit mining activity. The presence of gas pipelines in the vicinity poses a significant explosion risk due to ongoing illegal operations. Residents living near the stadium report feeling unsafe, as violent confrontations between rival groups vying for control of underground territories frequently result in fatalities. Of particular concern is the theft of tools such as shovels, spades, and gas bottles from nearby homes during nighttime hours. This has heightened fear among community members, with some expressing concern that local youth may be mistakenly identified as illicit miners when walking in the area after dark.

Discussion of Research Findings

This section presents a critical discussion of the key findings that emerged from the study, offering insights into the complex dynamics of illicit mining in South Africa. The findings not only address the core research questions but also inform the development of practical recommendations aimed at mitigating the impact of illicit mining on the formal mining sector, surrounding communities, and national economic stability. The discussions are covered below:

Hazardous Living and Working Conditions of Illicit Miners

The study revealed that illicit miners operate under extremely dangerous and life-threatening conditions. Many of these individuals work in abandoned mines where ventilation is non-existent, resulting in unbearable underground heat and a lack of fresh air. Prolonged exposure to such environments, combined with the inhalation of dust during the extraction of precious metals, contributes to severe health complications. Notably, many illicit miners develop chronic skin conditions due to the absence of sunlight and exposure to harmful substances some of which are irreversible. Despite these risks, the financial incentives gained from selling illegally extracted gold serve as a powerful motivator. The promise of income, often in the absence of alternative employment opportunities, compels illicit miners to continue working under these hazardous conditions, prioritizing economic survival over personal health.

The role of organized crime syndicates

The findings also underscore the central role of organized crime syndicates in orchestrating illicit mining operations. These syndicates recruit and manage large groups of illicit miners, often exploiting them in labour-intensive conditions without access to proper machinery or safety equipment. The use of rudimentary tools and unsafe blasting techniques increases the risk of underground collapses and fatalities. A particularly concerning discovery is the difficulty in recovering the bodies of deceased miners, which complicates investigations and obscures the true scale of mortality associated with illicit mining. These syndicates operate with a high degree of coordination and are often heavily armed, making law enforcement interventions both dangerous and complex.

Smuggling of gold

The study further revealed that gold smuggling has become a persistent and growing issue. The high demand for illicit gold on the black market particularly from international buyers has incentivized the expansion of illegal mining networks. This demand fuels recruitment efforts and sustains the operations of criminal syndicates. Illicit miners reportedly use narcotics such as dagga and other stimulants to endure the physical demands of underground work. Smuggled gold is often stored in secure, hidden locations before being transported across borders for higher profits. Those involved in smuggling operations view themselves as professionals serving international clients, with a strong emphasis on meeting the expectations of foreign buyers who offer significantly higher returns than local markets.

Recommendations

In light of the findings, this study proposes the following long-term and strategic interventions to address the persistent issue of illicit mining in Orkney, and in Johannesburg, and other affected regions:

Strengthening legal and regulatory frameworks

Reconsider existing mining legislation to explore the possibility of formalizing certain aspects of artisanal and small-scale mining. This could help integrate marginalized miners into the formal economy, reduce criminal syndicate involvement, and improve governance.

Enhanced multi-stakeholder collaboration

Expand and strengthen the Disruptive Operational Plan by involving more stakeholders such as the Department of Mineral Resources, SAPS, Rand Water, and local municipalities. Regular strategy meetings should be held to adapt to the evolving tactics of illicit miners.

Community safety and awareness programs

Launch community-based safety initiatives and awareness campaigns to educate residents about the risks of illicit mining and encourage reporting of suspicious activities. This could also help protect youth from being wrongly profiled or recruited.

Protection and training for security personnel

Provide specialized training and protective equipment for security guards and law enforcement officers working in high-risk mining zones. Establish protocols to safeguard personnel who resist bribery and threats.

Environmental and infrastructure risk mitigation

Conduct regular inspections of abandoned mines near critical infrastructure (for example, gas pipelines near FNB Stadium) to prevent environmental disasters and ensure public safety.

Economic alternatives and job creation

Develop alternative livelihood programs for communities near mining areas, particularly targeting unemployed youth, to reduce the economic appeal of illicit mining.

Conclusion

Bias is generally regarded to be any influence that distorts any findings of the research study. For the purposes of this report, the study promoted the concepts of rigor and reliability. Trustworthiness was adhered to when presenting research findings because all of the data gathered for the planned investigation was not misconstrued. Additionally, bias refers to a misreading of what was expressed or explained during the process of gathering data. All research guidelines and objectives were explained to research participants for this study report. Since all recordings were kept secure, this procedure helps to lower the possibility of errors occurring when the research report's conclusions are presented. This study has revealed the deeply entrenched and multifaceted nature of illicit mining in South Africa, particularly in regions such as Orkney and Johannesburg. The findings highlight the hazardous conditions faced by illicit miners, the role of organized crime syndicates, and the broader socio-economic and environmental impacts of illegal mining activities. The research underscores the urgent need for a holistic and multi-pronged approach to address this crisis. By reforming legal frameworks, enhancing technological controls, and fostering inclusive economic opportunities, South Africa can move toward a more secure, regulated, and equitable mining sector. Formalizing certain aspects of artisanal mining may offer a pathway to socio-economic inclusion, reduce criminal exploitation, and restore stability to affected communities and the national economy.

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