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The Criticality of Gender Equality in the Race for Critical Minerals

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IISD HEAD OFFICE

111 Lombard Avenue
Suite 325
Winnipeg, Manitoba
Canada R3B 0T4

IISD.org

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Executive Summary

Mining is entering a new strategic era. As demand accelerates for critical minerals that underpin the global energy transition, digitalization, and advanced manufacturing, the sector has become central to climate ambitions, technological innovation, and economic transformation. Critical minerals such as cobalt, copper, lithium, graphite, and nickel are essential inputs for renewable energy infrastructure, electric mobility, energy storage, semiconductors, consumer electronics, data infrastructure, and defence.

Yet, the sector has long been associated with social impacts, environmental harm, and persistent gender inequalities. The rapid expansion and restructuring of mineral value chains bring renewed urgency to the existing challenges, with the risk that, without deliberate policy intervention, current inequalities may widen and be replicated at a greater scale.

Meeting the rising demand will require new and expanded mining, often in remote and vulnerable contexts. A geopolitical race is on as governments and companies vie to secure stable critical mineral supply chains. Demand is surging, with the International Energy Agency projecting that by 2040, the demand for lithium could increase fivefold, demand for graphite and nickel could double, and demand for cobalt and copper could rise by 50% and 30%, respectively.

However, the critical minerals boom may heighten risks related to gender-specific rights such as women's access to land, livelihoods, food security, and health, as well as unpaid care responsibilities. These pressures can present compounding human rights challenges, particularly for Indigenous and rural women. This report, jointly developed by the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development; International Labour Organization; and UN Development Programme, describes these risks and offers practical, actionable mitigation measures for governments and mining companies.

What does the predicted increase in mining activities related to the increased demand for critical minerals mean for women's rights, particularly the rights of Indigenous and other women in mining-affected communities?

In addition to long-standing impacts associated with mining, the expansion of mining activities to supply critical minerals presents specific and even more pronounced rights risks. Three determining factors are key: (i) the environmental impacts specific to the extraction and processing of critical minerals; (ii) the geographical location of mining projects (often found on or near Indigenous and/or agricultural lands), and (iii) the potential for accelerated permitting processes to meet the pace of rising demand. These three factors set the stage for even greater risks to women's rights, potentially reinforcing existing systemic inequalities in the mining sector.

Along with best-practice case studies, the report offers three recommendations that can help governments and industry actors mitigate risks and promote gender equality:

1. **Assess and manage gendered social and environmental impacts**
    - Apply an intersectional gender analysis within impact assessment processes (environmental and social impact assessment, human rights impact assessment, and/or standalone gender impact assessment).
    - Collect intersectional, gender-disaggregated data (with further disaggregation as relevant, e.g., age, Indigeneity, ethnicity, disability).
    - Translate findings into a costed, time-bound Gender Action Plan integrated into environmental and social management plans and monitoring.
2. **Require inclusive consultation, promote women's agency, and secure consent**
    - Foster broad, meaningful participation, including women's safe engagement throughout the project life cycle.
    - Use community-led approaches (e.g., women-led monitoring, local oversight committees).
    - Treat free, prior, and informed consent as the best-practice standard for rights-respecting engagement, particularly where Indigenous and customary land rights apply.
3. **Establish gender-responsive benefit-sharing mechanisms**
    - Remove barriers to women's direct and indirect employment through gender audits, targets/quotas where appropriate, anti-discrimination measures, and actions to close gender pay gaps.
    - Ensure equitable land compensation and livelihood restoration, including recognition of women's land tenure and use rights.
    - Deliver community development programs that strengthen women's economic agency (e.g., savings and credit groups, micro-grants, skills development, supplier inclusion).

Gender equality must be at the centre of mining governance. This is not just a matter of equity; it is essential for sustainability, accountability, and shared prosperity. The criticality of gender equality must remain paramount in the race to secure critical minerals, achieve a just energy transition, meet the needs of the digital economy, and support industrial development.

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Acronyms and Abbreviations

AMA	Atacameña Women's Alliance
ASM	artisanal and small-scale mining
BHRRC	Business and Human Rights Resource Centre
DRC	Democratic Republic of Congo
EIA	environmental impact assessment
EGP	Environmental Governance Programme
ESG	environmental, social, and governance
FPIC	free, prior, and informed consent
IEA	International Energy Agency
IFC	International Finance Corporation
IGF	Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development
ILO	International Labour Organization
IRENA	International Renewable Energy Agency
SGBV	sexual and gender-based violence
UN	United Nations
UNDP	UN Development Programme
UNDRIP	UN Declaration on the Rights of Indigenous Peoples
UNDROP	UN Declaration on the Rights of Peasants and Other People Working in Rural Areas
USD	United States dollar

Panel on critical minerals and gender equality at the 20th IGF Annual General Meeting.

1.0 Introduction

The global commitment made at the 28th United Nations Climate Change Conference to transition away from fossil fuels and to triple renewable energy capacity by 2030 marks a historic milestone in the fight against climate change. This ambition represents a critical step toward reducing climate risk and advancing climate justice, particularly for populations disproportionately affected and most vulnerable to climate impacts, including women and Indigenous Peoples. At the same time, the world is undergoing a parallel milestone transformation: the rapid acceleration of digitalization, artificial intelligence, and data-driven economies.

However, these twin shifts are materially dependent on the availability and responsible production of mineral resources. Renewable power systems and the electrification of transport require large volumes of critical minerals and metals. The expansion of digital infrastructure—from data centres and semiconductors to telecommunications networks and advanced computing—is equally mineral-intensive.

The unprecedented acceleration in demand for critical minerals reflects the scale and speed of today's technological and economic transformations. Yet this expansion confronts a structural paradox: unless governance frameworks evolve in parallel and without deliberate safeguards, the rapid scaling of mineral extraction and processing risks reproducing and amplifying existing social and gender inequalities, at the cost of those most impacted by climate change.

Recognizing this risk in 2024, the United Nations (UN) Secretary-General launched a Panel on Critical Energy Transition Minerals. Addressing what it describes as the mining sector's "chequered history" in relation to human rights, the Panel undertook the monumental task of establishing a "set of common and voluntary principles to build trust, guide the [energy] transition, and accelerate the race to renewables" (United Nations, 2024). The Panel is composed of governments, industry, civil society, and multilateral organizations.

In its landmark report *Resourcing the Energy Transition,* the UN Panel offers seven guiding principles and five actionable recommendations to prioritize human rights, equity, and justice in the race to secure critical minerals. The principles call for centring human rights in all mineral value chains and for ensuring the integrity of the planet. They also demand equitable benefit sharing, transparency and accountability, responsible finance and trade, and

international cooperation. While the Panel's report acknowledges the historical and current harmful impacts of mining on women's rights, gender equality, and the rights of Indigenous Peoples, it also recognizes the unprecedented opportunity the energy transition presents to forge a new path for mining—one that drives shared economic prosperity, upholds human rights, and protects the environment (United Nations, 2024).

The Panel's subsequent publication *UN Guidance for Action on Critical Energy Transition Minerals* (2025) provides a suite of policies, tools, and knowledge resources to inform collective action. It is a practical resource for actualizing the seven guiding principles to safeguard human rights in the race to secure energy transition minerals.

This policy paper complements the Panel's efforts with an in-depth gender analysis. It examines the specific existing and potential gendered risks posed by the exploration and large-scale mining of five key critical minerals: cobalt, copper, graphite, lithium, and nickel.

This report asks a central question: in the race to secure critical minerals, what will it take to advance gender equality and safeguard women's rights, particularly those of women in mining-affected communities?

The expected growth in demand for critical minerals over the coming decades positions the sector as a cornerstone of a low-carbon and digital economy. This moment presents an unparalleled opportunity to design mining policies that embed gender equity, decent work, and Indigenous Peoples' rights from the outset. Scaling up inclusive hiring targets; enforcing gender-sensitive workplace policies; investing in care infrastructure, transport, and training; and ensuring that women's voices shape decision making at all levels are essential steps. Targeted, inclusive approaches that support the empowerment of women and other marginalized groups can ensure that the benefits of mining and processing, including for critical minerals, are sustainable and shared equitably.

This paper begins by outlining key risks to women's rights linked to the race for the supply of critical minerals, illustrated through five critical minerals. It also identifies gaps in mining policy and practice for addressing these risks. Lastly, it proposes concrete strategies and policy actions for governments and mining companies, along with good practice case study examples. The recommendations strive to ensure that the global transition to a low-carbon energy and digital future is a catalytic moment for advancing women's rights and gender equality.

BOX 1. WHAT ARE CRITICAL MINERALS IN THIS REPORT?

Critical minerals are minerals and metals that are considered essential for key economic sectors and that face elevated supply risks due to factors such as geological scarcity, geographical concentration of production, geopolitical constraints, or limited substitutability. As set out in a guiding document of the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF, 2024c), definitions of "criticality" are jurisdiction-specific and typically reflect a combination of economic importance and supply vulnerability; any list of critical minerals therefore evolves over time.

In this paper, the term critical minerals is used in line with this risk-based approach to refer to minerals widely identified as critical to the manufacturing of technologies supporting low-greenhouse-gas-emissions energy systems, electrification, and associated infrastructure, including electric vehicle batteries and stationary batteries, as well as for the digital economy, and for which demand—and thus production and associated impacts—is expected to grow significantly in the coming years. The analysis focuses on upstream mining-related impacts and draws illustrative examples from cobalt, copper, graphite, lithium, and nickel, selected for their projected demand growth and the scale and nature of their environmental and social risk profiles.

2.0 Women's Rights in the Mining Sector: Long-standing structural challenges

In 2009 Eftimie, Heller, and Strongman published a seminal paper laying out one of the first gender analyses of the extractives sector. They came to a simple, yet highly profound conclusion that still rings true: women are more at risk of experiencing the negative impacts of extractives than men and have little access to the benefits (Eftimie et al., 2009).

Since then, the field of gender and extractives has grown and gained traction. Literature abounds on structural gender inequalities within the mining industry, and on the positive and negative impacts of mining on women's rights in local communities replace with: (IGF, 2022b; International Finance Corporation [IFC], 2024). Overall, the track record of large-scale mining on women's rights remains bleak—both within its workforce and in mining-affected areas.

Women in the Mining Workforce

Recent estimates place women's employment in large-scale mining roughly between 12% and 15% globally, making mining one of the world's most male-dominated sectors (Ernst & Young 2022; IGF, 2023). Women in large-scale mining are largely concentrated in administrative, clerical, and support service roles and are highly underrepresented in higher-paying managerial and C-suite positions (IGF, 2023). They also tend to work fewer hours, receive fewer on-the-job training opportunities, and earn less for equivalent work performed (IGF, 2023). While several mining companies have set workforce diversity targets, the industry continues to be challenged by entrenched gender discrimination. Separate reports released by mining companies, such as Rio Tinto and Goldfields, reveal that everyday sexism, gender bias, and sexual harassment against women are common themes in their workplace culture (Elizabeth Broderick & Co., 2022; Elizabeth Broderick & Co., 2023).

Workforce inequality in the mining sector is especially visible in resource-rich developing jurisdictions, where new mining jobs do not necessarily translate into opportunities for local communities–particularly for local women who may not have the necessary skills and education. A consistent finding from the Women and the Mine of the Future initiative jointly developed by the IGF, International Labour Organization (ILO), United Nations Development Programme (UNDP), Swedish Environmental Protection Agency, International Women in Mining, and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (IGF, 2023) is that

women in large-scale mining often have higher formal educational attainment than men, but they lack the technical skills, especially technical and vocational education and training, that secure locally available, well-paid roles. In Ghana, for example, 92% of the large-scale mining workforce from companies registered with the Chamber of Mines was classified as skilled in 2020. Women, however, made up only 10% of this workforce, and just 27% of them were local Ghanaian women (IGF, 2023). This statistic suggests that where women have skilled or office-based roles, such opportunities may be disproportionately held by non-nationals, rather than by women from mining-affected communities. This finding underscores the limited pathways available for women in mining-affected communities to access well-paid, decent work.

Other structural barriers to women's employment in large-scale mining persist: women shoulder most caregiving and household duties, hiring and promotion can be biased, and many mining sites remain unsafe for women. Poor lighting, long walks to remote or underground areas, and the lack of gender-specific toilets and changing rooms increase the risks of harassment and sexual and gender-based violence (SGBV) (ILO, 2021). Challenges are even greater in remote areas, where limited access to child care, transport, and health services reinforce women's marginalization (ILO, 2021).

BOX 2. A NOTE ON ARTISANAL AND SMALL-SCALE MINING

Artisanal and small-scale mining (ASM) is a largely informal sector that uses labour-intensive, low-tech, and often manual methods to extract and process minerals. The ASM workforce is the largest within the mining sector, directly engaging more than 40 million people worldwide (IFC, 2024). Women account for 30% to 50% of the global ASM workforce and, in some areas, more than 90% (IFC, 2024).

Of the five key critical minerals selected for this report, cobalt is the most heavily mined through ASM. The Democratic Republic of Congo (DRC) produces more than 70% of the world's cobalt, with 15% to 30% of it originating from ASM sites (Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development [IGF], 2024a). Upwards of 2 million people work in ASM in the DRC, extracting a wide range of commodities including cobalt, tantalum, gold, and lithium. Globally, lithium and graphite are to some extent being extracted through ASM. However, only a few lithium and graphite sites are likely to be economically viable in the foreseeable future through small-scale extraction (IGF, 2024a).

The World Bank estimates that 18% to 50% of the global ASM workforce is women (Perks & Ford, 2024). In the DRC, women comprise an estimated 40% of the ASM workforce (World Bank, 2017). With a higher earning potential than other livelihood options, ASM is a crucial source of income for women and their families (Buss et al., 2017). Yet the sector also presents serious risks to women's rights and safety. Women are frequently confined to the lowest-paid and often hazardous roles, while facing elevated risks of gender-based violence, exploitation, and harassment (Buxton, 2025). Policy frameworks and programming frequently overlook women, leaving them without protections or access to safer, higher-value activities (Buxton, 2025).

