

Advancing Sustainable Mining in Pakistan: An Analytical Review of Legal, Institutional, and Policy Reform Initiatives

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Abstract

Pakistan is fortunate because it possesses many mineral reserves that can be efficiently utilised to stimulate economic growth. However, despite this potential, the mining industry does not make a significant contribution to the GDP of this nation, and it accounts for less than 3.2 per cent of the aggregate product. The causes of poor performance in the sector include outdated laws, lax rules and regulations enforcement and shoddy governance among several others. Environmental degradation is immense, with examples such as soil erosion, deforestation, and water pollution, all of which are exacerbated by the enforcement of environmental laws. Additionally, mining reports about inadequate compensation of the indigenous people and their non-inclusion in the decision-making have contributed to social upheavals. Other barriers to the sector include corruption, political influences, and a lack of accountability. The research article provides an objective evaluation of Pakistan's legal frameworks, institutional framework, and governance, examining their influence on mining. It reveals loopholes in the regulation that hinder its efficient implementation, which in turn prevents sustainable mining. The study will propose a series of legislative and policy reforms based on best practices internationally, specifically within the African Mining Vision and the Extractive Industries Transparency Initiative (EITI). These reforms would also create transparency, accountability and environmental sustainability in such a way that the mining industry can contribute better to the economic and social development of Pakistan. The research article outlines the importance of inter-provincial liaison, better community relations and the use of modern mining stewardship.

Keywords

Mining, Minerals, Governance, Pakistan, Sustainable Mining, Community Displacement, Transparency, Corruption, Accountability, Institutional, Legal, Reforms

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1. Introduction

Pakistan is endowed with a substantial base of mineral resources, which provides a notable potential for industrial growth, driving economic advancement. The geological landscape of the Pakistan spans over 600,000 square kilometres, which is enriched with deposits of copper, coal, chromite, gold, iron ores, and several precious and semi-precious stones (Siddiqi, 2025). These resources are if governed effectively, have the tendency to substantially contribute towards national development. Notwithstanding this abundance of minerals, the sector is still a minor contributor towards the national economy, which only accounts for almost 3.2% of the country's GDP and leads to just 0.1% of the international mineral export market, which is reduced to 145821 PKR Million in 2025 first quarter, Figure 1 (Government of Pakistan, 2023). In addition, the country also holds around 92 identified minerals, among which, 52 are commercial exploited generating a projected 68.52 million metric tons yearly (Siddiqi, 2025). In Pakistan, the mining industry is comprised of 5000 operational mines, and provisions almost 50,000 small and medium enterprises (SMEs) which provides direct employment to almost 300,000, which is projected to be increased by 18% individuals (Shah, 2018).

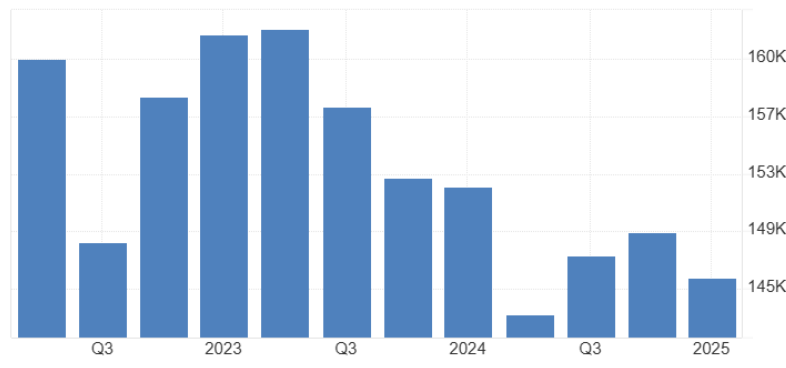


Figure 1: GDP from Mining Sector of Pakistan. Source: Trading Economics (2025).

Though, the development of the mining sector has been obstructed by ineffective governance and obsolete legal mechanism. Regulatory reforms are not just feeble and disjointed, but also enforced ineffectively and poorly in Pakistan (Shah et al., 2021). These developments are comprised of novel concession rules in provinces, increasing private sector investment, and surged identification and exploration of minerals such as copper, gold, and oil (Aliya and Qazi, 2024). The existence of environment regulation is found in theories; however, their actual implementation is still inconsistent which allows untracked degradation of ecosystem by means of deforestation, soil erosion, water pollution and loss of biodiversity (Bashir et al., 2023). In terms of social effects, mining operations have resulted in displacement of indigenous societies and conflicts over ownership of land and resources which is primarily due to insufficient engagement of community and benefit-sharing mechanism (Abbas & Sultan, 2023). For example, the Thar Coal project in Sindh led to displacement of numerous villages of the Tharparkar district, which impacted thousands of residents (Khan & Das, 2024). On the other hand, Baluchistan, Saindak and Reko Diq mining operations resulted relocation of native communities with limited compensation (Ishfaq et al., 2025).

