



Zimbabwe's mining policy impact on revenue leakages

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ABSTRACT

One of the key objectives of the Zimbabwean government's "Vision 2030" is growing the mining industry to have a revenue of 12-billion USD annually. This vision is at risk due to the numerous mining revenue leakages the country experiences. In this study, the influence of revenue leakages on Zimbabwe's endeavour to change the mining sector to an industry that generates targeted revenues were investigated.

This research established several reasons for the revenue leakages. These include mineral smuggling, superficial government disclosures, limited capacity of regulatory authorities to enforce compliance in mines and a lack of coordinated information dissemination in government institutions. It was also found that government departments have limited skills to evaluate mining data and lack verification and assaying processes. Furthermore, it was discovered that loopholes in taxation law, the inadequacy of weighbridges, and poor legislative oversight of parliament resolutions regarding revenue leakages are often not implemented.

The study identifies critical gaps in Zimbabwe's mining sector contributing to revenue leakages. By analysing smuggling, limited government transparency, and weak enforcement capacities, the research sheds light on similar challenges faced by many African nations rich in mineral resources. The results presented in this study provide valuable insights into the various causes of revenue leakages which can be crucial in informing policy decisions and strategies to address the challenges faced by the mining sector. Furthermore, this work contributes to the development of best practices in mining revenue collections, and identifies policy improvement opportunities, benefiting policymakers and academics worldwide. The study provides several recommendations to achieve "Vision 2030".

1. Introduction

The Government of Zimbabwe (GoZ) established "Vision 2030," which aims to develop the mining sector such that it generates 12-billion United States Dollars (USD) in yearly income by 2030 (Republic of Zimbabwe, 2020). However, this endeavour is at risk of not being achieved due to the constant threat of revenue leakages in the mining sector. According to Cunningham et al. (2018), leakages of revenue are inadvertent losses of income by a business or government and often go unobserved. These fail to get noticed by resource governance institutions due to maladministration, laxity, inefficiency in payments, hurdles in earning, mistakes in handling expenses and operations of subscriptions. This research seeks to institute a clear, thorough and extensive analysis of the influence of revenue leakages on policy outcomes from the perspective of the mining sector in Zimbabwe and the endeavour to improve the mining industry by 2030.

After a change of political leadership in Zimbabwe in 2017, the

incoming dispensation availed a broad policy framework named "Vision 2030". Its objective was to institute the recovery of Zimbabwe's development, hinging on the country's human resources and its comparative advantage (Government of Zimbabwe, 2018). Improving the mining industry is a crucial component and promoter of "Vision 2030". This top-level policy structure is at risk of derailing due to various factors such as the mining industry's long standing revenue leakages. For instance, Zimbabwe's Ministry of Finance and Economic Development (2015) acknowledged that the country is losing approximately 1.8-billion USD in mining revenue annually, particularly through the smuggling of minerals, and a lack of transparency and accountability in revenue management.

Mining is an industry that is relied upon by most African countries as Africa's export-dependent mining is powered by the thirst for commodities by countries with the leading Gross Domestic Product (GDP) (Musokotwane, 2016). According to National Accounts - ZimStat (2023), mining products in Zimbabwe account for 60% of the country's

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foreign exchange earnings and 12% of its GDP. The [Zimbabwe National Statistical Agency \(2020\)](#) states that Zimbabwe's mining industry as of 2019 employed 61 234 people formally. However, the [Ministry of Finance and Economic Development \(2015\)](#) asserts that Zimbabwe has been deprived of revenue due to the smuggling of gold to South Africa. The [Ministry of Finance and Economic Development \(2020\)](#) reported that over 1-billion USD of revenue was not realised from the mining industry due to mineral smuggling, a large portion of the gold sector. [Mining Data Online \(2020\)](#) and [Nyamucherera and Sibanda \(2020\)](#) show that the country's inflows from mineral sales are often accounted for in the official channels as the government has sub-standard control systems for revenue. Furthermore, [Muronzi \(2020\)](#) asserts that about two thirds of minerals are mined by small players who often do not have a licence to operate, hence they do not sell their products in the formal markets. [Mutandwa and Genc \(2018\)](#) also state that instituting various agencies for collecting diverse levies other than through the Zimbabwe Revenue Authority (ZIMRA) complicates compliance and makes it a deterrent to comply. It is this environment that poses challenges to the undertaking of multiplying the Zimbabwe mining industry's entire worth four times by 2023. The challenges outlined above are yet to be exhaustively defined and analysed. This was the foundation for this study in exploring the effect of mineral revenue loss on Zimbabwe's policy objective; to attain a 12-billion USD mining industry by 2023.

The overarching policy objective of turning the Zimbabwean mining industry into one that generates 12-billion USD in revenue annually by 2023 does not sufficiently describe or incorporate methods to reduce revenue leakages. This is despite an abundance of literature, empirical and anecdotal evidence attesting to the fact that Zimbabwe's extractive industry bleeds out potential revenues from many formal and informal loopholes. This indicates that there is a risk that the policy has already been and will continue to be curtailed by a failure to alleviate revenue leakages. Studies such as that of [Mutandwa and Genc \(2018\)](#) have determined that poor revenue management is one of the major challenges affecting the performance of the mining sector in Zimbabwe.

This paper looks at the possible causes of mineral resource revenue leakages in Zimbabwe by studying related literature on the resource curse and low revenue mobilisation. The paper presents results of a survey encompassing 40 stakeholders in the mining sector and public authority.

2. Low revenue mobilisation in resource rich countries

2.1. The causes of revenue leakages in mining

2.1.1. Compromised and weak institutions

[Eme et al. \(2015\)](#) found that in Nigeria, the lack of sufficient accountability and transparency, particularly in public institutions, was a major cause of revenue leakages as less than 60% of oil revenue is properly accounted for in the disclosure by government institutions. It was concluded that the lack of accountability and transparency has also been both a cause and a symptom of rampant corruption which often manifests as a deliberate understating of the oil produced so that corrupt officials may misappropriate the difference ([Eme et al., 2015](#)).