As demand for critical minerals accelerates, many women in ASM are attempting to enter new and better-remunerated supply chain activities—at times through highly informal, technically complex, and regulatory gray zones (Organisation for Economic Co-operation and Development, 2023) as limited access to capital, equipment, and technical support keeps many women in lower-paid roles and constrains safer, more productive practices (Delve, 2023). In cobalt hubs, for example, ASM frequently occurs on or near populated

areas and beside large industrial sites, exposing households, schools, and community infrastructure to mining-related hazards and pollution (RAID, 2024). This proximity poses a high social risk when operations proceed without proper environmental and social impact assessments, baseline data, or ongoing monitoring of health, environmental, and social impacts, leaving risks invisible and unmanaged (Delve, 2023; IGF, 2024a). The result is a predictable widening of health, safety, and environmental harms for women and girls unless due diligence, formalization, and gender-responsive oversight are rapidly strengthened (World Bank, 2023).

Given ASM's material role in certain critical-mineral supply chains and its likely expansion, gender risks in ASM are not peripheral and must be addressed directly in critical mineral strategies through targeted formalization, capacity building, financing, and oversight.

Women in Mining-Affected Communities

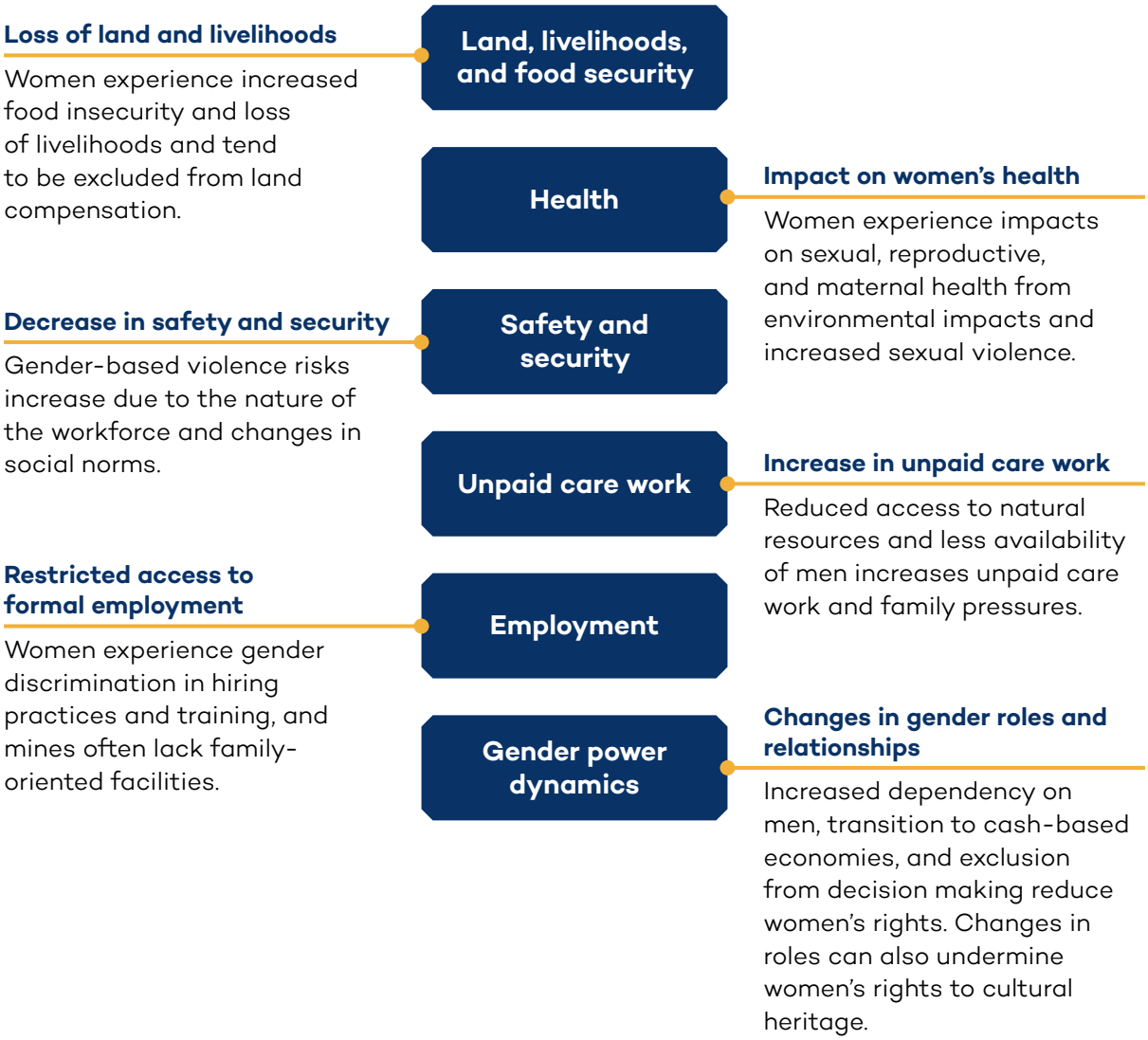
In addition to women employed in mining, women and girls living in nearby communities face an array of human rights challenges. Increased gender-based violence, heightened health risks, and loss of land and livelihoods are some of the ways in which mining often falls short of safeguarding women's rights (UN Working Group on Business and Human Rights, 2023). In addition, the influx of often transient, fly-in-fly-out male workers (with long working hours in remote locations away from home) and the introduction of a cash economy—where men are the primary earners—can increase risks of violence against women, both within and outside of households (Buxton, 2025). Higher rates of alcohol abuse, sexually transmitted diseases, sex work, and intimate partner violence are not uncommon (IFC, 2024). These impacts can manifest throughout the mining life cycle, from the pre-mining phase of exploration through to mine closure (Stevens & Tekinbas, 2023).

Furthermore, the environmental consequences of mining can impact women the hardest (Sage Fund, 2022). When resources such as water or land become scarce or polluted, the women and girls who are often responsible for securing and using these resources may need to work longer, harder, or farther away from home. In Zimbabwe, for example, lithium mining induced displacement that resulted in the relocation of communities to areas with water insecurity. Women and girls must now travel farther and longer to secure water, with impacts on their education, health, and well-being (Matanzima, 2024; World Health Organization, 2023). Sometimes, using polluted water or land sources is the only option, exposing women and girls (and the households they care for) to increased health risks. Elevated pollution and the deterioration of community health also increase food insecurity and care work (Hill & Ezpeleta, 2017).

These negative impacts can be more pronounced and have varying implications depending on other inequality factors, such as a woman's race, age, sexual orientation, physical ability, or socio-economic status (Rickard, 2024). Indigenous women, for example, face particular challenges and greater risks in mining contexts (ILO, 2021). In addition to exposure to multiple forms of structural discrimination (based on gender and Indigenous status, among others), the role of women in many Indigenous communities extends to environmental stewardship (Sage Fund, 2022). They are considered keepers of traditional knowledge, holding wisdom about sustainable agriculture, traditional medicines, and other practices—both material and spiritual—that are tied to land and natural resources (Sage Fund, 2022). Because Indigenous

women's cultural roles and knowledge systems are closely tied to land and water, mining-related environmental harm can directly undermine their cultural heritage rights and the intergenerational transmission of traditional knowledge (Manning, 2018).

FIGURE 1. Risks to women's rights in communities affected by mining activities



Source: IGF, 2023.

Some mining companies are taking proactive steps to mitigate impacts on women's rights within affected communities. However, a recent review of 43 companies producing the minerals covered in this report reveals that only five of those companies have publicly available policies relating to assessing and addressing the gendered impacts of their operations on local communities (Sellwood et al., 2023). Of these five policies, only two commit to taking gender and other social differences into account in community engagement practices (Sellwood et al., 2023). The remaining three either make only broad, high-level commitments about respect for women's rights or integrate gender analysis within broader human rights policies relating to locally affected communities (Sellwood et al., 2023).

The absence of gender-responsive policies in the mining sector reflects persistent structural inequalities. Entrenched gender biases within the mining workforce are often mirrored in the policies and practices that govern company engagement with affected communities (Hill & Ezpeleta, 2017). Women, particularly Indigenous women, are often excluded from important consultation and decision-making processes (Ash, 2024; Lahiri-Dutt et al., 2022). Women's marginalization may occur because consultations are not designed to support women's participation or because company engagement strategies do not take existing structural barriers into account—barriers such as women's limited access to information or constrained political voice (Hill & Ezpeleta, 2017). Indeed, the Business and Human Rights Resource Centre's (BHRRC) Transition Mineral Tracker, which catalogues allegations of human rights violations related to critical minerals between 2010 and 2024, recently began tracking allegations specifically related to the gendered impacts of mining. It notes 27 such allegations, 10 of which are from 2024. Allegations in the 2024 analysis include a "lack of respect for women's social, political, and economic participation, livelihoods, health, access to jobs, as well as egregious accusations of rape and sexual abuses" (BHRRC, 2024, p. 5)

Women's limited agency in consultation and decision making is a key contributing factor to the persistent and challenging reality that women disproportionately bear the costs of mining, while they miss out on the sector's potential benefits (namely economic benefits in the form of employment or compensation for land [Hill & Ezpeleta, 2017; Sage Fund, 2022]). As long as women remain at the margins of decision making, the gender bias in the risks and benefits of the industry will not be adequately addressed and women's rights will continue to be in disproportionate jeopardy (Hill & Ezpeleta, 2017; UN Working Group on Business and Human Rights, 2023).

Fundamentally, the compounding impacts of large-scale mining on women's rights tip the balance of power further away from women, exacerbating gender inequality and undermining the sector's potential to drive sustainable development and support a just energy transition (Hill & Ezpeleta, 2017). Women's rights and gender equality hang in the balance as pressure to secure critical minerals mounts and the world readies for renewable energy.

3.0 Securing Critical Minerals: Risks to women's rights

Cobalt, copper, graphite, lithium, and nickel are among the minerals and metals essential to both the energy and digital transitions. These materials underpin electrification, renewable energy systems such as solar and wind, and energy storage applications such as batteries for electric vehicles and stationary batteries (International Renewable Energy Agency [IRENA], 2023; Sellwood et al., 2023).

Beyond clean energy technologies, these minerals are also critical to the rapidly expanding digital economy. Copper, for example, is indispensable for electrical wiring, grid infrastructure, data centres, and telecommunications networks. The demand for electricity from global data centres is projected to more than double by 2030 (International Energy Agency [IEA], 2025a). Semiconductor manufacturing, advanced computing, and digital storage systems similarly depend on reliable supplies of copper, nickel, and graphite. As a result, such minerals are increasingly identified by international institutions and stakeholders as facing elevated supply risks and geopolitical constraints (IEA, 2025b; IGF, 2024c).

The IEA estimates that by 2040, demand for lithium could increase fivefold, demand for graphite and nickel could double, and demand for cobalt and copper could rise by 50% and 30%, respectively (IEA, 2025b). While such projections are subject to considerable uncertainty, reflecting assumptions on technology pathways, substitution, and policy ambition, they nonetheless point to sustained pressure on primary mineral production.

Circular economy and recycling strategies, as well as improved technologies to re-mine wastes and tailings, have the potential to reduce the need for new mining activities in the longer term, by an estimated 35% for cobalt and copper, 20% for lithium and 15% for nickel by 2050 (IEA, 2025b). However, in the short to medium term, the IEA estimates that it will take about a "decade before recycling has a significant impact on reducing primary mineral demand" (IEA, 2025c, p. 137).

Effects of the Predicted Increase in Mining on Women's Rights

The predicted increase in mining for these critical minerals will have important implications for women's rights, particularly for the rights of Indigenous and other women in mining-affected communities. To ensure this impact is more positive, a transformation in the governance and implementation of critical mineral mining is urgently needed. The BHRRC Transition Minerals Tracker has already recorded 835 allegations of human rights violations between 2010 and 2024 linked to the mining of critical minerals, with 625 of these allegations related to the mining of cobalt, copper, lithium, and nickel (or some combination of these minerals [BHRRC, 2025]). Globally, between 2011 and May 2024, Indigenous Peoples and others affected by increasing mining activities to supply critical minerals launched 40 legal cases, challenging a wide range of harms, from environmental impacts to the purported abuse of Indigenous Peoples' rights (BHRRC, 2025). Shutdowns and stoppages due to conflict, protests, strikes, and community opposition have plagued mining operations associated with such allegations. In 2024 the BHRRC recorded 22 cases involving protests (2025). Across all tracked years, 27 allegations of human rights abuses relate directly to the gendered impacts of mining, implicating women's rights to livelihoods; access to jobs, health, and safety; and political participation, among other infractions (BHRRC, 2025).

Beyond the continuing legacy of risks to women's rights, the expansion of mining activities to supply critical minerals presents specific—and even more pronounced—risks to rights, especially to the rights of Indigenous women and agricultural workers, as defined in the 2007 UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the 2018 UN Declaration on the Rights of Peasants and Other People Working in Rural Areas (UNDROP; see Box 3 for definitions and an explanation of the term "peasant").

BOX 3. UN DECLARATIONS AND DEFINITIONS

2007 UN Declaration on the Rights of Indigenous Peoples

There is intentionally no singular definition of Indigenous Peoples under international law, since the identification of an Indigenous People is the right of the people themselves—to self-identification—and a fundamental element of the right to self-determination. Commonalities of Indigenous groups include self-identification as an Indigenous People; historical continuity with pre-colonial and pre-settler societies; a strong link to territories and natural resources; distinct social, economic, or political systems; distinct language, culture, and beliefs; non-dominant groups of society; and a resolve to maintain and reproduce their ancestral environments and systems as distinctive peoples and communities (UN Permanent Forum on Indigenous Issues, n.d.).

UNDRIP provides protection against discrimination and the right to maintain their distinct political, legal, and social systems and the collective right to live in freedom, peace, and security as distinct peoples (UN General Assembly, 2007).