Furthermore, in relation to Pakistan's mining industry, these challenges are further worsened by corruption, lack of transparency and limited accountability, with regulatory bodies are unable to regulate due to restricted capacity, systematic corruption and political interference (Mohsin et al., 2021). It is also founded on the old legislation that cannot keep track of the requirements of the new sustainable development (Khan et al., 2024). The legislations governing mining in Pakistan have not evolved under the guidelines of the international conventions like African Mining Vision making them hopelessly ineffective in targeting the evolving problems relating to the concept of ecological sustainability, accountability and development that are fair and equitable (Waheed et al., 2023). As an example, the existence of the National Mineral Policy framework can be seen as supportive to the development of the said sector but its implementation is nonetheless constrained by the absence of inter-provincial collaboration as well as the ineffective mode of enforcement. Also, the functions and responsibilities of both federal and provincial authorities tend to differ, thus creating a regulatory inefficiency and confusion (Janjuhah et al., 2021).

Furthermore, in Pakistan, the political patronage as well as behaviours of asking bribes and commissions further decrease the integrity and credibility of marketing governance (Janjuhah et al., 2021). Furthermore, in the country, corruption in the grant of mining agreements and leases to favoured companies and fraudulent practices in revenue reporting also tends to decrease trust of public and discourage both global as well as domestic investment (Waheed et al., 2023). On the other hand, in Pakistan, there is an absence of efficient anti-corruption safeguards which makes the sector highly susceptible to identification and exploration by

means of vested interest, while communities are not engaged in the decision-making processes during mining processes that leads to adverse impacts on population (Khan et al., 2024). Moreover, the main issue and problem targeted in the current study is lack of transparent and authentic governance regulations and models within institutional and legal frameworks for effective management of mining operations in the country. While Pakistan is rich in mineral deposits, the regulatory instructions are tasked with supervising extraction complying with environmental protection standards (Mujeeb, 2025). However, these institutions are under-resourced and lack the legislative authority to apply substantial oversight (Abbas & Sultan, 2023).

This has resulted in the situation where mineral do not translate into sustainable or inclusive development outcomes. Further, outdated legal statues, inadequate enforcements of policies and opaque processes of administration lead to inadequacies ecological harm and grievances at community level (Mohsin et al., 2021). As a consequence, the mining sector of Pakistan ensures to function far below its capacity and fails to counter domestic or global sustainable development standards (Khan et al., 2024). Therefore, this research is significant as it aims to cover these gaps amid legal theory and practical governance in the Pakistan's mining sector. The findings will provide valuable guidance to environmental regulators, policymakers in mining sector to make exclusive reforms in institutional and legal frameworks to ensure compliance with mining companies with those reforms. It will result in sector alignment with the best practices of mining globally.

The following research objectives are drawn:

- To analyse the efficacy of current legislation and policies regarding mining governance in the case of Pakistan
- To investigate how corruption, political influence, and fragile governance frameworks hinder the achievement of sustainable and fair mining operations in Pakistan.
- To evaluate global models of effective mining governance and assess their potential adaptation for improving Pakistan's mining sector.
- To propose legal and policy reforms, integrating global best practices and local realities, to enhance transparency, accountability, and sustainability in Pakistan's mining sector.

2. Literature Review

Pakistan is gifted with an abundance of mineral resources that, with proper management, can play a major role in its economic growth. Nonetheless, the mining industry has been limited by several governance problems, including outdated laws, ineffective regulations, environmental destruction, and social and economic issues. This literature review provides a critical analysis of key legislative frameworks, governance concerns, and international best practices related to mining in Pakistan, highlighting its shortcomings within the existing system and potential solutions.

2.1 Theoretical Framework

The mining business should be well governed, as it has to balance the economy, environment, and social aspects. Sustainable Development Theory requires sustainable development that would fulfil the current needs without undermining the capacity of future generations to fulfil the needs of their own (De Sa, 2019). The theory is particularly relevant to the mining industry in Pakistan, as there is poor compliance with the environmental regulations, and there are no sustainable practices, which prevent long-term growth (Zaidi, 2025).

Also, Environmental Governance Theory focuses on the role of institutions in managing natural resources in a manner that enhances transparency and participation of the populations. It focuses on multi-level

governance, which encompasses local populations, civil society, and government (Siddiqui, 2024). Nonetheless, the federal government and provincial authorities in Pakistan are weakly organized, which is why environmental regulations are not followed and citizens do not participate in decision-making (Zaidi, 2025).

Lastly, the Resource Curse Theory states that, in general, nations possessing large volumes of natural resources tend to lag in economic development, become corrupt, and become hostile. The above paradox is clear in the case of Pakistan, where the mineral wealth has not translated into economic prosperity mainly because of poor governance and poor institutional performance (Bashir et al., 2023). As emphasised by the theory, the mineral resources do not help the Pakistani population to drive their development, but on the contrary, lead to socio-economic disparities and environmental issues (Khan et al., 2024).