[Musokotwane \(2016\)](#) found that in Zambia, one of the causes of revenue leakages is that disclosed data is often aggregated and of little use to consumers. According to [Musokotwane \(2016\)](#), this lack of nuanced and disaggregated data provides an opportunity of understanding revenue or hide operational inefficiencies that may be causing failure to maximise on revenue that can be acquired in the mining sector. [Musokotwane \(2016\)](#) also found that the revenue disclosure is also fragmented and sometimes too spaced that the data does not provide a sufficient assessment of productivity and efficiency in the extractive industry. [Musokotwane \(2016\)](#) concluded that enhanced coordination of public institutions that regulate and monitor the extractive industry could lead to more regular, disaggregated and comprehensive disclosure of revenue.

In Mozambique, the International Monetary Fund (IMF) (2019) discovered that establishments pertinent to the disclosure of extracting information are not well worked with. According to the [IMF \(2019\)](#), these organisations work in silos as they deal with institutional, governing and human resources difficulties. [Chigumira \(2018\)](#) states that these challenges include an absence of ability and will make mining businesses declare their revenue. This is also exacerbated by the fact that the government does not have personnel with the necessary know-how of dealing with the audits of these businesses and the government does not possess comprehensive geological information about the country. [IMF \(2019\)](#) also identified that civil culture does not have the technical capability to analyse and review the details divulged. Civil society has a tendency to be more on social justice rather than on financial, monetary and geological areas which must be key in the understanding of the mineral resources ([IMF, 2019](#)).

A study by [Davis \(2019\)](#) found that revenue leakages were frequently, in part, a symptom of national and local governments' failure to enforce compliance of laws and regulations by mining companies in Latin America. [Davis \(2019\)](#) claims that exploration takes place in rural areas with little to no advancement. Due to their geographic isolation, the areas that are explored frequently have contested or unrecognised land titles and local governments are unable to provide basic services or act as a middleman between mining companies and communities. [Davis \(2019\)](#) concluded that mining companies have an excessive amount of power and that traditional endogenous cultures struggle to adapt to the massive industrial processes and the emergence of outsiders. Mining companies in this situation benefit themselves and rarely the local communities ([Davis, 2019](#)).

2.1.2. Corruption

[Mushokolwa \(2019\)](#) stated that rampant corruption was a significant cause of revenue leakages in the mining industry in Tanzania. [Mushokolwa \(2019\)](#) posits that officials at regulatory public institutions, law enforcement and financial institutions often colluded with mining companies and individuals to understate, divert or misappropriate revenue leading to millions of USD worth of revenue for the state. [Mushokolwa \(2019\)](#) also established that a lack of transparency, weak law enforcement and verification enabled minerals to be smuggled out of the country while some minerals were plundered under the guise of prospecting. According to [Mushokolwa \(2019\)](#), disclosure was also not comprehensive and not sufficiently verified and that taxation irregularities and inefficiencies in the application of royalties also left loopholes that could be exploited by mining companies.

[Luhende \(2017\)](#) asserts that corrupt government officials wilfully stop working to collect taxes due, short levy taxes, grant undeserving tax obligation incentives to international mining firms, or draw away income collected for their own personal account.

[Singh \(2020\)](#) determined that revenue leakages in the mining sector are often symptomatic of corruption and injustices in the extractive industry. As such [Singh \(2020\)](#) established that this often contrasts with obligations of global fair competition, property rights and transparency such as the Kimberley Process (2003). This leads to a shrinking of foreign direct investment sources and affects the government's ability to acquire multilateral financial support ([Singh, 2020](#)). Hence, government policies may go underfunded and therefore goals related to poverty eradication, infrastructure development, technological proliferation, human development and environmental conservation amongst others, are not met ([Singh, 2020](#)).

2.1.3. Flaws in fiscal design

[Lundstol et al. \(2017\)](#) argue that revenue leakages in the mining industry are often the result of a flawed fiscal design. They also opine that the fiscal design includes government ownership interest, the tax regime, royalty systems, licensing and exploration fees, concessions, technical audit capacity including control over production quantity, quality, products and the overall stance on effective benefit sharing

(Lundstol et al., 2017). They established that, increasingly, tax regimes have been less effective in securing benefit sharing and revenue generation as compared to ownership interest. A fiscal design that is more inclined towards stringent tax regimes is, therefore, less likely to realise sufficient revenue as compared to public institutions or local communities acquiring an ownership interest (Lundstol et al., 2017).

Luhende (2017) found that revenue leakages in the mining field were a result of an inefficient tax regime. According to Luhende (2017), optional tax obligation motivations such as tax obligation exemptions, reducing tax obligation prices and unique tax obligation treatment result in non-payment of tax that would certainly otherwise have been payable. Luhende (2017) found that global mineral businesses adopt a selection of methods, such as transfer prices, thin capitalisation, corporate reorganisation tax obligation evasion as well as treaty shopping to manipulate the loopholes or spaces in the tax laws to minimize or eliminate their tax obligation commitments without being caught or punished. Luhende (2017) concluded that all these factors show the close link between under collection of taxes, corruption and tax obligation avoidance.

In Zimbabwe, Mupfumi and Masiya (2018) have reported that several challenges are encountered in enforcing the prevailing tax policy framework in the mining industry. For instance, issues with transfer pricing and tax avoidance are brought on by re-invoicing, undervaluation, light capitalisation, and a system of inconsistent tax incentives (Mupfumi and Masiya, 2018). According to Zimbabwe Environmental Law Association (ZELA), tax incentives become a challenge when special arrangements and subsidies in the forms of tax concessions, unnecessary customs and excise duty exemptions are indiscriminately handed out to mining companies (ZELA, 2022). According to ZELA (2022), a review of how tax incentives are being applied in Zimbabwe warrants a comprehensive investigation.