2018 UN Declaration on the Rights of Peasants and Other People Working in Rural Areas

Under UNDROP, a peasant is "any person who engages or who seeks to engage, alone, or in association with others or as a community, in small-scale agricultural production for

subsistence and/or for the market" (UN General Assembly, 2019). It also applies this term to Indigenous Peoples and other local communities working on the land.

UNDROP acknowledges that people working in rural areas suffer disproportionately from poverty, hunger, and displacement. It also recognizes the special relationship that these people have with land, water, and nature on which they depend for their livelihoods. UNDROP provides special protections against discrimination for women working in rural areas.

While UNDROP and other research that supports this paper use the term "peasant," it can have negative connotations, and this paper uses the updated term "agricultural workers" to describe people engaged in this work.

While many factors will ultimately determine the impact of a mining boom on women's rights, three factors stand out as particularly key (see Figure 2):

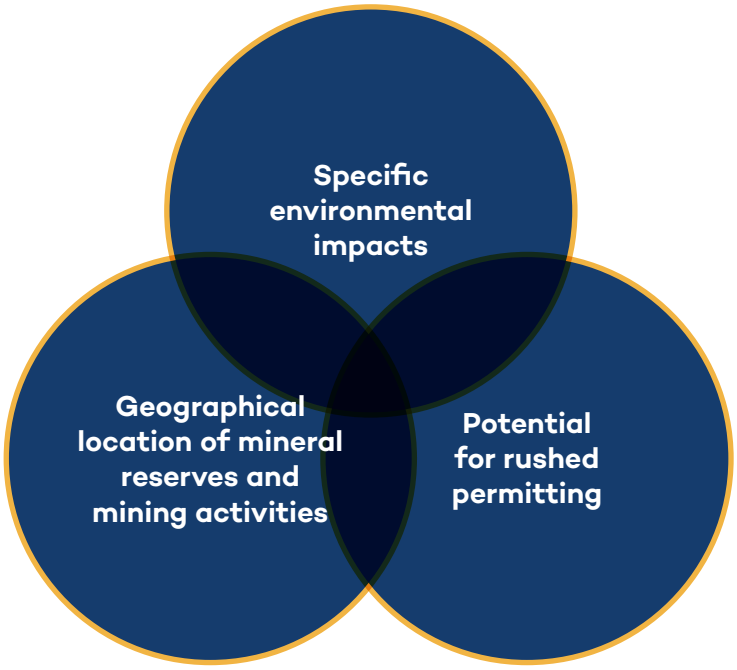
- the environmental impacts specific to the extraction and processing of critical minerals,
- the geographical location of mineral reserves and mining activities, and
- the potential impacts of accelerated permitting processes to meet the rising demand.

While geographically and commodity-specific, these three factors set the stage for even greater risks to women's rights, potentially reinforcing systemic inequalities in the mining sector, where women have traditionally been marginalized from the benefits while shouldering a disproportionate share of the costs.

BOX 4. RISKS TO WOMEN'S RIGHTS

- Loss of land, livelihoods, and food security
- Health impacts
- Increased unpaid care work
- Decrease in safety and security
- Restricted access to formal employment

FIGURE 2. Three factors of mining for critical minerals that compound risks to women's rights

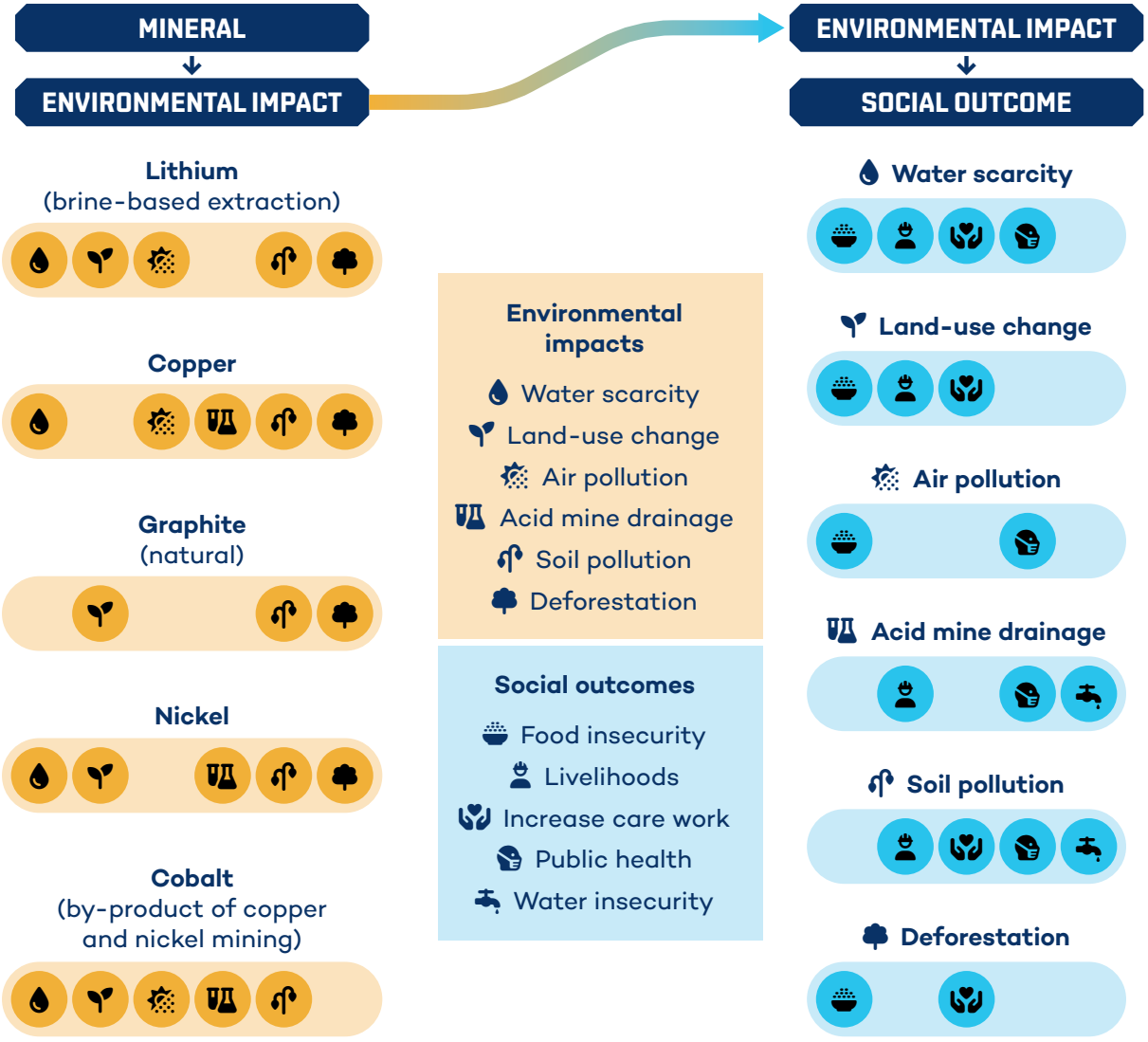


Source: Authors.

Factor 1: Environmental impacts of mineral extraction and processing

Often land and water intensive, mining can result in massive deforestation, soil erosion, and various forms of pollution—devasting ecosystems and disrupting the livelihoods, traditions, culture, and overall well-being of adjacent communities (Global Investor Commission on Mining 2030, 2024).

FIGURE 3. How critical mineral extraction can affect women's rights through environmental change



Source: Authors.

Increased mining activities resulting from the growing demand to meet the needs of the energy and digital transitions face the same environmental challenges, with more pronounced environmental impacts linked to specific critical minerals (IRENA, 2023). These impacts are outlined in Figure 3. Such pronounced impacts heighten the risks to everyone living in mining-affected areas; however, women are affected differently than men (Sage Fund, 2022). These

differences are often rooted in gender norms and the roles that women hold within households, communities, in the public sphere, and as environmental stewards. In mining-affected areas, the pronounced environmental impacts of critical mineral mining can compound risks to women's rights, particularly those of Indigenous women and agricultural workers, who hold unique roles in relation to land and natural resources (Sage Fund, 2022). These pronounced environmental impacts also undermine targets to halt and reverse nature loss outlined in the Kunming-Montreal Global Biodiversity Framework, adopted in 2022 by 196 countries. Target 23 of the framework calls for "recognizing [women and girls'] equal rights and access to land and natural resources" (Convention on Biological Diversity, 2022, p. 13).

A summary of pronounced environmental impacts associated with specific critical minerals and their effects on women's rights appears in Figure 3. Of these impacts, several stand out: (a) water scarcity, (b) pollution, and (c) land and natural resource degradation.

Water Scarcity

Mining cobalt, copper, and lithium is water intensive. Though the amount of water required varies based on the production techniques used, brine-based lithium extraction has a particularly high water footprint, requiring approximately 2 million litres of water per tonne of extracted lithium (Global Investor Commission on Mining 2030, 2024). Water scarcity around mine sites can be compounded by the fact that a significant share of global lithium and copper production is located in semi-arid to hyper-arid areas with high water stress. For example, over 50% of global lithium supply comes from the so-called Lithium Triangle spanning Argentina, Bolivia, and Chile, one of the driest places in the world (UN Trade & Development, 2020). In Chile, Salar de Atacama, one of the largest areas globally for lithium brine mining, has an annual rainfall of less than 30 cm. According to a recent review, lithium carbonate extraction reportedly might have depleted more than 65% of the local surface and groundwater supply, exacerbating water stress for Indigenous farming communities and ecosystems (Harvard International Review, 2020). The BHRRC has recorded 234 allegations of human rights abuses related to water pollution and/or access to water linked to critical mineral mining (BHRRC, 2025).

Water scarcity has particular implications for women's livelihoods, right to water, and unpaid care work. Globally, women comprise about 43% of the agricultural labour force in developing countries (Food and Agriculture Organization of the United Nations, 2011). In mining-affected areas, particularly for Indigenous women and agricultural workers, water is central for household needs, economic activities, and subsistence and small-scale agriculture. When mining-related depletion or contamination reduces water availability, it threatens food security and undermines women's economic resilience. Women's unpaid care time burden also increases. Women and girls are responsible for water collection in seven out of 10 households without direct access to water (World Health Organization and UN Children's Fund, 2023). In the absence of local water sources, women and girls must travel farther and work longer and harder to secure water for drinking and household needs, which affects their education, health, and well-being (Hill & Ezpeleta, 2017). Often the primary caretakers and stewards of local ecosystems, Indigenous women and agricultural workers are disproportionately impacted when water becomes scarce.

Pollution

Water, air, and soil pollution from mineral extraction and processing pose significant and well-documented risks to local communities living in proximity to mine sites. Depending on the commodity and mining techniques, mining and processing activities produce varying but large volumes of waste rock and tailings that require treatment and storage to manage air pollution (fugitive dust, blasting fumes, and machinery emissions) and mitigate the risk of contamination of soils and surface and groundwater reserves (IRENA, 2023). For instance, the processing of low-grade nickel laterite ores via high-pressure acid leaching generates large amounts of highly corrosive and toxic tailings. It is estimated that for every tonne of nickel (metal), high-pressure acid leaching processing produced 100 to 150 tonnes of tailings (Luo et al., 2026).

The purification of natural graphite requires high level of acids that can leach into water systems and soil. Copper, nickel, cobalt, and graphite mining involve the blasting, hauling, crushing, and transport of ore. These processes can generate significant air emissions primarily in the form of fugitive dust (PM10, PM2.5), sulfur dioxide, nitrogen oxides, carbon monoxide, and methane.

Alongside the toxic metals and heavy metals (asbestos, mercury, arsenic, cadmium, and lead) that may be emitted during extraction and processing, air pollution can degrade local air quality and in turn impact the respiratory and cardiovascular health of mining-affected communities (IRENA, 2023; UN Trade & Development, 2020).

In hyper-arid northern Chile, copper operations are increasingly shifting to use desalinated seawater to ease pressure on scarce freshwater. As this approach is now widespread and expanding, it carries its own environmental trade-offs, such as energy intensity, brine and discharge effects, and coastal impacts including disruptions in fishing livelihoods, coastal access, and community spaces (African Development Bank, 2025).

Such pollution can disproportionately affect women's health (BHRRC, 2024). Women are often more exposed than men to water pollutants because of their outsized roll in water collection, meal preparation, and washing clothes. Such exposure increases the risks of infant mortality, premature births, and other reproductive health issues (Sage Fund, 2002). In Colombia, women living near the Cerro Matoso nickel mine are experiencing high numbers of uterine fibroids, allegedly linked to mining contamination (BHRRC, 2024). Recent research in the DRC points to water pollution from industrial cobalt mining as the source of increased reproductive health issues among women (RAID, 2024). The stakes for women's rights to health are high as global pressure to secure critical minerals ramps up.

Land and Natural Resource Degradation

In this report, land degradation includes both the deterioration of land quality and the long-term loss of land availability due to land take and land-use change associated with mining. Open-pit mining is a surface-mining technique used to extract rocks and minerals from the earth by removing them from an open or borrow pit, and it is the prevailing ore-extraction approach used for copper, nickel, and cobalt as a by-product. Compared with underground mining, open-pit mining has a larger visual and ecological footprint. While the size of open-pit mines varies between large-scale mining and ASM, open-pit mining involves land-cover change, soil erosion, and dust production, as well as groundwater and waste seepage

(Koščová et al., 2018). Open-pit mining also produces large volumes of waste rock and tailings that require storage and management.

Although mining's role in global tree cover loss is small compared to other major drivers (for example, agriculture, forestry, and wildfires), it has outsized impacts when analyzed at local or regional levels. Tree cover loss data from Global Forest Watch and World Resource Institute found that between 2001 and 2020, direct mining and related activities were a driver of 1.4 million hectares of deforestation, of which 450,000 ha were in tropical primary rainforests, 150,000 ha were in protected areas, and 260,000 ha in Indigenous People' and local community lands (World Resources Institute, 2024).