2.2 Law and Institutional Structure

Pakistan operates the mining industry under a range of legal frameworks, including the Mines Act of 1923, which was initially enacted under the British colonialists. Despite formulating the minimum expectations of mine safety, the Act has attracted a lot of criticism concerning its inefficiency to accommodate contemporary issues like the protection of the environment and the rights of people (De Sa, 2019). In addition, its stipulations regarding the safety of the workers lack effectiveness, particularly in terms of modern mining technology and work on a large scale.

To encourage investment and increase the role of the private sector in mining, the National Mineral Policy of 1995 was implemented. Nonetheless, it did not take effect because of weak enforcement systems and political will (Khan et al., 2024). The National Mineral Policy 2013 tried to resolve these factors through a focus on environmental sustainability, community welfare, and the facilitation of investors. Although broadly set, the policy has had difficulty in its implementation, with poor provincial implementation on one side and political manipulation on the other (Zaidi, 2025).

Besides having these national policies, the 18th Amendment to the Constitution of Pakistan (2010) has devolved the power over the management of mineral resources to the provinces. Although decentralization seemed to contribute to local governance, its results include disjointed and unreliable policies, especially in provinces such as Balochistan due to the poor regulatory capacity there. It has resulted in a system of governance that lies between the federal and provincial agencies, so much so that cases of nationwide regulation have become inefficient and confused (Khan et al., 2024).

2.3 Governance Challenges

Certain governance concerns exist in the mining industry in Pakistan, which slows its progress. One of the most significant problems is environmental degradation, as mining activities often lead to soil erosion, deforestation, and water pollution. The Environmental Protection Act 1997 requires mining projects to conduct so-called environmental impact assessment (EIA), which is not always implemented, especially in such distant provinces as Balochistan (Bashir et al., 2023).

Displacement of the indigenous population, poor compensation, and failure to include the community in the decision-making processes have led to the emergence of social unrest and land ownership fights. Miners typically overlook community considerations in sharing mechanisms, which can lead to inequality and dissatisfaction (Shah, 2017). Confidence in the process of issuing the mining license and the regulation of the laws has been hampered due to the level of corruption involved in the process. This has shaken the belief

of the people in the mining sector and it has also discouraged national as well as foreign investments (Khan et al., 2024).

2.4 Comparative Analysis and Global Good Practices

The mining industry has governance practices that can be deemed as an international framework that Pakistan can learn to understand. It could be the one like the African Mining Vision (AMV) that provides a model, which could be used to ensure that the influence of mining on sustainable development and poverty alleviation would be positive (Dashwood, 2014). The provisions of environmental sustainability, social justice, and community engagement are the tenets of the AMV; all of which have the potential to enhance the mining governance of Pakistan to a good extent (Hilson, 2017).

On the same note, the mining fund management statute in Canada involves the evaluation of the environmental impact, consultation with citizens, and safeguarding the interest of aboriginal individuals. All these have been beneficial in performing mining acts in a responsible manner that considers the environment and the people (Jiskani et al., 2020). One avenue that might improve is through the adoption of best practices especially by involving and protecting the communities and the environment.

Moreover, Transparency processes such as the Extractive Industries Transparency Initiative (EITI) are found to have vital roles in improving accountability and transparency in the mining sectors throughout the world. Implementing EITI standards into the Pakistani context would most probably lead to an increased degree of revenue administration transparency in the mining industry of a country and, consequently, reduce corruption, as well as implement the equitable distribution of mining benefits (Zaidi, 2025).

2.5 Policy Advice and Research Limits

Although much literature has been done on the topic of mining governance in Pakistan, there are still some missing links. Firstly, more inclusive analyses of the efficacy of the various mining laws and policies, their effects on the environment, and socio-economic effects ought to be conducted (Skorstad et al., 2017). Second, little is known about the implementation issues related to the National Mineral Policy 2013 and the way its stipulations may be implemented more effectively at the provincial level (Zaidi, 2025). This paper suggests some reforms to meet these gaps. These areas include updating the Mines Act of 1923 with contemporary environmental and safety measures, enhancing federal-provincial coordination, and strengthening the capacity of regulating agencies such as the Directorate General of Mines & Minerals.