2.1.4. Inadequate checks and balances

Cobham (2020) and Eme et al. (2015) posit that there may be gaps that lead to revenue leakages throughout the customer relationship life cycle, including prospecting, on-boarding, transaction processing, billing and recovery, monitoring, and service closure.

In Angola, Sarma and Naresh (2018) determined that there is no meaningful verification of disclosed revenue data from private mines and public institutions and data on royalties, taxation, remittances and corporate social responsibility is taken at face value. It was further stated that the Angolan government has not developed adequate institutional, personnel and infrastructure capacity to comprehensively verify mining disclosures which may be leading to losses in revenue that government is not aware of which government officials may be corruptly benefiting from (Sarma and Naresh, 2018). A study in Angola by Nzinga (2018) established that disclosure of mining information does not go beyond statutory requirements and is only limited to production yield while ignoring issues to do with the environment, ethics, human rights, labour practices and corporate social responsibility.

In Zimbabwe, Kaseke et al. (2015) stated that there is often very little transparency as well as accountability when it comes to revenue disclosures and reporting as it was found that information about the revenue generated in the mining industry is typically considered to be classified. The fate of paid mining royalties, notably to rural district councils is not transparent and the whole process along the reporting chain is shrouded in mystery which leaves significant loopholes for revenue to be lost, diverted or underreported (Kaseke et al., 2015). Kaseke et al. (2015) also found that the lack of coordination and consistency in revenue reporting by public institutions to be another loophole for revenue leakage. For instance, it was found that the Minerals Marketing Cooperation of Zimbabwe (MMCZ) and the Zimbabwe Mining Development Corporation (ZMDC) occasionally report disparate figures. Zvayi (2011) reported that ZMDC indicated that the treasury acquired 62-million USD in revenue from diamond sales while the MMCZ reported 174-million USD. Similarly, the Zimbabwe Economic

Policy Analysis and Research Unit (ZEPARU, 2020) states that disparate disclosure reports in Zimbabwe indicate that the revenue framework needs demystifying as there could be millions of USD being diverted, underreported or lost.

The extractive sector in Africa is fraught with numerous loopholes and underhanded trading that leads to misappropriation of revenue from both formal and informal gateways. Nzinga (2018) states that the rampant artisanal and small-scale mining that occupies a large segment of the mining industry in Africa (including Zimbabwe) is mostly informal and does not remit taxes and other levies to the government.

In South Africa, Mkubukeli (2016) found that the policy framework was significantly more effective in extracting revenue from large mining companies but less so amongst small companies and small-scale and individual artisanal miners. Mkubukeli (2016) found that the register of mining companies was comprehensive only with regard to large mining corporations but obscure with regard to smaller mining ventures and individual miners. Mkubukeli (2016) concluded that the state was likely deprived of millions of Rands (ZAR) worth of mining revenue through smuggling, tax evasion, unpaid exploration fees, unpaid royalties and underreported yield amongst smaller mining ventures. Mkubukeli (2016) recommends that stronger regulation and enforcement of policy amongst smaller mining enterprises was necessary for the government to maximise the collection of revenue from smaller mining companies.

2.1.5. Smuggling

Jourdan et al. (2012) reported that the smuggling of minerals from African countries is extensive and is often downplayed for political and several corrupt motives. Instances of corruption in Zimbabwe's mining sector have been put but never proven. Aljazeera English (2023) alleged that there was rampant corruption in Zimbabwe's gold sector leading to unprecedented smuggling, and this was backed by influential figures and politicians. Östensson and Roe (2017) established that while billions of USD worth of minerals leave the African continent annually, this does not tally with the revenue that most governments accrue, suggesting that rampant smuggling of minerals is occurring on the African continent. Therefore, the minerals do not support policy implementation to the extent that they are expected to (Östensson and Roe, 2017). Hence, this study seeks to explore in detail, all the reasons that lead to loss of revenue in Zimbabwe's mining industry to evaluate how these may affect the endeavour to transform the mining sector by 2023.

2.2. The impact of revenue leakages on policy outcomes

In a study conducted in Mexico, Lundstol et al. (2017) found that when revenue leakage is widespread, it robs local communities and public institutions of the money and other resources they need to achieve social, economic, and environmental goals over the long term and the near term. They suggest that the extraction of minerals is often tantamount to asset stripping of local communities without sustainable development, capital formation, infrastructure development, significant employment creation or value addition (Lundstol et al., 2017). They concluded that often, when the policy and its enforcement are unable to ensure returns to plough back to the community, there is often indiscriminate environmental harm and a disregard for human rights by mining companies in local communities (Lundstol et al., 2017). This leaves the communities desolate after the mining companies have extracted minerals over several years and left (Lundstol et al., 2017).

In Mali, Vella (2017) found that the government failure to effectively enforce the mining revenue policy has a bearing on environmental policy. According to Vella (2017), taxation models incentivize mining companies to be more mindful of environmental conservation and adhere to environmental regulations because a lack of compliance would be costly, both financially and materially. Vella (2017) established that because the taxation of mining companies is not firm enough and the enforcement is porous, most mining companies get away with polluting the environment. Vella (2017) concluded that the mining

revenue policy framework is not sufficiently tied to environmental regulation to compel mining companies to adhere to environmental sustainability. As a result, Mali is prone to pollution, indiscriminate mining and low health and safety standards within its extractive industry Vella (2017).

Akabzaa and Darimani (2001) found that the success of most policies rests on investor confidence. However, when there are revenue leakages and signs of inefficiencies or corruption in the mining sector, investor confidence is low and the projected economic gains may not be realised (Akabzaa and Darimani, 2001).