Historically, gold and coal mining have been the largest drivers of mining-related tree cover loss, accounting for 71% of all mining-related deforestation between 2001 and 2019 (World Wildlife Fund, 2023). However, the growth in demand for critical minerals is likely to exacerbate both direct deforestation (resulting from the expansion of large-scale mining activities) and indirect tree cover loss caused by the construction of auxiliary infrastructure such as roads, powerlines, tailings storage facilities, and industrial parks (World Resources Institute, 2024).

ASM is also linked to widespread land cover change, deforestation, and environmental pollution, though there is a lack of data and monitoring of the scale relative to large-scale mining (Bansah et al., 2024). ASM-linked deforestation is predominantly due to gold mining (IGF, 2017), but environmental impacts due to copper, cobalt, and rare-earth element ASM are increasing (IGF, 2024a). In these areas, despite negative ecological and human health effects, ASM provides livelihoods and economic development for 40 million people, with an additional 150 million individuals depending on the sector indirectly (IGF, 2017).

As with water scarcity, loss of land and biodiversity have far-reaching consequences on women's rights in mining-affected communities. Largely responsible for land- and natural resource-based livelihoods, such as subsistence farming and harvesting natural resources, Indigenous women, agricultural workers, and other women in rural areas play a critical role in food production and in ensuring the food security of families (IGF, 2022b). As with water, when land and natural resources degrade, women's care work increases because they are often responsible for securing and using these resources. Women may need to work longer, harder, or farther away from home. And, according to a recent Sage Fund report, since "men tend to have access to more fertile land, women are often the first to struggle with lower crop yields due to erosion and pollution" (Sage Fund, 2022, p. 8). Land pressure fomented by critical mineral projects can also be driven by different processing methods and waste management infrastructure, especially tailings storage, which can expand the project footprint and extend environmental risks well beyond the mine pit until mine closure. These impacts are felt most acutely by women who rely on land-based livelihoods and who often have less secure access to fertile land and natural resources. This point illuminates how a new stressor introduced by mining for critical minerals (land degradation) can interact with an existing constraint to women's rights (lack of land tenure) to compound risks to women's rights.

Beyond economic consequences, loss of land and ecosystems can have lasting impacts on culture and well-being. Land and natural resources are more than just physical assets to many Indigenous communities; they are central to cultural and spiritual traditions and inter-generational transmission of knowledge (Native Women's Association of Canada, 2020). Mining can bring destruction that profoundly disrupts these traditions, as well as women's roles and unique relationship with the natural world, including knowledge of traditional

medicinal plants, animals, and minerals. This disruption undermines cultural identity and survival (Native Women's Association of Canada, 2020).

The BHRRC reports that out of 835 tracked human rights allegations associated with "energy transition mineral mining," 50% involve at least one environmental impact, with 234 related to water pollution and/or access to water (BHRRC, 2025). Water and land scarcity, coupled with environmental pollution, can spur conflicts between mining companies and local communities, creating production delays, legal battles, and—in too many cases—violence (IRENA, 2023; Owen et al., 2023). In conflict-affected or militarized mining zones, such violence disproportionately harms women and girls, including the documented use of sexual violence as a tactic of intimidation—exercising power over women and their communities (GIZ, 2020). Moreover, these dynamics can be further exacerbated by two other factors specific to mining for critical minerals: the geographical location of mineral reserves and mining activities and the potential for accelerated permitting processes.

Factor 2: The geographical location of mineral reserves and mining activities

The pursuit of minerals to fuel the energy and digital transitions is changing the global mining landscape. New countries are becoming prominent actors as efforts to secure critical minerals surge (Global Investor Commission on Mining 2030, 2024). Across more than 5,000 critical mineral mining projects (both in production and in development), more than half are located on or adjacent to Indigenous Peoples' lands (Owen et al., 2023). Of these projects, 29% are "located on or near lands over which Indigenous peoples are recognized as managing or exercising some form of control or influence over for the purposes of conservation" (Owen et al., 2023, p. 204). Ironically, this amount is directly proportional to the amount of land that Indigenous Peoples control globally (29%), despite international laws that aim to protect such land from encroachment because of their significance for conservation and Indigenous Peoples' livelihoods (Owen et al., 2023; see Box 3).

For the five critical minerals covered in this study—cobalt, copper, graphite, lithium, and nickel—the picture is even more pronounced. Nearly 80% of lithium projects and almost half of copper and nickel projects are situated on or near Indigenous Peoples' territories, often where access to education, economic opportunities, and basic services is already constrained (Owen et al., 2023). When also considering the lands of subsistence and/or rural, small-scale farmers, the skew becomes even greater. Ninety percent of graphite projects are summarily located on Indigenous Peoples' lands, agricultural lands, or both. Lithium is next at 87% of projects globally, followed by copper (78%), nickel (76%), and cobalt (72%; Owen et al., 2023). Additionally, these critical minerals are all located in settings susceptible to a combination of contextual risks, including conflict, water risk, and food insecurity (Owen et al., 2023).

The implications of this geographical overlap are profound. First, it establishes that Indigenous Peoples are "one of the most affected groups in the energy transition" (UN Working Group on Business and Human Rights, 2023 p. 14). More often than not, mining, including for critical minerals, is triggering and will trigger the requirement of free, prior, and informed consent (FPIC) under national or regional legislation or under international human rights law (most notably as enshrined in UNDRIP). It may also raise legally binding human rights obligations, as in the case of agricultural and rural communities (as outlined in UNDROP).

Even in jurisdictions that have not adopted UNDRIP or UNDROP, or where affected communities do not hold legal Indigenous status, international standards, such as the Organisation for Economic Co-operation and Development Due Diligence Guidance for Responsible Business Conduct, still require robust, rights-respecting consultation processes. Locally affected peoples can include tribal peoples, ethnic minorities, customary landholders, pastoralists, and other marginalized groups. The principles of FPIC (e.g., early disclosure, culturally appropriate consultation, gender-responsive participation, and recognition of the possibility of withholding consent) are increasingly considered best practice standards for mining-affected communities (Legal Resources Centre & Oxfam, 2018). In Africa, principles of consultation and consent are recognized in mining regulatory frameworks across Malawi, Mozambique, South Africa, Zimbabwe, and Zambia (Legal Resources Centre & Oxfam, 2018). The 2009 Directive of Economic Community of West African States requires mining companies to obtain FPIC from local communities (Economic Community of West African States, 2009), and the 2012 resolution of the African Commission on Human and Peoples' Rights directs States to take all necessary measures to ensure FPIC for communities impacted by mining (African Commission on Human and Peoples' Rights, 2012). In short, the rights of local residents, Indigenous Peoples, and agricultural workers and rural people lie in the crossroads of the path to renewable energy and to the minerals considered necessary for mitigating climate change.

Second, despite decades of building policy infrastructure, standards, and commitments, the mining industry continues to struggle with poor performance on the rights of Indigenous Peoples and FPIC implementation (Owen et al., 2022; UN Secretary-General's Panel on Critical Energy Transition Minerals, 2024). There is a "well-documented set of legacy issues where states and [mining] corporations are implicated in the systematic abuse of the rights of the world's Indigenous Peoples" (Owen et al., 2022). Indeed, the BHRRC reports that Indigenous Peoples are disproportionately experiencing harmful impacts of mining for specific critical minerals, having recorded 77 allegations of human rights abuses, 48 of which are alleged violations of Indigenous Peoples' rights to FPIC (BHRRC, 2025). According to a 2023 analysis by the IEA, 40% of the world's production of cobalt, lithium, and copper comes from a mine with at least one human rights allegation recorded in 2022 (IEA, 2023).

This track record underscores the reality that current policy and practice around FPIC and Indigenous rights are arguably not effective enough to withstand the pressure of increased demand to produce these minerals (Sellwood et al., 2023). While countries, not companies, ratify international conventions such as UNDRIP or UNDROP, international standards such as the UN Principles on Business and Human Rights provide clear expectations for companies to adhere to FPIC principles. Despite this guidance, in a survey of 43 companies that extract critical minerals, Oxfam research finds that while more than half of the companies have public policy commitments to respect Indigenous Peoples' rights, only half of those policies specifically mention FPIC (Sellwood et al., 2023). Sixteen of the companies do not have any publicly accessible policies that reference Indigenous Peoples' rights (Sellwood et al., 2023). Moreover, the policies of junior critical mineral mining companies fall short of international norms (Sellwood et al., 2023)—a worrying trend, given that juniors are typically the first to interface with local communities during exploration phases.

The outlook on gender policies in relation to Indigenous Peoples' rights and FPIC is equally concerning. Of the 43 companies surveyed, nearly half do not have a publicly available policy commitment to gender equality. The rest have a commitment to gender equity within the workforce, but not in procurement, community development agreements, or other community-

focused policies. Only three companies have policies that address gendered impacts on communities in mining-affected areas, while only two publicly commit to implementing gender-responsive FPIC (Sellwood et al., 2023). None of the companies have explicit policies to protect women in project-affected communities from SGBV (Sellwood et al., 2023).

Furthermore, ample evidence demonstrates the systemic exclusion of Indigenous women from consultation and decision-making processes. In Isabel Province of the Solomon Islands, where nickel exploration has expanded significantly, documented consultations and land negotiation processes have excluded women from participating, despite the fact that land is traditionally held and transferred matrilineally (Ash, 2024). Similarly, the island of Bougainville in Papua New Guinea is a matrilineal society and was once the home of the world's largest copper mine. Women were marginalized from important consultations around land rights, leading to a legacy of grievances that fomented a decade-long civil war (Eftimie et al., 2021).

Concurrently and importantly, many critical minerals are found not only on or adjacent to Indigenous Peoples' and agricultural workers' lands but also in areas of high contextual vulnerability. Risks include food insecurity, conflict, and unfavourable social and institutional conditions for what Owen et al. refer to as "human-rights compatible permitting, consultation, and consent processes" (Owen et al., 2022, p. 6). A key metric for determining the extent to which socio-institutional conditions are conducive for rights-compatible consultation and consent is gender equality (as measured by the Gender Inequality Index of the UNDP). A significant number of critical mineral projects are on Indigenous and/or agricultural lands and simultaneously in food-insecure or highly gender-unequal jurisdictions (Owen et al., 2022). See Table 1.

TABLE 1. Percentage of critical mineral projects on Indigenous Peoples' and agricultural lands and in food-insecure or gender-unequal areas

Mineral on Indigenous/ agricultural land	% of projects in food-insecure areas	% of projects in gender-unequal jurisdictions
Cobalt	78	81
Copper	73	83
Graphite	89	85
Lithium	73	75
Nickel	56	62

Source: Owen et al., 2022.

Note: "Gender unequal" refers to a minimum threshold of between first and second quartile (0.184) in the Gender Inequality Index of the UNDP. A score approaching 1 indicates significant gender inequality.

This combination poses imminent risks to the rights of Indigenous women and women agricultural workers. Competition for land will likely increase as mining expands, potentially aggravating pressure on livelihoods and subsistence farming, for which women are often responsible. At the same time, consultation processes that systematically exclude women threaten to exacerbate existing gender inequalities. The confluence of these variables, coupled with weak policies on meaningful and inclusive community engagement, presents a troubling predicament—especially where implementation of FPIC is lacking.

Inclusive, effective, and ongoing gender-responsive consultation is the backbone of maintaining social licence to operate—a community's perceived acceptance of a mining company and its operations (Eftimie et al., 2021; IFC, 2024). Loss of social licence to operate can lead to protracted conflicts between mining companies and local communities in which projects are beset by protests, stoppages, legal action, and—in too many cases—violence (BHRRC, 2024; Global Investor Commission on Mining 2030, 2024). The Cobre copper mine in Panama and Peru's Fenix nickel mine are two examples of mines plagued by prolonged conflict with affected Indigenous communities, ultimately leading to project closure and suspension, respectively (BHRRC, 2024).

The material financial risks of conflict cannot be overstated. A decade ago, groundbreaking research suggested that the cost of conflict could amount to USD 20 million per week of delayed production for a mining project with capital expenditure of between USD 3 billion and USD 5 billion (Franks et al., 2014). Based on new analysis in the context of critical mineral mining, the BHRRC asserts that the "costs today are likely to be higher—along with the risk of conflict" (BHRRC, 2025, p. 24).

A discussion about conflict in relation to mining on Indigenous and agricultural lands is incomplete without mention of the unique risks facing environmental human rights defenders. In 2022, 177 defenders were murdered, of whom 89% were men, 11% were women, and 36% were Indigenous (Global Witness, 2023). Men in these contexts are disproportionately at risk of being murdered for defending land rights and fighting for environmental protection, due in part to their increased visibility and participation in political activism. These figures, however, do not capture the full gamut of harassment, sexual assaults, forced disappearance, and other physical attacks experienced by women human rights defenders (Le Billon & Lujala, 2020, as cited in Rickard, 2024). Women are not only targeted for defending rights, but for defying gender norms, and the violence facing women human rights defenders is simultaneously defined and intensified by other factors such as race, class, Indigenous status, ethnicity, and physical ability (Rickard, 2024). The risks facing women human rights defenders underscore that "structural gender and racialised violence is used to divide communities and undermine women's leadership" (Rickard, 2024, p. 21).

Risks to women's rights and gender equality intensify as the global mining map changes in response to surging demand for critical minerals. Water scarcity, pollution, and land and natural resource degradation pose imminent threats, particularly to the rights of Indigenous women and women agricultural workers, because most critical minerals are found on Indigenous and agricultural lands—and because a significant portion of these minerals are also found in food-insecure, highly gender-unequal jurisdictions.

Moreover, threats become even greater when considering a third prominent feature of the current race to produce critical minerals: the risk of accelerated permitting processes to fast-track project development. Women's rights and gender equality stand in the crosshairs of ramped-up efforts to secure critical minerals.