3. Legal and Institutional Framework of Mining Governance in Pakistan

3.1 The Constitution of Pakistan – Article 172(2) and the 18th Amendment

In Pakistan, the constitutional regime of mining governance is mainly in terms of Article 172(2) of the Constitution which places ownership of minerals in territory waters in hands of the federal government whereas onshore minerals confined to provinces. The transfer of minerals to the provinces, giving them the legislative powers to govern minerals, which was championed by the 18th Constitutional Amendment of 2010, was carried out by decentralizing the resource governance (Naseem et al., 2022). This transition was supposed to increase local control and resource control. However, it also created overlap of jurisdiction and confusion of jurisdictional authority among federal and provincial bodies which undermined mechanisms of coordination and capacity of enforcement (Aliya and Qazi, 2024). According to Mujeeb (2025) failing to sustain a coherent legal system has led to a segmented system of governance, more so in such provinces as Baluchistan or Sindh, where the institutional capacity is abysmal.

Moreover, there is constitutional silence on inter-provincial coordination in regard to transboundary mineral project, which adds to the inefficiency of governance (Khatoon, 2023). To facilitate the arduous decision-making process, to iron out the provincial and federal roles and to foster cooperative federalism, reforms should seek to institutionalize a national intergovernmental mineral council that is situated at the national level. A more explicit approach to detailing the needs of the constitution would create more regulatory certainty, invite investment and potentially create more clean and open management of minerals that has the supporting nature of national development objectives (Zardari et al., 2023).

3.2 The Mines Act, 1923

One of the primary laws regarding the mining in Pakistan is the Mines Act, 1923. Born under the purview of British colonialism, its primary purpose was to control the issues of workers safety, hours and minimum operation requirements in mining activities (Rizwan, 2023). Nevertheless, the Act is highly opposed due to its outdatedness with improper alignment with the current environmental and technological standards. Although it is concluded that the Act is based on historical issues, it does not adapt to the current environment where environmental sustainability and development of digital mining technologies are debated on or the rights of the community are claimed in (Sherin and Raza, 2024). Since the 18th Amendment, it has been enforced by the federal government and the provinces concurrently, which caused regulatory conflict, especially in provinces where the enforcement institution is weak (Asif et al., 2023).

As an example, in Balochistan, the safety and environmental safeguards are implemented poorly due to the prevalence of the federal control despite the constitutional decentralization, for example In Saindak Copper-Gold Project conducted in Chagai federal oversight resulted in ineffective waste management and environmental degradation, undermining provincial enforcement of safety and environmental safeguards (Invest Pakistan, 2024). In addition, the Act has no mandatory provisions regarding environmental impact assessments (EIAs) and benefit-sharing systems as well as redress of grievances by affected communities (Maan and Jameel, 2021). Therefore, based on these findings it can be implied that reforms are needed to redefine the entire Act or transform it to accommodate the principles of sustainable development into their design, decentralize its implementation, and require environmental and social protection. As also suggested by Chalgri et al. (2024) the law is required to be integrated with newer policies such as the National Mineral Policy 2013 to maintain coherence in the area of regulation of mining in Pakistan.

3.3 National Mineral Policy (NMP) 2013

The National Mineral Policy 2013 was developed with the objective of mitigating the shortcomings of the policy issued in 1995 with a focus on sustainability of the environment, ease of investors and social welfare of the populace (Salamat, 2024). According to Ashraf and Cawood (2019) it brought about major changes like, requirement to carry out Environmental Impact Assessments, reduction of time in licensing procedures, and broader mining concession guidelines. However, Bhushan and Gopalakrishnan (2021) unveiled that the policy is characterized by one of its key strong requirements, which is; the recognition of weaknesses in the field of governance as well as trying to ensure incorporation of best international practices of transparency, including allusion to the Extractive Industries Transparency Initiative (EITI). The policy has however been falling since it has been affected by bureaucratic inertia, lack of political will and variation between provinces (Akhoury and Srivastava, 2023). According to Saba Javaid and Gill (n.d.), at one end, policy commitments are observed to be robust, their practical application is still feeble. It is specifically observed in remote areas of Pakistan which are susceptible to unregulated mining and environmental degradation.

Moreover, there are no binding mechanisms, built into the policy to force the issue of compliance, this policy operates in a voluntary coordination (Salamat, 2024). Critics such as Akhouri and Srivastava (2023) state that the policy needs to be transformed into an enforceable law to maximize control and integrity. Hence, the arguments imply that reforms would proceed to incorporate NMP provisions in province regulations and develop a monitoring mechanism to assess the compliance. As suggested by Bhushan and Gopalakrishnan (2021) increased technical capability at Provincial level will also guarantee that policy goals become into measurable outcomes which is of great interest in terms of benefiting in the processes of governance in good mining.