2.3. How revenue collection may be enhanced in the mining sector

According to Lundstol et al. (2017), robust fiscal planning that incorporates a progressive element to capture windfalls is necessary to improve the sharing of mining revenue in Tanzania and Zambia by promoting cost-cutting and maximising output. Additionally, it is necessary to have specialised tax administration for mining and the extractive industries in order to prevent the tax base from eroding and to establish and enforce accurate tax assessments (Lundstol et al., 2017). According to Lundstol et al. (2017), this will only succeed if there is political will, accountability, and consistency in the government. The study drew the conclusion that once everything is done, the anticipated tax revenue from mineral extraction will be guaranteed along with increased transparency of mining-related revenue (Lundstol et al., 2017). Lundstol et al. (2017) claim that these proposals would significantly reduce leakages and tighten the security of revenue generation.

A policy devoted to eliminating revenue leakages in the mining sector is essential as evidenced by empirical and theoretical literature. For instance, in India, Moudgal (2019) reports that the Indian government availed four new policies in 2019 to swiftly alleviate revenue leakages in the mining sector. Moudgal (2019) opines that the laws mandate the formulation and keeping of mineral dispatch permits that trace the source, utilisation and accounting for minerals in the affected sectors.

A study conducted in Tanzania by Luhende (2017) suggested that the government implement anti-tax avoidance legislation to combat tax evasion and avoidance by enacting stricter oversight regulations that limit the use of public authority and promote transparency and good governance. Although Tanzania has a strong fiscal institutional framework, anti-tax avoidance regulations, and accountability systems, Luhende (2017) concluded that the level of the government's tax revenue still depends on the institutional capacity to identify, prevent, and punish tax avoidance schemes and corruption.

Eme et al. (2015) advised that the government of Nigeria adopt best practices in open contracting to decrease income leakages resulting from government procurement processes in order to eliminate the possibility of illegal financial flows from national and local government treasuries. The Nigerian government and all of its institutions, including the legislature, should be equipped to be able to conduct legislative and executive oversight pertaining to revenue production and disclosure (Eme et al., 2015). Often parliamentarians are unable to effectively interpret and critique mining disclosure reports which weakens their ability to provide effective oversight, flag inefficiencies and corruption (Eme et al., 2015).

According to Kaseke et al. (2015), Zimbabwe should sign up for the Extractive Industry Transparency Initiative (EITI) in order to achieve transparency and accountability in tax collection and reporting. The EITI was established in 2002 with the goal of improving openness and accountability in nations with abundant reserves of gas, oil and minerals (EITI, 2018). According to EITI (2018), the full verification and publishing of business payments and government revenue for gas, oil and minerals help to promote governance.

Lundstol et al. (2017) recommended more punitive penalties to deter corruption and this must be supported by accountable, transparent and committed law enforcement that does not yield to political pressure or

partiality. They opine that often regulations do not work because they are weakly or not enforced. Hence, there should be penalties on law enforcement institutions and individuals that fail to comply with regulatory obligations to impartially investigate and apprehend corrupt elements in the extractive industry (Eme et al., 2015). Lundstol et al. (2017) also suggest that whistle-blowers must be encouraged and protected so that the community and employees can play a part in monitoring and reporting corruption in the extractive industry.

Sarma and Naresh (2018) suggest that the capacity of regulatory and other institutions to produce, decipher and verify disclosure of information in mining must be comprehensively enhanced. This will result in disclosures that are meticulous, more nuanced and disaggregated. Therefore, disclosure would have more utility with regard to understanding the mining and financial operations of institutions in the mining sector as well as better trace revenue (Sarma and Naresh, 2018). There is a need for public and regulatory bodies to verify mining disclosures so that mining companies do not have the luxury to understate revenue as a means to evade taxes (Sarma and Naresh, 2018).

Musokotwane (2016) contends that independent research organisations, the media, and non-governmental organisations need to take on a more vigilant role as watchdogs when it comes to covering, deciphering and questioning mining companies and government agencies regarding the distribution of revenue in the mining industry. According to Musokotwane (2016), openness and responsibility in the extractive industry can only be ensured if the public is made aware of mining activities. As such, non-governmental organisations, media and academic institutions play a key role in keeping the public informed and enlightened. Furthermore, Musokotwane (2016) argues that transparency has to be guaranteed by the establishment and maintenance of beneficial ownership records, a registry of mining contracts, and coordinated reporting on social investment in the mining industry.

In Zimbabwe, Mupfumi and Masiya (2018) recommend that the Mining Affairs Board adopt the Zimbabwe Mining Revenue Transparency Initiative (ZMRTI) to champion openness and responsibility. To prevent mining companies from splitting earnings and losses over several projects, Mupfumi and Masiya (2018) contend that ring-fencing needs to be properly implemented in the regulatory and legislative environment. This will help avoid potential delays in the government's receiving of funds. They also assert that ring-fencing would ensure that mining companies make a more committed effort towards meeting their tax obligations. Moreover, Mupfumi & Masiya (2018) contend that before mining licenses are awarded, mining companies must show how their operations will impact Human rights and the environment.

This study identified and evaluated the policy framework meant to alleviate revenue leakages in Zimbabwe's mineral sector. The conceptual foundation for the study was described and an overview of Zimbabwean mining income policies were discussed. The resource curse was explored as it relates to revenue leakages and then explored the gaps in the policies regarding mining revenues and sought alternative ways to close those gaps and in turn increase revenue collection.

3. Methodology

The work presented here employed primary and secondary data sources, including questionnaires, in-person interviews and review of documents to achieve the aims and objectives of this study. The MMCZ Act, the ZIMRA Act and other legislative documents that make up Zimbabwe's mining policy were used to benchmark the management of natural resources using the Natural Resource Governance Benchmarking Framework (NRGBF). This was done in contrast to South Africa's identical measures. South Africa was used as a benchmark in the region as it has a diversified mining industry, and it has more disclosure. Benchmarking information was gathered from internet sites and annual publications of organisations including the Mo Ibrahim Foundation, the World Bank and the African Development Bank.