Factor 3: Accelerated permitting processes

The geopolitical race, as depicted by heightened competition among states to secure access to critical minerals, has intensified significantly in recent years. Cobalt, copper, graphite, lithium, and nickel are on the European Commission's 2023 Critical Raw Materials list and the United States Department of Energy's 2023 Critical Materials list. Around the globe,

narratives revolve around urgent and "immediate action" to secure minerals considered essential for economic and national security and for the transition to renewable energy, digital technologies, and military defense (United States, Executive Order, 2025). Between 2022 and 2025, Australia, the United States, the United Kingdom, and the European Union all passed laws or policy reforms aimed at securing a reliable supply of critical minerals (IRENA, 2023).

However, the projected growth in supply is unlikely to keep pace with accelerating demand. Structural constraints across the mineral value chain—including long project development timelines, permitting complexities, infrastructure gaps, and financing risks—limit the speed at which new supply can come online. According to S&P Global Market Intelligence (Manalo, 2025), the average time from discovery to production for a new mine is approximately 17.8 years, underscoring the inherent rigidity of mineral supply systems in the face of rapidly rising demand. A 2021 analysis by IEA found a similar trend, that it took 16 years on average to develop mining projects from discovery to first production, with more than 12 years spent in exploration and feasibility studies and a further 4–5 years in construction (IEA, 2021).

Among the array of factors determining the speed of mine development, the "permitting process stands out as a key bottleneck" (Womble Bond Dickinson, 2024, p. 3). An examination of 2017 to 2023 data from more than 100 global critical mineral projects by the consulting firm ERM reveals that the most prevalent cause of pre-production delays to critical mineral mine development is permitting issues at 39%, followed by technical challenges and commercial issues at 36% and 26%, respectively (Whincup et al., 2023). In this framing, permitting timelines pose a material threat to meeting net-zero targets by 2050 (Womble Bond Dickinson, 2024).

Therefore, governments are ramping up efforts to fast-track permitting and ease regulations (Owen et al., 2022). A host of countries, including Australia, Canada, Peru, the United States, Indonesia, and South Africa, have signalled a willingness to accelerate permitting processes (Owen et al., 2022). In the United States, recent efforts include expanding the use of the FAST-41 program that is designed to improve interagency coordination and the timeliness of federal environmental reviews for critical infrastructure to fast-track permitting. As part of these developments, multiple mining projects are added to the federal permitting dashboard to accelerate reviews (U.S. Department of the Interior, 2025). In 2021, Brazil launched a strategy to streamline its environmental licensing and approval processes for new mining projects. In 2024 the European Parliament signed the Critical Raw Materials Act, which introduces a streamlined and predictable administration process designed so that permitting timelines for strategic extraction projects will not exceed 27 months (European Commission, 2024; Womble Bond Dickenson, 2024).

As governments adjust policies to respond to rising demand and streamline permitting processes, Owen and fellow researchers pose a fundamental question: Will community consultation and consent be compromised in the process—and if so, to what extent? (Owen et al., 2022). Already, international institutions such as the United Nations and other environmental and human rights institutions have similarly cautioned that accelerated project timelines may place pressure on environmental and human rights due diligence processes if safeguards are not maintained (Mining Watch Canada, 2025; UN Secretary-General's Panel on Critical Energy Transition Minerals, 2024). In contexts characterized by changing geopolitical landscapes and temporal urgency, robust environmental, human rights, and gender impact assessments may face challenges and become more complex.

These concerns are particularly salient given that many critical mineral deposits are located on or adjacent to Indigenous and agricultural lands (Owen et al., 2022). In several jurisdictions, existing safeguards have not been consistently effective in protecting rights to consultation and to ensuring robust consent processes (BHRRC, 2024). When combined with policy efforts to accelerate permitting, these structural factors may increase the risk that due diligence and consultation processes are constrained in their scope or depth.

Another compounding factor relates to the unique role of junior mining companies, particularly during the exploration and early permitting phases. Often the first point of contact and engagement with local communities, junior companies play an important role in shaping early relationships and in building trust and social licence to operate with affected communities. However, their comparatively limited financial and human resources may pose challenges for the implementation of comprehensive environmental and social impact assessments. Studies have documented patterns of human rights abuses committed by juniors when entering new territories (Mining Watch Canada, 2025). Consultations are often superficial, with junior companies misleading or making unrealistic promises to local communities, creating trust deficits from the start (Hohn, 2009; Holcombe, 2019). A review of 43 critical mineral companies reveals that the public FPIC commitments and policies among junior companies often fall short of international standards and societal expectations (Sellwood et al., 2023). Weak consultation processes can undermine social licence to operate, elevate conflict risks, and create material, financial, and reputational exposure for project developers (Franks et al., 2014; Sellwood et al., 2023).

Expedited permitting processes present yet another challenge to the protection of women's rights, particularly those of Indigenous women and women agricultural workers. Shortened consultation timelines can limit the integration of robust gender-responsive environmental and social assessments. The Responsible Mining Foundation's 2022 Responsible Mining Index found gender impact assessment to be among the lowest-scoring indicators; only 3 of the 40 large-scale mining companies assessed had any systems to conduct them. Ill-equipped junior companies with a legacy of inadequate human rights performance are not properly positioned to ensure women's agency in consultation and consent processes. The risk of creating new or exacerbating existing gender inequalities increases. When women remain on the sidelines of consultation and decision making, social licence to operate is unattainable.

Women's Rights Under Conditions of Accelerated Mineral Expansion

As demand for critical minerals surges and governments adopt strategies to secure supply for the energy and digital transitions, important questions arise regarding the implications for women's rights. Extraction and processing activities present specific governance challenges including environmental impacts, land-use pressures, geographic concentration of deposits, and accelerated permitting processes. If not carefully managed, these dynamics can heighten risks to women's rights to livelihoods, access to water, health, cultural heritage, meaningful consultation, safety, security, and beyond.

Indigenous women and women agricultural workers often face compounded vulnerabilities due to intersecting forms of economic marginalization, land-tenure insecurity, and limited participation in decision-making processes. These pressures converge with long-standing gender disparities in the mining sector, where women have frequently encountered barriers to economic participation and unequal exposure to social and environmental costs.

Achieving a just energy and digital transition therefore requires stronger governance frameworks to ensure that mineral development contributes to inclusive socio-economic outcomes. Securing the minerals necessary for climate and technological objectives must be accompanied by deliberate efforts to integrate gender equality, rights protection, and equitable benefit sharing into mining policies and practices.

Shaping the Future

The critical minerals boom presents a unique opportunity to address long-standing structural challenges and to shape the future trajectory of the mining sector. As the sector becomes central to global climate action and digital transition, countries and mining companies must ensure that policies and practices align with the principles of the Paris Agreement and Sustainable Development Goals. This includes systematically integrating human rights protection, gender equity, and women's economic and social empowerment into mining policies, regulatory frameworks, and operational practices. Seizing this moment requires deliberate policy reform, responsible investment, transparent and inclusive governance, and meaningful engagement—particularly with women, local communities, and Indigenous groups.

With the rising demand for critical minerals, the expansion of mining activities offers significant opportunities for economic growth, technological innovation, and job creation. To ensure that this growth contributes to sustainable and inclusive development, it must be grounded in the principles of decent work as defined by the ILO. Decent work encompasses productive employment that delivers living wages, safety in the workplace, social protection, better prospects for personal development, equal opportunity, and freedom for people to express their concerns and participate in decisions that affect their lives (ILO, 1999, 2006). The ILO's Decent Work Agenda integrates these objectives into four strategic pillars—rights at work, employment creation, social protection, and social dialogue—which together form the basis for ensuring that the critical minerals boom advances both economic and social justice (ILO, 2008). The *ILO Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All* further emphasize that the transformation to sustainable economies must be inclusive, ensuring that workers, enterprises, and communities share equitably in the benefits and are supported through the challenges of change (ILO, 2016).

Ensuring that mining activities do not perpetuate existing gender inequalities requires more than broad commitments. It demands specific and enforceable actions, including the integration of gender-responsive principles and inclusive governance structures into both global and national mining policies. By closing gender gaps and investing in education, skills development, and economic opportunities for women in mining regions, the sector can promote more gender-equitable benefit sharing. Ensuring that women—particularly Indigenous women and women agricultural workers—are effectively represented in consultation and consent processes is central to rights-based and inclusive mineral governance.

To translate commitments into practice in the mining context, governments need a coherent, sector-specific governance framework that consistently integrates decent work and just-transition principles in decision making across the mine life cycle. The IGF's Mining Policy Framework sets out good practices for governments to ensure mining contributes to sustainable development through effective laws, policies, and regulation across the full mine life cycle. Organized into six pillars (laws, policies, and institutions; financial benefits; socio-economic benefits; environmental management; post-mining transition; and ASM), the framework provides practical guidance from exploration to closure (IGF, 2023). Crucially,

gender equality and social inclusion are embedded throughout, explicitly linking to Sustainable Development Goal 5 and calling for laws and policies that ensure women's full and effective participation in mining decision making. The Mining Policy Framework offers governments a suite of priorities that can align the minerals boom with rights-based participation, equitable benefit sharing, robust environmental management, and planned closure.

Recalling the central question of this analysis, "In the race to secure critical minerals, what will it take to advance gender equality and safeguard women's rights, particularly those of women in mining-affected communities?", the following section offers actionable strategies and policy recommendations for governments and mining companies to strengthen gender-responsive governance in the mining sector and to safeguard women's rights and gender equality, while contributing to an inclusive and just energy transition.

4.0 Safeguarding Gender Equality in Critical Minerals Strategies

Securing critical minerals is central to achieving a low-carbon future and realizing global climate ambitions and digital transformation. Cobalt, copper, lithium, graphite, and nickel are used in a wide range of technologies needed to build renewable energy infrastructure, decarbonize transportation, and enable digital transformation. The expected exponential growth in demand for critical minerals over the coming decades positions the mining sector as a cornerstone of the global economy.

This moment presents an unparalleled opportunity to design policies that embed gender equity, decent work, and Indigenous Peoples' rights from the outset. Gender-responsive, human rights-based mining governance presents a pathway for mitigating risks and for ensuring sustainable, equitably shared benefits for all.

Safeguarding women's rights in the race for critical minerals might seem a daunting challenge. The preceding analysis, however, points toward several clear opportunities for government and industry actions. The following three recommendations aim to address the structural legacy associated with women's rights in the mining sector, including, among others, unequal opportunities and distribution of economic benefits, increased risks of gender-based violence, and marginalization from consultation. The recommendations also respond to the compounding factors unique to mining for specific critical minerals, namely the pronounced environmental impacts (water scarcity, pollution, and land and natural resource degradation); the geographical location of reserves and mining activities (largely on Indigenous and agricultural lands); and the potential risks associated with fast-tracking permitting processes to open new mines. The recommendations are

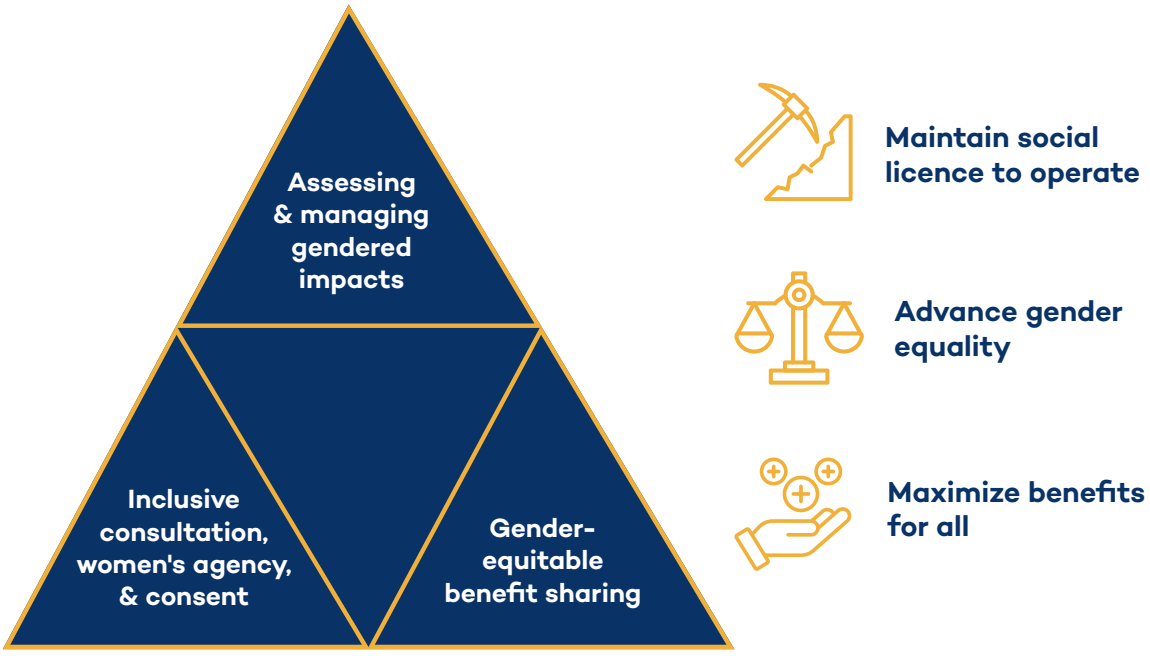
- assess, monitor, and manage gendered social and environmental impacts
- require inclusive consultation, promote women's agency, and secure consent
- establish gender-equitable benefit-sharing mechanisms

All three strategies—managing impacts, ensuring inclusive consultation, and establishing gender-equitable benefit-sharing mechanisms—strive to anticipate and mitigate risks to women's rights in mining-affected communities, while at the same time maximizing socio-

economic benefits. Equally important, the strategies have proven effective in building and maintaining social licence to operate between local communities and mining proponents.

Indeed, ample policy recommendations already promote these three strategies (IGF, 2022b. The preceding analysis, however, provides further rationale for enhancing regulatory commitments to make them actionable in these areas, particularly within the context of rising demand for critical minerals. The analysis underscores the need to scale up investments in robust, gender-responsive implementation and monitoring systems. A wide range of practical and tested tools and approaches are available to support governments, project proponents, and mining-affected communities in implementing these recommended strategies.

FIGURE 4. Strategies to safeguard women's rights



Source: Authors.