3.4 Environmental Protection Act (EPA) 1997

Pakistan has a lead legal framework in the form of Environmental Protection Act (EPA) 1997 that acts to govern the industries and their mining to ensure environmental protection. It developed the Pakistan Environmental Protection Agency (Pak-EPA) and the provincial version of the same, where major developmental projects, including mining must be the subject of an EIA (Khan and Xu, 2021). As per AMJAD et al. (N.D.) the core strength that the EPA has is that it understands the concept of environmental sustainability and tries to make environmental assessments in planning the economy into an institution. Nonetheless, the implementation of EPA in the mining industry is poor as Iqbal et al. (2023) argue, since little human resource is employed, obsolete environmental data are used, and political influence in the regulatory processes. Additionally, though the Act gives the authorities the ability to punish the polluters, the procedures are currently slow and not transparent, therefore making their punishment rather ineffective (Chalgri et al., 2024). In the mining areas such as Khyber Pakhtunkhwa and Gilgit-Baltistan, the influence of the Act is minimal because local forces overrule environmental law. In order to enhance its efficiency, the Act must undergo a measure of restructure to involve specific deadlines of compliance, social scrutiny in EIAs and electronic systems of checking emissions and waste management (Imran et al., 2023). Hence, these findings implies that its increased alignment to mineral licensing frameworks might hold the promise of ensuring the alignment of mining projects with goals in sustainable development.

3.5 The Khyber Pakhtunkhwa Minerals Sector Governance Act, 2016

This provincial bill is a great step towards modernising subnational mineral governance in the province of Khyber Pakhtunkhwa (KP). It puts emphases on transparency, efficiency of institutes and stewardship of the environment in relation to the extraction of the minerals (Khan and Xu, 2021). The Act implements community consultation provision, specifies clearer licensing procedures and mechanisms of environmental and social accountability. Among its strong points is the fact that it tries to minimize the level of bureaucratic red tape by implementing the digitalization and transparency of the timelines of concession approvals (Imran et al., 2023). However, Iqbal et al. (2023) discovered that the KP governance system is relatively more compatible with the international best practices of good governance.

Nevertheless, the Act has experienced shortfalls in its efficiency of implementation particularly in areas prone to conflicts whereby local political actors assume excessive control. Moreover, Ashraf and Cawood (2019) revealed that though the legislature provides stringent rules of governance, there are no inter-provincial co-ordination mechanisms, which lead to lopsidedness and geographical uncertainty of investments. Provincial institutions also have limited capacities that can be used to monitor compliance (Bhushan and Gopalakrishnan, 2021). Therefore, the reforms should be dedicated to enhancing institutional independence, the investment in regulatory human resources, and building collaborative agreements with federal agencies.

With dedicated transparency measures such as publishing of contracts and revenues, the performance of transparency and sector accountability would also be improved and bring in responsible investors.

3.6 The Baluchistan Mineral Rules, 2002

The Baluchistan Mineral Rules, 2002, is the main regulatory instrument to control the rich sources of minerals that are underdeveloped in the province. Mineral titles are granted, royalty payments are supposed to be received, and in turn, the mining activity is to be operated in accordance with the rules (Khan et al., 2024). Their official aim is to facilitate the fair licensing and mineral development, as well as, to lure the private investment. Nevertheless, the critics such as Abbas & Sultan (2023); Shah et al. (2021) claim that even all these provisions do not guarantee effective implementation of the law because corruption, low capacity of institutions, and the inability to engage the community persist in most cases. Baluchistan, a province with some of the richest copper and gold deposits in Pakistan, Figure 3, but still complains of illegal mining and environmental degradation as well as conflicts between the local tribes and the officials (Mujeeb, 2025). There are minimal mechanisms of resolving conflicts and models of sharing the benefits provided by the rules that can reduce resentment in the community. Zardari et al. (2023) specifies that the process of licensing and non-inclusion of the population in the process has destroyed the trust. An enhancement of the institutional autonomy, inclusion of community development agreements (CDA) and transparency of royalty would provide better governance outcomes in the long-run. Consequently, the findings imply that it is imperative that the Rules are updated to align with the goals of the NMP2013 and international sustainability standards to support delivering the province mineral potential in a responsible and sustainable manner.



Figure 2: Baluchistan gold rush promises. Source: Ullah (2025)

3.7 Punjab Mining Concession Rules, 2025

The Punjab Mining Concession Rules 2021 in lieu of the former 2002 rules are a modernized framework that develops the province through mining concession. All these are rules that focus on e-governance, improvements in lease award transparency, and improved protection of the environment (Shabbir et al., 2024). Among the improvements that have been put in place is the use of digital bidding methods of awarding mining licenses, whereby discretions and chances of corruption have been reduced rimmed down to the minimum (Ghouri, 2025). Besides, EIAs become a mandatory requirement, and project approvals will be established with clearer deadlines with the purpose to simplify the regulatory process as well.

Irrespective of these positive developments, the Rules remain deficient in the incorporation of social safeguards (Rizwan et al., 2023). As an example, community consultation processes are weak and there is the limited focus on resettlement and compensation structures of the people displaced by large projects. According to Sherin and Raza (2024) the rules contribute to the improvement of the economic governance processes, but the environmental and social facets should be strengthened. However, based on the findings, it is implied that the regulations are required to be better oriented to the National Mining Policy (NMP) 2013 and get encouragement to sustainably mine to maximise their effects. This may also be further facilitated by creating institutional capacity and an independent provincial mining oversight body which would help to ensure that the wishes in the policies are converted to actions.