This study's research population consisted of 18 institutions which

included 10 mining companies. The names of the mining companies were not disclosed. The name of the public and civic organisations that participated are:

- Confederation of Zimbabwe Industries (CZI);
- Institute of Mining Research (IMR);
- Fidelity Printers and Refineries (FPR).
- Minerals Marketing Corporation of Zimbabwe (MMCZ);
- Ministry of Mines and Mining Development (MMMD);
- Zimbabwe Chamber of Mines;
- Zimbabwe Gold Buyers Association; and
- Zimbabwe Revenue Authority (ZIMRA).

The study was concerned with the entire mining sector and therefore the population had to be broad. A sample size of 40 participants was determined to be appropriate. This balanced the need for adequacy and the ability to handle the data that would be collected. The sample was deemed to be representative of the population because it included an average of more than two parties from all of the 18 institutions that made up the study’s population. Data for the study was gathered from significant private, governmental and neutral institutional stakeholders in Zimbabwe’s mineral economic policy sector. The participants included senior and middle managers as well as government and quasi-government authorities. *Pact (2018)* states that gold accounts for more than a quarter of mining revenues, hence the decision to use it as a benchmark. Key informants from five of the top gold producers were provided with questionnaires. The other five participants were from platinum, nickel, chrome, lithium and diamonds sectors.

Validity and reliability of the study were assured by data source triangulation in which questionnaires, interviews and document analysis were the three sources of data. The study sampled public and private institutions as well as independent watchdogs for the objectivity of results. The study also ensured the validity of the questionnaires and interviews by crafting questions that are relevant and in line with the research objectives. Furthermore, a document analysis guide was used to ensure that relevant documents were analysed. The research also conducted a pilot study prior to actual research.

The research had 56 participants wherein 84% of the participants were male whilst 16% were female. Forty (40) of the participants responded to questionnaires and 16 participants were interviewed. The questionnaires had 10 questions whilst the interviews had 12 questions. The experience of the participants spanned from 1 year to over 21 years with the highest number of participants in the 11–15 years experiences range. The participants’ ages ranged from 18 to over 56, with the age group of 36–45 years having the largest percentage of participants. Informed consent from participants was acquired and subsequently, questionnaires were distributed and retrieved in person at the work premises of the 40 participants. A batch of eight questionnaires was distributed and retrieved each day for five days. Two interviews were conducted each day for eight days at the work premises of the 16 participants. The questionnaire for mine leaders is in [Appendix 1](#). The

Table 1
Response rate.

Participants	Target	Actual	Rate
Questionnaires			
Mine leaders	40	40	100%
Interviews			
Confederation of Zimbabwe Industries	2	2	100%
Institute of Mining Research	2	2	100%
Fidelity Printers and Refineries	2	2	100%
Minerals Marketing Corporation of Zimbabwe	2	2	100%
Ministry of Mines and Mining Development	2	2	100%
Zimbabwe Chamber of Mines	2	2	100%
Zimbabwe Gold Buyers Association	2	2	100%
Zimbabwe Revenue Authority	2	2	100%
Total	56	56	100%

questions utilized for the interviews are in [Appendix 2](#). [Table 1](#) presents that 40 mine leaders participated in the research through questionnaires and 16 interviews were conducted at eight institutions.

4. Results and discussions

The study yielded valuable insights from questionnaires and interviews, capturing three significant themes: the identified causes of revenue leakages, the impact of these leakages, and potential strategies for improving mining revenue collection in Zimbabwe.

4.1. Causes of revenue leakages

This section identifies critical gaps in Zimbabwe’s mining sector contributing to revenue leakages. By analysing smuggling, limited government transparency, and weak enforcement capacities, the research sheds light on challenges faced by many African nations rich in mineral resources. Addressing these issues can not only benefit Zimbabwe’s development but also serve as a model for improved resource management across the continent. [Fig. 1](#) shows the perceived reasons for revenue leakages.

The key findings are listed below:

- All 40 (100%) of the questionnaire participants indicated that the smuggling of minerals is a prominent cause. This was supported by all 16 interview participants;
- All 40 (100%) of the questionnaire participants indicated that superficial government disclosures provided an opportunity for revenue leakages because the value of minerals or proceeds from minerals could be easily understated. This was supported by 13 interview participants;
- Thirty-eight (95%) questionnaire participants indicated that the limited capacity of regulatory authorities to enforce the compliance of mines regarding disclosures, royalties and remittances is a significant cause of revenue leakage. This was also echoed by 12 interview participants;
- Thirty-eight (95%) of the questionnaire participants indicated that a lack of coordinated information sharing amongst government organs and branches is another significant cause of revenue leakage. This was also generally echoed by 13 of the interview participants;
- Thirty-four (85%) of the questionnaire participants indicated that government departments limited technical skills to collect, synthesise and report mining data was one of the factors contributing to revenue leakage. This was supported by 11 interviewee participants;
- Thirty-three (83%) of the questionnaire respondents indicated that a lack of specialised metallurgical laboratories for verification and assaying processes was also a significant cause of revenue leakage. This was also agreed to by 11 of the 16 interviewee participants;
- Several participants, 31 (78%), indicated that loopholes in taxation law are also a significant cause. This was alluded to by 10 interviewee participants;
- Thirty-one (78%) indicated that limited weigh bridges are a factor that contribute to revenue leakages because they cause delays and hinder verification, a scenario that fosters corruption. This was also supported by 10 interview participants; and
- Twenty-four (60%) of the questionnaire participants indicated that poor legislative oversight is one of the causes. This view was also supported by eight interview participants.