Strategy 1: Assess, monitor, and manage gendered impacts of mining

Robust social and environmental impact assessment (EIA) and management is an integral and often legally required component of any mining project. Typically, an environmental and social impact assessment or other type of assessment process (such as a human rights impact assessment) forms the backbone of impact management. Clearly, socio-environmental pressures associated with mining and processing of specific critical minerals, such as increased water scarcity, pollution, and land and natural resource degradation, will become more salient and require strengthened governance frameworks and regulatory oversight.

A report from the Global Investor Commission on Mining 2030 asserts that a focus on environmental and social performance can "often feel like an unaffordable luxury" for governments and project proponents, such as investors (2024, p. 39). For junior and smaller exploration companies, affordability can pose legitimate concern. These companies often play

a critical role in implementing initial impact assessments. However, the long-term benefits of robust impact assessment, including avoiding any material financial risks, can far outweigh potential material costs (Global Investor Commission on Mining 2030, 2024).

Maintaining the social licence to operate hinges on finding the balance between managing impacts and maximizing benefits. From a women's rights perspective, the single most important step for identifying potential risks and opportunities is to apply intersectional gender analysis to impact assessment, monitoring, and management. This means recognizing that the impacts of mining affect people differently based on gender and other identify factors. It also means that the resulting impact monitoring and management plans must respond to these variations, including in the design of grievance mechanisms.

Environmental and social impact assessments that do not apply intersectional gender analysis fail to capture the full range of impacts. Any resulting mitigation and management plans accordingly fall short (IGF, 2022b).

Minimizing risks and maximizing benefits rely on impact assessment and management that take social difference into account.

Apply Intersectional Gender Analysis

Not all people experience resource extraction in the same way (Hill & Ezpeleta, 2017). The impacts of mining affect individuals and groups of people differently, depending on gender and other identity factors, such as age, race, ethnicity, geographical location, Indigenous status, educational and occupational status, physical ability, etc. Intersectional gender analysis recognizes these differences, noting that no one identity is more important or salient than another, but that their effects combine to result in different lived experiences (United Nations Inter-Agency Network on Women and Gender Equality, 2025). Impact assessments that integrate intersectional gender analysis capture the range of potential impacts across all potentially affected people and groups of people. The resulting monitoring and management plans are therefore able to appropriately respond to, mitigate, and address risks. Likewise, grievance mechanisms can cater to the specific needs of individuals within mining-affected communities, including to women and other marginalized people. Some tools for conducting gender impact assessments are listed below.

Equally important is understanding the gender context within potentially impacted communities. This includes identifying gender norms that determine gender roles and power relations, as well as who has access to and control over resources such as land and water in potentially affected areas. Understanding the gender context provides key supplementary data for robust social and environmental impact assessment, monitoring, and management. Appendix B of this report provides a set of comprehensive tools to apply intersectional gender impact assessments.

BOX 5. PRACTICAL TOOLS FOR GENDER IMPACT ASSESSMENTS

Published in 2017, Oxfam's *A Guide to Gender Impact Assessment for the Extractive Industries* provides step-by-step instruction (Hill & Ezpeleta, 2017). It supports teams in collecting baseline information, analyzing data, designing an action plan, and monitoring progress.

IMPACT's intersectional toolkit guides teams creating impact assessments on how to incorporate the perspectives of women artisanal miners, whose experiences are fundamentally different from those of women working in formalized, large-scale mining. IMPACT's report serves as a good example of intersectional gender analyses in impact assessments. It provides questions that can be explored during an impact assessment process to determine gender norms and identify gendered impacts (IMPACT, 2020).

Canada requires the use of Gender-Based Analysis Plus in all phases of environmental and social impact assessments to ensure that mining and other projects account for the effects of gender and intersecting identity factors such as age, culture, income, and social roles (Women and Gender Equality Canada, 2025). Gender-Based Analysis Plus is a seven-step analytical process that emphasizes understanding the local social, cultural, historical, and economic contexts, challenging assumptions about gender norms, and collecting both quantitative and qualitative baseline data through early and continuous community consultation.

Collect Gender-Disaggregated Data

Collecting data disaggregated by gender and other identity factors is critical to impact assessment, monitoring, and management. Data should be disaggregated by gender and further disaggregated by age, Indigenous status, ethnicity, and other relevant factors. Data collection should be led by teams with local knowledge and cultural competence, using safe and culturally appropriate methods (including local and women-led data collectors, where relevant) to ensure participation and data quality. Impact assessments should include disaggregated data and determine potential impacts of mining on

- access to, control over, and use of water, land, and other natural resources vital to livelihoods and subsistence;
- alignment with and/or changes to cultural heritage;
- health impacts on different population groups;
- livelihoods, paid and unpaid care work, and any potential barriers to women's employment in mineral supply chains and adjacent sectors; and
- risks of increased SGBV, particularly from the introduction of fly-in-fly-out employment models and the influx of cash into the economy.

Start Early and Continue Through Mine Closure

Gender impact assessment, monitoring, and management should begin early, during exploration, and continue through to mine closure and post-mining transition. Impact assessments require regular updating over the life of the mine. Often spanning decades, mining operations continuously alter the socio-economic landscape of affected communities.

Impact assessment, monitoring, and management should address evolving gendered risks and impacts over time.

CASE STUDY. PERU: CORE GENDER INDICATORS FOR MINING EIAs

For more than 20 years Peruvian law has required environmental impact studies for all mining projects. Guidelines developed by Peru's National Certification Service (Servicio Nacional de Certificación Ambiental para las Inversiones Sostenibles) include considering gender analysis early in the certification process, during social baseline studies (IGF, 2022b). To support this work, the National Certification Service developed a set of core indicators that every assessment must include. These cover: (i) gender gaps in employment, comparing local baseline representation with anticipated opportunities created by the project and its contractors; (ii) gender gaps in income, assessing existing disparities and expected wage differences for project-related jobs; and (iii) women's participation in project-related spaces, such as productive initiatives, dialogue tables, monitoring committees, workshops, and information offices (IGF, 2022b).

Equally necessary is assessing gender-specific impacts of mine closure well ahead of time. Ample research demonstrates a strong correlation between mine closure and women's vulnerability. In South Africa, mine closure has been linked to increased crime rates and prostitution, heightened food insecurity for women, and increases in women's unpaid care responsibilities (IGF, 2023). Gender impact assessment, monitoring, and management before and during mine closure are especially important in the context of critical minerals. For critical minerals in particular, the current "boom" cycles of certain minerals could result in more mine closures in the future, which should be accounted for before the new operations start.

CASE STUDY. SIERRA LEONE: FROM MINE PITS TO FARMLAND

In Sierra Leone, the Anglo American Foundation supported the Land Reclamation Project, launched by RESOLVE in 2019. The project trains miners and their communities to rehabilitate mined previously mined land for agriculture. Once the land is restored, women-led cooperatives use it for subsistence farming, selling any surplus in the local marketplace (Whitbread-Abrutat & Lowe, 2024). Between 2019 and 2023, 500 women contributed to the restoration of 110 old mine pits across 83 hectares of land (Whitbread-Abrutat & Lowe, 2024).

Robust Impact Assessment and Faster Permitting Are Not Mutually Exclusive

According to the European Commission's Critical Raw Materials Act, impact assessments should not be part of the accelerated timelines for permitting (European Commission, 2024). The Act, therefore, supports rigorous assessment in that the subsequent permitting timeline (no more than 27 months for strategic extraction projects) is clear and abbreviated. One approach to reconciling the need for expedited permitting for critical minerals with robust impact assessments is to introduce regional impact assessments. Such assessments evaluate

cumulative environmental, social, and economic impacts of multiple mineral projects within a specific region, as opposed to focusing on one project in isolation.

CASE STUDY. CANADA: INDIGENOUS PERSPECTIVES IN REGIONAL MINING ASSESSMENTS

In Canada, regional assessments examine the positive and adverse effects of past, existing, or future activities within a specific region (Impact Assessment Agency of Canada, 2025). This includes the proposed designation of "special economic zones" where vetted projects may benefit from faster permitting, streamlined permits and approvals, simplified requirements, and priority access to one-window services (Environmental Registry of Ontario, 2025). Among these zones is the Ring of Fire (traditionally known as *Kawana 'bi 'kag* by local First Nations), a boreal northern region with significant nickel deposits, the majority of which are on land inhabited by First Nations Indigenous people. Regional assessments in Canada require the consideration of Indigenous knowledge, including the perspectives of Indigenous women, youth, Elders, trans and non-binary people, and Two-Spirit people (Impact Assessment Agency of Canada, 2025).

Ensure Participatory Monitoring and Community Oversight of Environmental and Social Management Plans

Environmental and social management plans, and any related management plans, should explicitly capture gendered impacts and allocate adequate resources for follow-up activities. Including mining-affected communities in monitoring can help translate plans into material outcomes. Community members, including women and youth, can help test water quality or track changes in biodiversity. They can also participate in and monitor progress against community development programs, employment and procurement targets, and capacity-building initiatives. When it is genuinely inclusive, participatory monitoring strengthens the credibility of results, reduces potential tensions between companies and communities, improves access to benefits and grievance mechanisms, and builds women's confidence in environmental and social information provided by the project.

The Environmental Governance Programme (EGP)—a joint initiative of the Swedish Environmental Protection Agency and UNDP—supports countries in building more inclusive, transparent, and accountable environmental governance systems. The program has two strong initiatives in Latin America that have the potential to be scaled up globally. Drawn from the EGP publication (UNDP & Canadian International Resources and Development Institute, 2021), the following cases demonstrate how participatory environmental monitoring committees can amplify women's agency, while strengthening the monitoring of mining impacts.

Together, these EGP cases illustrate the importance of being intentional about considering gender parity and equitable representation in impact monitoring. Committees do not automatically become gender-equitable; achieving equitable representation requires specific design features, training, and leadership practices that support women's agency.

UNDP EGP CASE STUDY. BOLIVIA: INCLUSIVE ENVIRONMENTAL MONITORING FOR MINING ACCOUNTABILITY

In Bolivia's San Juan del Oro and Tupiza river basins, communities face centuries of cumulative mining pollution, including acid mine drainage from abandoned sites, tailings overflows during heavy rains, and widespread dust contamination. The EGP established a community-based committee, bringing together local agricultural associations, irrigation groups, civic organizations, mining cooperatives, and importantly, women's associations. The committee oversees environmental risks affecting two major river basins. While early monitoring focused on pH tests after storms and seasonal sampling, community groups later shifted to visual and traditional ecological indicators, rooted in local knowledge. Crucially, mining governance is increasingly recognizing the role of women as environmental stewards, reflecting both Bolivia's legal commitments to gender equality and Andean principles such as *chacha-warmi* (complementarity of men and women). Women have been actively identifying pollution hotspots, reporting tailings overflows, and participating in committee deliberations. The monitoring committee has successfully used community findings to trigger governmental inspections and secure pollution-control upgrades from mining operators. Participatory, inclusive monitoring has been driving accountability.

UNDP EGP CASE STUDY. PERU: WOMEN'S LEADERSHIP IN PARTICIPATORY ENVIRONMENTAL MONITORING

In Peru, the Participatory Environmental Monitoring Committee of Orcopampa was established in 2010 through a tripartite agreement between the community, the mining company (Compañía de Minas Buenaventura), and the state. The committee monitors seasonal water quality following national protocols. It supervises each step, including the sampling by technicians and the selection of the laboratories that carry out analysis. The committee also ensures that results are disseminated publicly. Notably, the committee actively integrates women's leadership and gender considerations into its structure and activities. Women's participation is increasing over time, accompanied by gender training, increased roles in decision making, and opportunities to influence monitoring priorities. This shift is contributing to more holistic outcomes such as identifying the need for a sewage treatment plant—a community priority beyond mining-specific impacts.

Assess Risks of SGBV

SGBV prevention and the protection of survivors should take centre stage in impact assessment, monitoring, and management. Doing so embeds accountability throughout the mining life cycle. It also ensures that SGBV-related risks can be anticipated and measures for protection and prevention are appropriately budgeted, and protects rights and safety, ultimately strengthening social licence and project viability.

A key element of SGBV risk assessment is mapping available and accessible service providers around the mine site and designing risk mitigation measures, including health, psychosocial, legal, and shelter services, as well as grievance mechanisms that provide widely accessible,

confidential, and survivor-centred channels with clear timelines, protection from retaliation, and public reporting of anonymized, disaggregated data.

A gender-responsive, survivor-centric grievance mechanism is a complaint and redress system designed so women, girls, and other at-risk groups can safely report harm (including sexual exploitation and abuse and sexual harassment), be believed, and receive timely, confidential referrals and remedies—without re-traumatization or retaliation. This mechanism builds on survivor-centred principles of safety, confidentiality, respect, non-discrimination, and informed consent (World Bank, 2022).

CASE STUDY. YUKON, CANADA: ADDRESSING SGBC RISKS THROUGH IMPACT ASSESSMENTS

The Kudz Ze Kayah project in Yukon, Canada, which is being developed to mine zinc, copper, and lead, is a good example of how SGBV risks can be included during the early impact assessment and turned into enforceable conditions (IGF, 2022b). The Yukon Environmental and Socio-economic Assessment Board treated "personal safety" as a valued component from the outset, grounding its analysis in law and local evidence (including findings from the National Inquiry into Missing and Murdered Indigenous Women and Girls), mapping available SGBV services, and examining project features including worker influx, fly-in-fly-out rosters, cash-economy shifts, and workplace culture that heighten risks for women and 2SLGBTQIA+ people in both community and workplace settings (IGF, 2022b). As a result, the Board tied project approval to concrete measures, including mandatory anti-harassment training for mining employees, Indigenous women's mentorship and feedback channels, survivor-centred SGBV response protocols with clear referrals, and community support programs. The mining proponent endorsed these recommendations, including them in the Community Benefit Agreement (IGF, 2022b).