3.8 Gilgit-Baltistan Mining Concession Rules, 2023

The Gilgit-Baltistan Mining Concession Rules 2023 also form one of the latest contributions to the transforming mineral regulation in Pakistan followed by discovery of massive mine and mineral field in the area, Figure 3 (Malkani, 2020). The rules were drawn with the aid of international development partners, and are set to explore the mineral rich mountainous region to controlled exploration and described as a socio-environmental protection measure (Bhushan and Gopalakrishnan, 2021). As per Alam et al. (2022) Some of the important provisions are in terms of due diligence in the license grants, a provision on impact of community and the safeguarding clauses of any ecologically sensitive regions. According to (Hussain et al., 2023), the rules represent the change to the inclusion and transparency of mineral government in an up to that point demilitarized domain.

Nevertheless, Chalgri et al. (2024) point out that the mechanisms of implementation are not advanced as a result of infancy and the lack of legal capacity within the region. In addition, the Rules do not entail binding commitments to community benefit-sharing and remain silent on mechanisms of redress of grievances. The integration into federal and provincial legal systems is uncertain which may interfere with investment faith (Akhouri and Srivastava (2023). These rules are required to have better standards of operations, mechanisms of people participation, and the association with national policies of sustainability to enhance their operations. Creation of a specific mining tribunal in Gilgit-Baltistan might as well aid in normalizing the disputes and strengthening investor confidence in the rule of law.

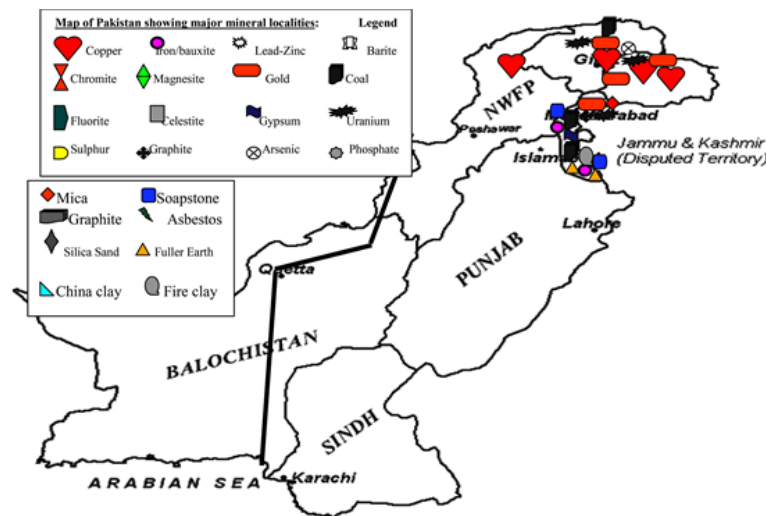


Figure 3: Mining and Mineral Resources in Gilgit Baltistan. Source: (Malkani, 2020)

4. Key Challenges of Mining Governance in Pakistan and Global Models of Effective Mining Governance

4.1 Key Challenges Of Mining Governance in Pakistan

Problems of environmental degradation are a serious issue in the mining industry in Pakistan. The mining sector causes soil erosion, contamination, and destruction of water, deforestation, and nature loss, especially in provinces such as Balochistan and Khyber Pakhtunkhwa (Hasan et al., 2023). Although the activities of mining are required to be assessed in terms of their environmental impact assessment (EIA), the related regulations are not well enforced under the enforcement of the Environmental Protection Act 1997. Environmental protection rules and regulations in the mining sector are not taken seriously by mining firms, largely because they are not monitored in those distant areas. As reported by Ashraf and Cawood (2019), environmental laws are not enforced effectively, leading to significant ecological deterioration and reducing the possibility of sustainable resource utilization in Pakistan.

The other forthcoming problem is the socio-economic consequences of mining. Mining areas commonly face problems associated with the relocation of local populations, ineffective compensation, and the absence of effective community interaction. As it has been mentioned by Lahiri-Dutt and Brown (2017), due to the existence of informal mining operations led by Gilgit-Baltistan, communities have been displaced and resulted in social unrest, with no substantial benefits ever to be observed by individuals who have witnessed the onset of such operations. In addition to that, the lack of efficient mechanisms of sharing the benefits in mining ventures intensifies socio-economic inequality because the communities in most cases get few benefits or presumably no benefits as a result of the environmental and social costs incurred (Hasan et al., 2023).

The opaque nature of the process discredits the integrity of the sector because political elites take part in the governance of mining business. According to Khan et al. (2024), since the system of political patronage in the mining business is followed, it contributes to inefficiencies and corruption in the context of the process of awarding mining contracts. This kind of non-transparency not only deters the investment but also does not allow any reasonable and structured mining sector to be developed.