4.2. Impacts of revenue leakages

The results of revenue leakages on the endeavour to develop the mining industry into a 12-billion USD industry by 2023 in Zimbabwe were discussed with the participants. This study quantifies the negative impacts of revenue leakages on Zimbabwe’s mining sector, revealing their detrimental effect on achieving economic goals. [Fig. 2](#) shows the

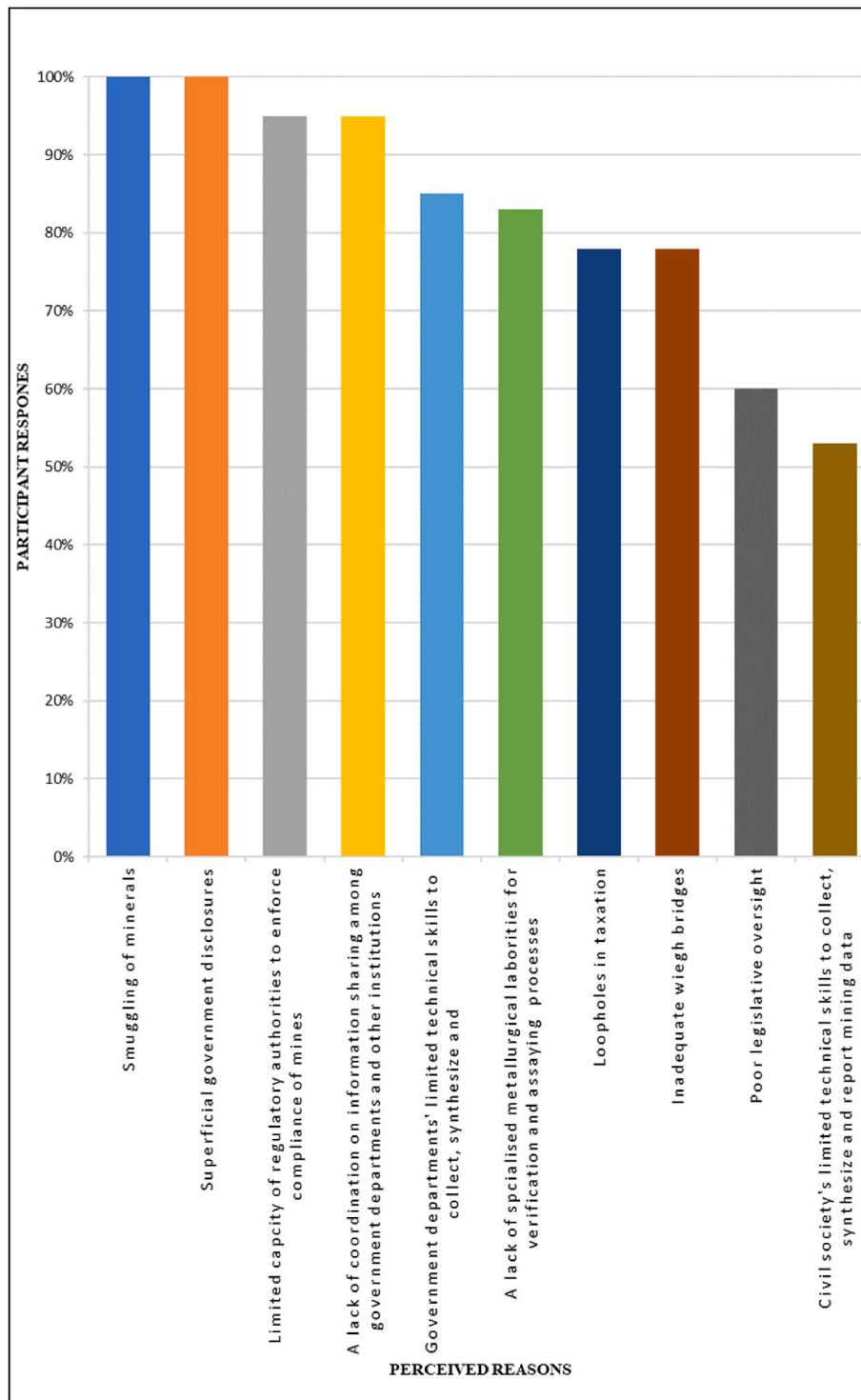


Fig. 1. The perceived reasons for revenue pilferage in Zimbabwe's mining industry.

responses to the effects of the revenue leakages in Zimbabwe's mining sector.

The key findings are listed below:

- All 40 (100%) of the questionnaire participants indicated that one of the impacts of revenue leakage on Zimbabwe's endeavour to achieve a 12-billion USD industry by 2030 is that government is unable to track progress on set milestones. This was also supported by all 16 interview participants;
- All 40 (100%) of the questionnaire respondents indicated that revenue leakages in Zimbabwe's mining sector led to inadequate growth of the industry. This was also alluded to by all 16 interview participants;
- Thirty-eight (95%) of the questionnaire respondents indicated that revenue leakages lead to insufficient market capitalisation. This was also echoed by 13 of the interview participants;
- Thirty-eight (95%) of the questionnaire respondents indicated that revenue leakages lead to lower than projected investment in the