Strategy 2: Require inclusive consultation, promote women's agency, and secure consent

Require Inclusive Consultation and Promote Women's Agency

Gender-responsive, inclusive consultation is key to effective impact assessment and management. This means designing engagement practices that foster broad participation, particularly of women and other potentially marginalized groups. It also means applying an intersectional approach that recognizes diversity within and among people of all genders, particularly along ethnic, racial, Indigenous, and other lines of identity. Gender-responsive, inclusive consultation involves tailored outreach that considers potential barriers to participation. Basic strategies include addressing language barriers, tailoring formats, and ensuring that consultation meetings are accessible in terms of time and location to women, Indigenous women, and other marginalized groups. Also essential is ongoing communication through a range of channels that take accessibility into account (including, for example, language, literacy, cultural expression, and internet access; IGF, 2020).

Promoting women's agency goes hand in hand with inclusive consultation. Indeed, the overarching goal of inclusive consultation is to foster the input and participation of women

and other marginalized groups into various facets of impact assessment and project planning, implementation, and monitoring. Promoting women's agency ensures that women have access to and can influence decision making. It means addressing structural barriers to participation, as well as ensuring that women can access information and other resources necessary to contribute to decision making. Considering the pronounced environmental impacts of critical mineral mining, methodologies such as participatory environmental management are particularly effective. Such approaches support community-led impact monitoring, while at the same time promoting women's participation and agency.

Secure Consent

In the pursuit of critical minerals, respecting FPIC and national, regional, and international law on the rights of Indigenous people, agricultural workers, and other locally affected peoples takes new precedence. Investors and insurers are increasingly demanding better environmental, social, and governance performance, especially during exploration stages. In 2022, AXIS Capital became the first North American insurer to enact a policy that refuses to underwrite new projects without FPIC (AXIS Capital Holdings, 2022).

From states to companies, to investors, insurers, and beyond, respecting Indigenous rights to decision making and consent is increasingly recognized as industry best practice standard. This is ever more important, since most critical mineral projects are located on or adjacent to Indigenous and/or agricultural lands. Subsequently, critical mineral mining often triggers the requirement of FPIC principles, whether in relation to international law (UNDRIP) or regional or national regulatory frameworks. It may also raise legally binding human rights obligations in the case of agricultural communities (as outlined in UNDROP). Convention No. 169 requires governments to consult with indigenous peoples whenever consideration is being given to legislative or administrative measures that may affect them directly, including in relation to natural resource extraction.

CASE STUDY. PERU: STRENGTHENING WOMEN'S PARTICIPATION IN INDIGENOUS CONSULTATION

Despite Peru's strong legal framework for Indigenous consultation (Law 29785), FPIC processes continue to ignore gender considerations (Bornshlegl et al., 2021). This is in direct contradiction to international law enshrined in ILO 169, the Convention on the Elimination of All Forms of Discrimination Against Women, and UN Security Council Resolution 1325. In response, the Defensoría del Pueblo (the Ombudsperson's Office) is documenting the systematic exclusion of women from mining consultations. The 2019 Las Bambas table, for example, featured 12 men and only one woman at the negotiation table, revealing deep structural imbalances.

To address this gap, the Defensoría supports the substantive participation of women through several initiatives, including recommending dedicated information sessions for women, gender-responsive facilitation, logistical adaptations, and crucially, capacity-building and leadership support to strengthen women's roles as negotiators, mediators, and peacebuilders. This case illustrates how a national oversight institution, in this case the Ombudsperson's Office, can translate women's rights' obligations under international law into practice. (This case study is taken from a peer learning session between Peru and Argentina during an IGF-facilitated workshop in November 2022.)

Be Quick, But Don't Hurry

In the race to secure critical minerals, the long-term material benefits of inclusive, broadly participatory consultation cannot be overstated. Ongoing consultation between government, project proponents, and affected communities supports transparency and provides important considerations for project design and implementation. It is also the foundation for attaining consent. Gender-responsive, inclusive consultation helps build mutual trust between stakeholders, which is the bedrock of social licence to operate. Mining companies with high-calibre community engagement practices are less likely to experience extensive planning or operational delays, while more likely to achieve higher valuations than competitors (Global Investor Commission on Mining 2030, 2024).

CASE STUDY. ZAMBIA: GENDER-RESPONSIVE ENGAGEMENT IN MINING EIAs

The EIA of a new granite mining project in the Nyimba district of Zambia illustrates how gender-responsive community engagement methods can expand and improve consultation. Working alongside the Zambia Environmental Management Agency, the Zambia Land Alliance and Oxfam Zambia used gender-responsive approaches to overcome literacy, mobility, and time constraints faced by local women (IGF, 2022b). They translated technical information into local languages, used visual tools such as flashcards and simplified summaries, adopted meeting schedules that aligned with women's daily responsibilities, and chose accessible venues. The initiative significantly increased women's access to information and participation in the EIA process.

Importantly, the engagement revealed that many community members, especially women, did not know an EIA was underway or that they had the right to comment on the project. Through targeted outreach and support, women were able to identify environmental and livelihood impacts and submit concerns directly to the authorities. The process not only improved the substance of the EIA, but also built long-term community capability: in 2021, rural women in Nyimba issued a public declaration calling for environmental assessments to be disclosed in local languages, made available in a timely manner, and monitored consistently against commitments. This result demonstrates how gender-responsive engagement can strengthen community voice and accountability beyond a single project cycle.

Strategy 3: Establish gender-equitable benefit-sharing mechanisms

Gender-equitable benefit sharing from mining, in particular for critical minerals, is essential for sustainable development and for advancing the rights of women in mining-affected areas. Direct and indirect employment, compensation, and community development programs are just some of the potential opportunities. Broad community consultation that includes Indigenous women, women agricultural workers, and other women working in rural areas can inform equitable benefit sharing. Guaranteeing women's access to the socio-economic benefits of critical mineral mining can help cultivate social licence to operate and safeguard long-term community resilience.

Direct and Indirect Employment

A core strategy to ensure women benefit equitably from the surge in demand for critical minerals is to address the structural barriers that keep them out of mining jobs and supply chain opportunities. Few industries create and maintain as many jobs as the mining industry, both in its direct workforce and indirectly through procurement of goods and services (Global Investor Commission on Mining 2030, 2024). Moreover, in 2022 wages and salaries in Chile's large-scale mining sector were up to three times higher on average than in other economic sectors (IGF, 2022a).

Legal frameworks, including anti-discrimination legislation, maternity and parental protection, and equal renumeration laws, are vital foundations for tackling systemic gender inequalities. Other essential measures are gender audits, family-friendly policies, and flexible working arrangements. The ILO Violence and Harassment Convention, 2019 (No. 190), provides a global framework for eliminating violence and harassment in the world of work, including gender-based violence, through preventive and remedial measures such as grievance mechanisms, workplace codes of conduct, and active engagement with workers' representatives. Collective bargaining and social dialogue are also powerful tools for embedding gender equality in the mining sector. Trade unions and workers' organizations have successfully negotiated clauses on child care, equal pay, maternity and parental leave, and anti-harassment policies (ILO, 2020).

Eliminating gender pay gaps and occupational segregation is key for expanding women's access to the economic benefits of increased critical mineral mining (IGF, 2023; ILO, 2024). Globally, men and women do not have equal access to higher-paid technical and operational roles, which stands as one of the main drivers of persistent gender wage disparities in mining. In Australia, women's employment sharply declines as earnings rise: women represent 42% to 47% of employees in the lowest salary brackets (both below the minimum wage), yet only 9% in the highest. This pattern reflects structural barriers that funnel women into lower-paid administrative or clerical roles (IGF, 2023).

At the same time, emerging good practices are reversing these trends. Companies investing in inclusive hiring and promotion are opening pathways for women in mining-affected communities to move into positions they may previously have been excluded from, such as haul-truck operators, environmental engineers, geologists, and community-engagement specialists (IGF, 2023). The shift toward low-carbon energy can accelerate this progress. New greenfield exploration and low-carbon production processes require a wider range of science, technology, engineering, and math skills, including remote sensing, geophysics, chemistry, and environmental sciences—all skills that women often hold in higher proportions than mining-specific technical skills, according to the findings from the Women and the Mine of the Future initiative (IGF, 2023).

Recent data from Argentina further illustrate this potential. Women hold 23% of roles in lithium exploration and 19% in production, more than double their estimated 10% overall participation in Argentina's mining sector (IGF, 2023). One contributing factor is partly explained by the technical similarities between lithium processing and chemical-industry operations, which correspond to educational and professional fields where more women work relative to other mining segments (IGF, 2023). Likewise, stronger expectations around environmental performance and community relations are increasing demand for professionals

in environmental monitoring, community engagement, conflict prevention, and land-use management—all fields where women have strong representation (IGF, 2023).

Tapping into employment opportunities based on new technology fundamentally depends on skills. Initiatives that build skills at the community level can transform women from job seekers into job creators, positioning them to benefit directly from shifts in technology linked to the growing demand for critical minerals.

Beyond direct employment, gender-responsive local employment and procurement policies for local sourcing of goods and services can bolster women's economic empowerment. Setting quotas and targets for procurement from businesses owned by women and other marginalized groups can stimulate local economies and contribute to economic diversification.

CASE STUDY. SOUTH AFRICA AND MAURITANIA: EXPANDING WOMEN-OWNED MINING SUPPLIERS

In South Africa, local content regulations have been instrumental in fostering partnerships between mining companies and small and medium-sized enterprises owned by women (IGF, 2025). Under the national regulatory framework of the Broad based Black Economic Empowerment Act and the Mining Charter that requires employment and procurement quotas, one company implemented criteria for cultivating supplier partnerships. As a result, 108 women-owned suppliers were contracted, amounting to over USD 24.5 million in procurement between January and August 2024 (IGF, 2025).

Similarly, in Mauritania, targeted supplier development has expanded opportunities for women-owned enterprises. A major gold producer worked through its local procurement program to map barriers facing women suppliers. It provided business coaching and financial-readiness support to women entrepreneurs, and simplified vendor-registration procedures that were excluding women-led businesses (IGF, 2025). In turn, women entrepreneurs began to enter other segments of the mining supply chain, including transportation, catering, environmental services, and light engineering. The initiative strengthened household incomes and supported the growth of women-owned small and medium-sized enterprises in mining regions (IGF, 2025).

CASE STUDY. MALAWI AND SENEGAL: DRONE SKILLS FOR WOMEN IN MINING REGIONS

In Malawi, community-focused drone training through the African Drone and Data Academy is creating opportunities for women, particularly young women, to access emerging jobs in mapping, environmental monitoring, and data services for mining operations (UN Children's Fund, 2021). Graduates are becoming drone pilots, instructors, and tech entrepreneurs who, in turn, are creating additional employment in their communities. Similarly, in Senegal, Senegal Flying Labs' drone-training and entrepreneurship programs actively recruit youth and women. Students learn to provide commercial drone services used across sectors, from agriculture to mining (Senegal Flying Labs, 2024).

Compensation

Compensation for land or resettlement is enshrined in international law and is particularly pertinent for Indigenous Peoples under UNDRIP, yet equal compensation across genders is not automatic. Policies relating to compensation for land or resettlement often fail to account for gender-differentiated land rights and livelihood impacts. Compensation is often awarded only to those with land tenure, predominantly male heads of households. This policy disregards the critical role women play in local food security, and undermines women's rights to livelihoods, land, and cultural integrity, particularly for Indigenous women and agricultural workers. Widows, divorcees, and abandoned women face even greater marginalization. Gender-responsive land compensation criteria that focus on livelihood restoration, land-for-land packages, and the awarding of women's land tenure can help disrupt this trend.

CASE STUDY. CÔTE D'IVOIRE AND PAPUA NEW GUINEA: WOMEN'S LAND RIGHTS AND MINING BENEFITS

When women's land rights are formalized, women can make secure land claims and participate substantively in negotiations over land-based benefits, including compensation. In places such as Côte d'Ivoire, formalization through joint titling, documentation of customary rights, and civil-marriage registration serve this purpose (World Bank, 2020). Formal recognition of women's land rights and clarifying (territorial) boundaries reduce the potential for disenfranchising women from their land. These measures also create opportunities for women to invest in improving the quality and productivity of their land, such as improving soils, planting long-term crops, or developing alternative income streams (Scalise, 2019).

In Papua New Guinea, a case study documented in the Women, Land, and Mining series highlights a mining-lease negotiation and benefit-sharing process structured to distribute mining gains more inclusively among landholders. Under the national legal framework, landholders (including customary landowners) are entitled to compensation and benefits if their land is leased for mining, including royalties, social development programs, infrastructure, and vocational training, negotiated in a mandatory "development forum" before lease approval (Scalise, 2019). The case study points out that some of these processes include efforts to recognize the land and tenure rights of women and to involve them in negotiations, benefit distribution, and ongoing community-level management.

Community Development Programs

Gender-responsive community development programs are important levers for expanding women's economic empowerment. Savings and credit cooperatives, community funds, and micro-grants that target women are all potential avenues. Community development programs that leverage the full breadth of potential socio-economic benefits from mining are a key tool for advancing women's rights and gender equality.

Women's Leadership

Women's participation in program design is essential. In some cases, women's direct participation in benefit agreement negotiations has led to scholarships for women and girls, reserved funding, and women's representation in local governance (Menzies & Harley, 2012).

CASE STUDY. CHILE: ATACAMEÑA WOMEN LEADING COMMUNITY BENEFIT GOVERNANCE

When women's organizations hold leadership roles in mining governance, community development programs can transform into long-term engines for women's economic empowerment. In the Atacama region, for example, local Atacameña women and the lithium mining company co-created the Atacameña Women's Alliance (AMA) as part of a community benefit agreement. The AMA is a decision-making body whose governance committee is led by nine elected AMA representatives, alongside five company representatives. The committee is responsible for setting investment priorities, overseeing implementation, and monitoring results (IGF, 2024b). The AMA directs funding across four women-identified pillars: health and well-being; productive development and commerce; cultural and environmental heritage; and agriculture, water, and land care. In 2023 the program budget was USD 3.24 million, with 19% going to women-owned local businesses, including suppliers to the mine (e.g., catering and hospitality).