Pakistan has an impediment to the regulation of mining, where institutions are fragmented and laws are not updated. The regulatory document Mines Act of 1923 is an old piece of legislation adopted during colonial rule and does not correspond with contemporary problems in regulating the mining enterprise, such as environmental impacts, the aspect of employing technology, and the rights of communities (Zhou et al., 2019). Also the transfer of powers over mineral resources which came up as a result of the 18th amendment to the Constitution of Pakistan, which transferred management to the provincial governments, has led to the lack of uniformity as the application of the practice is enforced in each differently. As it is outlined by Ashraf and Cawood (2019), such disintegration aggravates the issue of governance and deteriorates the effectiveness of mining regulations.

4.2 Comparing International Best Practices to Pakistan's Mining Governance

The governance of mining in Pakistan is characterized by a regulatory schism, resulting in a lack of strict enforcement of rules that hinders the sector's potential for sustainable development (Chalgrin et al., 2024). Conversely, there are several international best practices, such as the African Mining Vision (AMV) and the Canadian model on mining governance, which are highly comprehensive and can be adopted by Pakistan to address its governance issues (Yar and Sail, 2025). As an example, the AMV supports the incorporation of sustainable development goals into the mining industry, where mining activities have to lead to both

economic growth and development of communities and environmental protection (Ali, 2017). This is unlike in Pakistan, where environmental protection and effective community involvement have been some of the major drawbacks that have characterised mining governance (Ashraf and Cawood, 2019).

Canada is notable for its strict environmental impact assessment (EIA) procedures and popular consultations, which are crucial for assessing the social and environmental impacts of mining tasks (Dominguez-Gomez & Gonzalez-Gomez, 2021). Such analyses are enshrined by law, and hence, it is hard to imagine that mining activities would go unchecked without many investigations. This lacks a vital loophole in the Pakistani system where environmental policies, despite being present across Pakistan, are loosely implemented in the remote regions such as Balochistan. Another successful international practice is the EITI model, which promotes transparency of mining revenues. Introducing the EITI standards in some countries, such as Ghana, has allowed for the reduction of corruption and made the mining sector more accountable (Chalgri et al., 2024). In contrast, Pakistan's mining industry lacks transparency and accountability, leading to corruption and a loss of population to the industry (Khan et al., 2024).

Although these international models can be effective ways of dealing with governance in mining, the governance of mining in Pakistan is also dampened by political influence and poor institutional strength (Janjuhah et al., 2021). In the Pakistan constitution, the 18th Amendment has decentralized natural resources to the provinces, which has caused duplication in the responsibilities of the authorities working at cross purposes between the federal and the provincial government (Ashraf and Cawood, 2019). This is unlike the situation in Canada, where federal-provincial attunement is more coherent in the mining sector, where laws and regulations applicable are equated across jurisdictions to maintain consistency and effectiveness in their manner of application.

4.3 Proposed Reforms for Enhancing Mining Governance in Pakistan

To bring the mining industry of Pakistan to the international or global best practice level, several reforms are necessary. To begin with, the Mines Act of 1923 needs to be updated to streamline the governance structure of the mines. The mentioned outdated legislation fails to consider the modern challenges of creating a sustainable environment, safeguarding the rights of the community, and implementing innovative mining technologies (Zhou et al., 2019). The mentioned reforms should also incorporate the mandatory environmental impact assessment (EIA) of any mining project and the appropriate arrangements toward environmental damage mitigation and mined lands rehabilitation, as done in Canada (Jiskani et al., 2020).

Pakistan needs to consider the EITI standard to achieve transparency in the mining industry (Zeewaqaar, 2024). This would force mining companies to declare the amount of money they pay to the government and publish annual, in-depth financial reports. In this manner, Pakistan can minimize corruption and foster greater trust in the industry among its population, similar to what has occurred in other nations where the EITI has been introduced (Khan et al., 2024). Such measures would be incorporated to deal with the insularity of the mining revenue management, which has been a key issue in the current Pakistan governance system.

Pakistan also needs to enhance the involvement of local people in the decision-making process regarding mining. The African Mining Vision (AMV) emphasises the need to provide equitable distribution of benefits associated with mining to the local communities. This can be achieved by implementing Impact Benefit Agreements (IBAs), like those in Canada, which compensate and involve residents throughout the life cycle of mining projects (Ali et al., 2017). The process of displacement and inadequate compensation of local communities happens, with no direct involvement of local communities, in Pakistan.