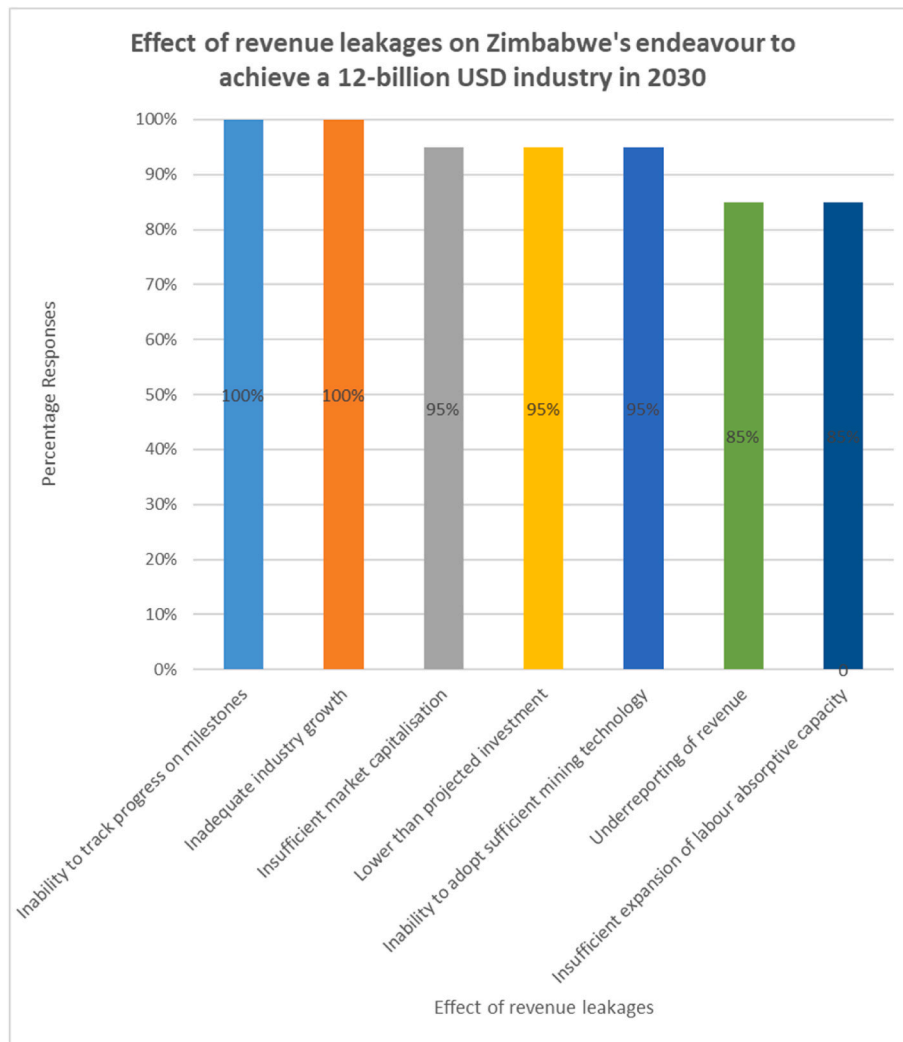


Fig. 2. The effect of revenue leakages on the endeavour to develop Zimbabwe’s mining industry into a 12-billion USD sector by 2023.

mining industry. This was also alluded to by 13 interview participants;

- Thirty-eight (95%) of the questionnaire respondents indicated that revenue leakages lead to insufficient mining technology being proliferated in the industry. This was supported by 12 of the interview participants;
- Thirty-four (85%) of the questionnaire respondents indicated that another consequence of revenue leakage on the endeavour to grow the mining industry into a 12-billion USD sector is that under-reporting of revenue makes it impossible to ascertain whether the milestone has been reached. This was also echoed by 12 of the interviewees; and
- Thirty-four (85%) of the questionnaire respondents also indicated that one of the impacts of revenue leakage in the mining industry is that this leads to a limited expansion of labour absorptive capacity. This was also alluded to by 11 of the interview participants.

4.3. Ways of improving mining revenue collection

How the government of Zimbabwe’s revenue collection may be improved in the mining sector were discussed with the participants. Fig. 3 shows suggested ways of increasing revenue collection in the mining sector.

The key findings are listed below:

- All 40 (100%) of the questionnaire respondents indicated that becoming part of the EITI would be one of the effective ways with which to alleviate revenue leakages. This was also supported by all interview participants;
- All 40 (100%) of the questionnaire respondents also indicated that stiffer penalties for mineral smuggling would be another way to effectively curb revenue leakages. This was also alluded to by 15 of the interview participants;
- Thirty-nine (98%) of the questionnaire respondents indicated that reforming taxation laws to close loopholes could be one of the effective ways with which to enhance revenue collection. This was supported by 13 of the interview participants;
- Thirty-nine (98%) of the questionnaire respondents indicated that skills upgrade to enhance auditing, monitoring and verification of disclosure information, particularly within government departments would be one of the ways with which to alleviate revenue leakages. This was also alluded to by 15 interview participants;
- Thirty-eight (95%) of the questionnaire respondents indicated that enhancing the follow through on legislative oversight would be another effective way with which to reduce revenue leakages. This was also supported by 14 interview participants;
- Thirty-eight (85%) of the questionnaire respondents were of the view that enhanced coordination and information sharing amongst stakeholders could help mitigate revenue leakages by ensuring that