Finally, corporate social responsibility (CSR) should be mandated for mining firms that exist in Pakistan. There should be requirements for mining companies to promote local development through investments in social programs, infrastructural development, and environmental rehabilitation. This goes hand-in-hand with global CSR norms in other nations such as Canada, where mining firms are supposed to invest in the socio-economic growth of the areas where they are located (Mumtaz et al., 2018). One way Pakistan can enforce a CSR framework is by encouraging mining companies to adopt sustainable practices and invest in the communities where they operate.

To conclude, the mining governance in Pakistan can be greatly improved by implementing international best practices, such as the suggestions provided by the AMV, EITI, and the Canadian approach. Many of the current issues in the mining industry would be solved by the proposed reforms, which include revising outdated legislation, enhancing federal-provincial coordination, increasing transparency, promoting community involvement, and prescribing CSR. A government like the one in Pakistan can do all these and change its mining governance into something more environmentally friendly, transparent, and ethically sound, which would ensure the long-term prosperity of not only its economy but its people as well.

5. Findings

This research study was a critical review of understanding the legal and institutional frameworks that regulated the mining sector within Pakistan and how these frameworks were effective in the context of how the management of resources was sustainable and fair. It is found on the analysis that although various rules and policies are in place like the Mines Act of 1923, the National Mineral Policy of 2013, provincial concession rules there is weak implementation of these rules. There is a problem of enforcement, fragmentation of institutions, and overlaps that compromise efficiency and transparency in governance. The newly added policies, such as the Punjab Mining Concession Rules (2021), Gilgit-Baltistan Mining Concession Rules (2023), and the developing mechanism such as the Strategic Investment Facilitation Council (SIFC) reflect the desire to modernise and invite investment but still do not portray either an inclusive or environmentally friendly administration.

The innermost issues reflected by the findings are strong environmental degradation, social-economic displacement of the local population, and political interference and corruption in licensing activities. They are compounded by low levels of effectiveness of environmental controls and failure to engage the communities and share returns on the projects. By comparison, international examples of Africa Mining Vision and Canada mining governance structure depict the best practices which involve emphasis on the environment sustainability, community engagement and transparency. As such, the governing structure of mining in Pakistan needs an extensive overhaul that is associated with institutional coordination, more effective enforcement procedures, and the ensuring incorporation of the community in the policy-making. Adoption of international best practices particularly in the implementation of environmental protection measures and benefit-sharing agreements could be of significant benefit in ensuring that the mining industry in Pakistan is much more legitimate, sustainable, and developmental.

6. Conclusion and Recommendations

To deal with the challenges of governance documented around the mining industry in Pakistan, the research paper outlines a collection of structured litigation and policy changes that impact transparency, sustainability of the environment and equitable growth. First, environmental laws need to be enforced at a high level by strictly enforcing the Environmental Impact Statement (EIAs) under the Pakistan Environmental Protection Act 1997. Environmental audits must be conducted often on the activities of mines, the repercussions of

which should be severe in the ecologically sensitive areas such as Baluchistan and Gilgit-Baltistan. Secondly, in an effort to address political interference and corruption, the licensing process of mining should be computerised and automated. To promote the impartiality of decisions and make the regulatory authority responsible, it is crucial that the creation of a separate regulatory body possessing its own oversight authority independent of political players.

Third, there should be a formalization of community engagement and benefit-sharing constructs. Based on the Canadian experience, Pakistan ought to use Community level agreement that includes Community Development Agreements (CDA) to secure the consultation and payment of affected populations. Legal changes should also be done to ensure that both the social impact assessment as well as EIA is a must and the mining companies must be bound to their local projects. Fourth, institutional harmonization, and inter-provincial coordination are highly essential. There ought to be a federal-provincial mining council that will coordinate the laws on mining activities, prevent jurisdiction issues, and enforce them in the various regions. Lastly, global models such as the African Mining Vision (AMV) may be adopted in adopting sustainable measures by making issues of transparency, equity and environmental stewardship a part of national policy. The reforms will help Pakistan move to a more sustainable, accessible, and accountable model of mining governance into the realm of global good practice.

To regulate the interaction of the federal and provincial governments, it is recommended that Pakistan create a centralized regulatory body that would ensure the consistent enforcement of each mining regulation. This would minimize the existing fragmentation in governance and enhance the coherence of policy in the country. This would make it more cost-effective and accountable to strengthen the Pakistan Mineral Development Corporation (PMDC) and amplify its responsibility to oversee mining operations at both the federal and provincial levels (Chalgri et al., 2024).

By introducing EITI standards in Pakistan, the levels of transparency in the mining industry will greatly enhance as the mining revenues and contracts would be made public information. It would aid in curbing corrupt practices and make people trust the industry more (Khan et al., 2024). Mining enterprises are to be asked to comply with the CSR program, which can bring direct benefits to the surrounding natives, paying attention to socio-economic enhancement and environmental recovery. This would guarantee that the gains from mining are equally shared, thereby ensuring social stability and community support for mining projects (Mumtaz et al., 2018).

7. References

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