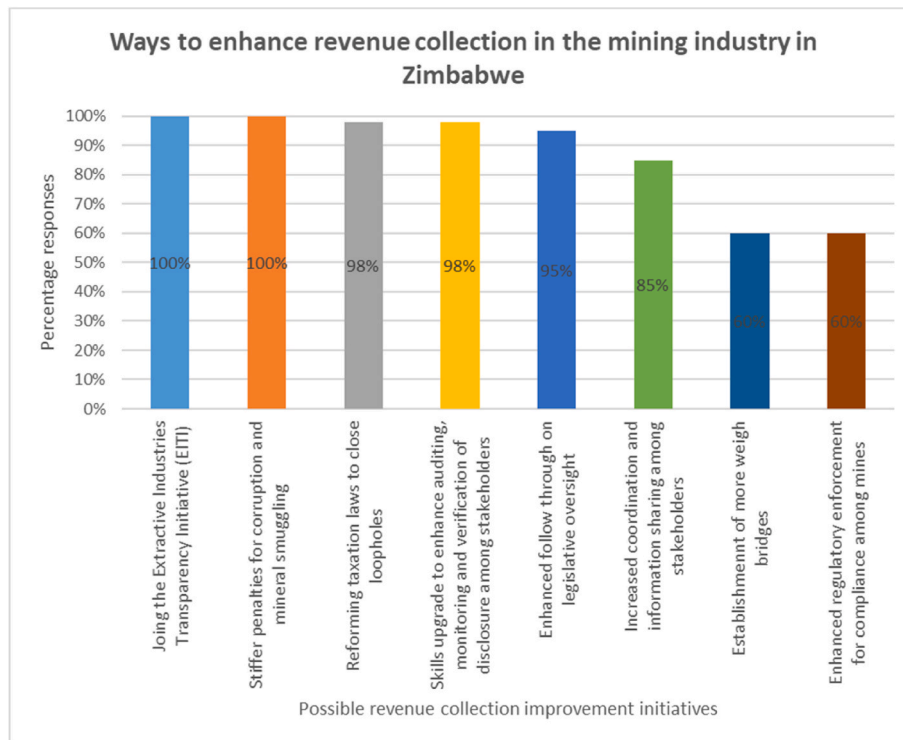


Fig. 3. How the Zimbabwe government’s collection of revenue may be improved.

accurate, comprehensive and transparent data is collected and reported. This was also echoed by 13 interview participants;

- Twenty-four (60%) of the questionnaire respondents indicated that the establishment of more weigh bridges would be one of the ways with which to effectively curtail revenue leakage. This was also alluded to by 11 of the interview participants; and
- Twenty-four (60%) of the questionnaire respondents also indicated that enhanced regulatory enforcement for higher compliance levels amongst mining companies may be another measure that could significantly curtail revenue leakages. This was also echoed by 11 of the interview participants.

The proposed solutions offer a roadmap for Zimbabwe to strengthen its mining revenue collection system, potentially unlocking significant economic benefits. By implementing the findings of this study, Zimbabwe can serve as a model for other African nations seeking to improve their own resource governance practices. Additionally, this research contributes to the development of best practices in mining revenue collections, benefiting academics and policymakers worldwide.

5. Conclusions

This research provides valuable insights into the challenges and opportunities within Zimbabwe’s mining sector, offering actionable recommendations for policymakers. The benefits are three-fold, for Zimbabwe, Africa, and academia. The following conclusions were drawn:

5.1. Zimbabwe

- **Increased Revenue:** The research identifies key areas of revenue leakages and proposes solutions to plug them. This could significantly boost government revenue, allowing for increased investment in critical areas like infrastructure, healthcare, and education.
- **Improved Transparency and Accountability:** The study calls for stricter regulations, enhanced information sharing, and independent

audits to ensure transparency and accountability in mining revenue collection. This can rebuild trust with citizens and investors.

- **Enhanced Sector Growth:** By addressing revenue leakages and implementing the recommended policy changes, the research paves the way for a more robust and sustainable mining sector, potentially attracting greater investment and creating jobs.

5.2. Africa

- **Best Practices:** The research provides valuable insights into addressing revenue leakages in the mining sector, which can be adopted by other African countries facing similar challenges.
- **Regional Development:** Increased revenue from the mining sector in Zimbabwe can contribute to regional development through cross-border trade and investment.

5.3. Academia

- **Knowledge Gap:** The research fills a knowledge gap by providing a comprehensive analysis of revenue leakages in Zimbabwe’s mining sector, offering valuable insights for academics and policymakers.
- **Policy Development:** The recommendations and conclusions offer practical guidance for policymakers in Zimbabwe and other African countries to improve mining revenue collection and sector development.
- **Further Research:** The study identifies areas for further research, such as the specific impact of revenue leakages on different stakeholders and the effectiveness of different policy interventions.

To significantly enhance Zimbabwe’s mineral resource revenue collection, this research study recommends a comprehensive strategy encompassing the following key actions:

- **Joining the Extractive Industries Transparency Initiative (EITI):** This established global standard promotes transparency and

accountability in the extractive sector, potentially attracting further investment and bolstering public trust in resource management.

- Instituting stiffer penalties for corruption and gold smuggling: This strong deterrent can significantly discourage illegal activities, safeguarding national resources and ensuring fair competition within the mining industry.
- Reforming taxation laws to close loopholes: Addressing existing loopholes can ensure a level playing field for all mining companies and optimize government revenue collection from the sector.
- Upskilling government departments and civil society for enhanced auditing, monitoring, and verification: Investing in capacity building can equip relevant actors with the necessary expertise to effectively scrutinize mining operations, ensuring accurate disclosures and deterring potential misconduct.
- Following through on legislative oversight: Ensuring effective implementation of existing legislative frameworks strengthens the regulatory environment, fostering transparency and deterring non-compliance.
- Enhancing coordination and information sharing among stakeholders: Establishing robust communication channels between government agencies, mining companies, and civil society organisations can facilitate data exchange, streamline administrative processes, and foster a collaborative approach to revenue management.
- Building sufficient weigh bridges: Expanding the infrastructure for accurate mineral weight measurement can minimize discrepancies and ensure fair taxation based on actual production volumes.
- Enhancing regulatory enforcement for compliance among mines: Implementing stricter enforcement measures can incentivize responsible practices and ensure adherence to established regulations, safeguarding environmental and social considerations alongside revenue collection.

It is crucial to emphasize that these recommendations are most effective when implemented collectively. By adopting a comprehensive and coordinated approach, Zimbabwe can address the root causes of revenue leakages, unlock its full mining revenue potential, and contribute to sustainable economic development.

CRediT authorship contribution statement

Pemberai Abide Tanda: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Bekir Genc:** Writing – review & editing, Supervision, Project administration, Formal analysis.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.resourpol.2024.104884>.

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