Skills Development

Skills development and re-skilling programs focused on automation, digital technologies, and green mining processes may open pathways for women into technical and leadership positions (ILO, 2019). Vocational and skills training geared towards women can broaden the pipeline of skilled workers for both direct and indirect employment in mining, while stimulating overall economic growth in mining-affected areas.

CASE STUDY 11. DRC AND CHILE: BUILDING WOMEN'S PATHWAYS INTO MINING EMPLOYMENT

In the DRC, a copper company developed a skilled local workforce by building schools, supporting girls' education, and designating entry-level jobs for community members, particularly women. As of 2023, half of the 228 community members who secured permanent employment through this program were women, and over 50% of the company's secondary-school bursaries went to girls (IGF, 2024b). Similarly, in Chile, a major copper mining company launched a training program in partnership with UN Women to bridge Indigenous women's knowledge with mining-relevant skills. A curriculum grounded in cultural traditions and leadership development helped build the confidence of Indigenous women to seek and gain direct and indirect employment in the mining sector (Teck Resources Limited, 2022).

Investment to Close the Digital Gender Divide

Increased spending on digital technologies also opens new possibilities for promoting women's rights and social inclusion (IGF, 2024b). Mining companies are increasingly investing in digital infrastructure, which can be extended to local communities. Digital literacy training for women, coupled with ensuring women's access to connectivity and digital tools, can help close the digital gender divide. Consultations can be broader and more inclusive by enabling the participation of women and other marginalized groups through mobile technology and tools, such as voice recognition interfaces in local languages (IGF, 2024b).

CASE STUDY. SOUTH AFRICA: DIGITAL INCLUSION IN MINING COMMUNITY BENEFIT SHARING

In South Africa, a mining company initiative is leveraging digital infrastructure to advance gender-equitable community benefit sharing. Since 2017 the Maru a Mokopane mining project has been providing free wi-fi at 20 community hotspots. Women comprise 42% of the platform's 30,400 registered users (IGF, 2024b). During rollout, the company employed local youth, especially young women, to deliver digital-literacy training tailored to women. This opened doors for women and other community members to access online job and procurement opportunities, submit concerns, and engage more transparently with the mining company (IGF, 2024b).

Low-Carbon Energy for All

Resilient communities have broadly accessible, reliable access to low-carbon energy, particularly for groups historically excluded from social and economic opportunities. Access to affordable and low-carbon energy directly supports women, youth, seniors, and people with disabilities by reducing time poverty, improving safety, enabling digital connectivity, and unlocking participation in education, enterprise, and local value chains. For mining-affected communities, equitably shared energy infrastructure can positively transform the broader socio-economic landscape.

CASE STUDY. DRC: SHARED RENEWABLE ENERGY INFRASTRUCTURE FOR MINING COMMUNITIES

The Kibali mine is powered mainly by three run-of-river hydropower stations and is adding a ~16–17 MW solar plant with a ~15 MW battery to improve supply (Barrick Gold Corporation, 2025). Project documentation from 2019 indicates that about 1.5 MW of the mine's grid capacity is supplied for free to nearby communities as part of the hydropower legacy (Canadian Consulting Engineer, 2019).

Also in the DRC, the Kamoa-Kakula copper mine is backed by refurbished hydropower, with output delivered into the DRC's national grid. This helps keep electricity flowing beyond the mine to nearby towns, clinics, schools, and small businesses (Andritz Hydro, n.d.; Ivanhoe Mines, 2025).

5.0 Conclusions

Past lessons from the mining sector must not be overlooked in the context of accelerated demand for critical minerals. The landscape of the minerals sector is shifting, bringing with it opportunities to strengthen gender-responsive mining governance. Existing governance systems, whether through laws, legislation, regulations, and industry commitments, have increasingly emphasized that proponents and operators are responsible for understanding the impacts of their operations on affected communities and creating inclusive socio-economic benefits.

The case studies in this report demonstrate that mining can advance women's rights through pathways that expand women's livelihoods and employment, build transferable skills (including technical and digital skills), and implement community benefit programs that are accessible and shaped by women, youth, seniors, and other people who are often excluded. These examples show what is possible. But scaling these programs will depend on answering a central question: What will it take to safeguard women's rights under accelerated demand, when governments are under pressure to secure critical minerals and their supply chains and companies are under pressure to deliver returns?

This report argues that safeguarding women's rights in an era of increasing demand for critical minerals depends on three shifts in policy and practice. First, governments and companies must assess and manage gendered social and environmental impacts through rigorous intersectional analysis, disaggregated data, and costed, monitored action plans. Second, they must require inclusive consultation that promotes women's agency and secures consent, treating FPIC and gender-responsive participation as best-practice foundations for legitimate decision making. Third, governments and companies must establish gender-equitable benefit-sharing mechanisms, including fair compensation for land and livelihoods, pathways to decent work and supply chains, and community development programs designed with women's leadership and priorities at the centre. Together, these strategies are not only a matter of equity; they are practical risk-management tools that strengthen environmental, social, and governance performance, reduce conflict, and improve public trust and project durability.

Meeting the demand for critical minerals will require speed, but speed need not undermine safeguards. Safeguards exist to protect people and investments, not hinder them. Faster action is effective only when paired with inclusive consultation that takes social differences

into account. History shows that approaches that sideline meaningful engagement rarely meet with success. Maintaining social licence depends on functional and transparent monitoring systems and benefit-sharing arrangements that communities can see and shape. Women's rights and gender equality are not ancillary concerns to mining governance; they are core to the success of mining activities. Efforts to secure critical mineral supply will be more durable and resilient when they incorporate inclusive and gender-responsive approaches.

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Appendix A. Gender-Responsive Governance of Critical Minerals: Practical actions for governments and mining companies

The following table summarizes actions that governments and mining companies can take to implement the three strategies recommended in the report, namely: (1) assess, monitor, and manage gendered social and environmental impacts; (2) require inclusive consultation, promote women's agency, and secure consent; and (3) establish gender-equitable benefit-sharing mechanisms. The list of actions draws from the report's analysis of risks to the rights of Indigenous and other women in mining-impacted communities, case study examples, the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development Mining Policy Framework, and international and national legislation protecting women's rights and the rights of marginalized populations (including Indigenous Peoples and agricultural workers). The list is non-exhaustive and should be tailored to local contexts through inclusive consultations with affected communities and in alignment with domestic laws and institutions.

TABLE A1. Policy and institutional recommendations for gender-responsive critical mineral development

Recommendations	Contribution to strategies		
	Managing gendered impacts	Consultation, agency, and consent	Equitable benefit sharing
Recommendations for governments			
		Regulatory frameworks	
Enshrine inclusive consultation and free, prior, and informed consent (FPIC) principles on informed consent into law throughout the mining life cycle, including closure and post-mining transition		✓	
Enact or strengthen mining laws and regulations to secure, respect, and protect women's land and tenure rights, including statutory, customary, Indigenous and community land rights	✓	✓	✓

Recommendations	Contribution to strategies		
	Managing gendered impacts	Consultation, agency, and consent	Equitable benefit sharing
Enact or strengthen laws that protect women's, human, Indigenous, and environmental rights defenders' right to freedoms of speech, assembly, and protest, concerning mining projects that they consider to be infringing on their rights. Engage constructively with impacted communities to reach agreements	✓	✓	
Mandate local content and procurement policies on goods and services that increase the participation of enterprises owned by economically marginalized populations, including women-owned and Indigenous-owned enterprises			✓
Prohibit discrimination in the workplace, mandate equal remuneration, and protect maternity and parental rights. Repeal discriminatory laws that prevent women from accessing the mining workforce			✓
Institutional			
Invest in financial and human resources and in infrastructure development (where necessary to ensure women's safety, including sexual and gender-based violence (SGBV) risk mapping and survivor-centred SGBV services (health, psychosocial, legal, shelter) with clear referral pathways. Allocate sufficient funding from central to regional and local governments, particularly in remote areas, to provide appropriate SGBV services where relevant	✓		
Co-design, implement, and monitor participatory and gender-responsive water governance and integrated water resource management, prioritizing community access to clean water over industrial use	✓		
Invest in gender training and participatory consultation capacity for government institutions and regulators		✓	
Provide financial and structural support to women entrepreneurs, women leaders, and organizations that support women's rights in mining-affected communities, and include them in decision making on critical mineral governance as equal partners		✓	✓

Recommendations	Contribution to strategies		
	Managing gendered impacts	Consultation, agency, and consent	Equitable benefit sharing
Invest government resources and mining revenues in transport, skills development, care, and digital infrastructure to address structural barriers to women's economic participation and the digital gender divide. Share infrastructure from mining projects with surrounding communities		✓	✓
Allocate public revenues and incentives (e.g., subnational transfers, tax incentives) to support gender-responsive community development in mining-affected areas			✓
Build the technical and financial capacity of government ministries and public institutions responsible for mining governance to enact participatory and inclusive consultations on mining projects		✓	✓
	Selection criteria for licensing		
Select or license companies with strong environmental, social, and governance (ESG) track records and explicit gender-equality policies for the workforce, such as: • Commitments to the principles of decent work and eliminating discrimination, harassment, exploitation, and abuse including SGBV in the workplace (International Labour Organization Convention 190) • Mechanisms for addressing gender pay gaps (e.g., pay audits, pay transparency, standardized pay and benefits) • Collective bargaining mechanisms • Protection from retaliation for whistleblowing • Family-friendly employment policies such as child care, parental leave, and flexible working arrangements • Inclusive hiring and promotion practices			✓

Recommendations	Contribution to strategies: Managing gendered impacts	Contribution to strategies: Consultation, agency, and consent	Contribution to strategies: Equitable benefit sharing
Select or license companies with strong ESG track records and explicit community safeguards, such as: • Gender-responsive environmental and social impact assessments and human rights impact assessments • Participatory environmental and social management plans and monitoring frameworks that structurally embed the participation of marginalized populations, including an equitable representation of women, and where relevant, agricultural workers and Indigenous Peoples • Gender-responsive grievance mechanisms with safe reporting channels and protection from retaliation • Commitments to respecting FPIC principles, including informed and ongoing consent of Indigenous communities • Transparent publishing of gender-disaggregated data on environmental and social impacts • Track record in participatory and inclusive community benefit agreement procedures	✓	✓	
Regulatory requirements for companies and corporate compliance measures			
Allocate adequate financial, technical, and human resources for gender-responsive impact assessments, inclusive consultation, and community engagement, including qualified staff	✓	✓	
Incorporate intersectional gender analyses in environmental and social impact assessments, human rights impact assessments, or standalone gender impact assessments, including mitigation, management, and monitoring plans spanning the full mining life cycle	✓		

Recommendations	Contribution to strategies		
	Managing gendered impacts	Consultation, agency, and consent	Equitable benefit sharing
Develop and implement inclusive environmental and social management plans across the mining life cycle, including gender action. Management plans should • be regularly monitored, updated, and disclosed; • collect data disaggregated by gender and age, and further disaggregated by other relevant factors (e.g., race, ethnicity, Indigeneity, agricultural worker status, disability); and • leverage participatory environmental management and other similar methodologies.	✓		
Collect, analyze, and publicly disclose gender-disaggregated and intersectional data across workforce composition and community development domains, disaggregated by gender, Indigenous status, ethnicity, age, disability, and other relevant identity factors		✓	✓
Establish and resource widely accessible, gender-responsive grievance mechanisms, including survivor-centred design with safe and confidential reporting channels, protection from retaliation, clear timelines and public reporting of anonymized, disaggregated outcomes	✓	✓	
Develop and implement gender-responsive compensation, resettlement, and livelihood-restoration frameworks, prioritizing land-for-land packages and securing women's land tenure. Where relevant, mandate companies to ensure that these frameworks are co-designed with Indigenous and/or agricultural communities, respect their unique relationship to lands and livelihoods, and preserve their cultural heritage	✓	✓	✓
Governments can require investors and project proponents to conduct gender-responsive human rights due diligence, aligned with the UN Guiding Principles on Business and Human Rights and inclusive consultation requirements			

Recommendations	Contribution to strategies		
	Managing gendered impacts	Consultation, agency, and consent	Equitable benefit sharing
Recommendations for both governments and companies			
Protect women's, human, and environmental rights defenders through safe reporting channels and non-retaliation policies that encourage raising concerns of wrongdoing	✓	✓	✓
Respect FPIC principles to consent and the collective rights of Indigenous Peoples and agricultural workers		✓	✓
Develop programs (e.g., skills development and vocational training, quotas, targeted outreach) that enable equal participation of women and Indigenous Peoples in science, technology, engineering, and math education, the mining workforce, and across occupational levels			✓
Recommendations for companies			
Adopt and publicly reaffirm ESG commitments aligned with International Finance Corporation Performance Standards and UN Guiding Principles on Business and Human Rights	✓	✓	✓
Commit to and implement gender-responsive impact assessments, management, and monitoring across the mining life cycle	✓	✓	✓
Implement community-led environmental and social monitoring systems with gender-equitable participation	✓		
Allocate sufficient budget and human resources to implement gender-responsive, inclusive, and ongoing consultation throughout all project phases	✓	✓	✓
Establish and enforce safeguarding systems, codes of conduct, and grievance mechanisms addressing gender-based violence, exploitation, harassment, and abuse	✓	✓	✓
Commit to measures that guarantee decent work, eliminate gender pay gaps, and implement pay transparency and pay audits			✓

Recommendations	Contribution to strategies		
	Managing gendered impacts	Consultation, agency, and consent	Equitable benefit sharing
Implement inclusive hiring, promotion, and retention practices, including meeting gender and Indigenous employment quotas, or where relevant, establishing them in a context-specific manner			⚖
Establish gender-responsive community development programs that support women's economic empowerment			⚖
Publish data on direct and indirect employment, procurement, and community development programs, disaggregated by gender, age, disability, Indigenous status, ethnicity, and other identity factors where relevant			⚖

Source: Authors.

Appendix B. List of Tools and Resources

Strategy 1: Assess, monitor, and manage gendered impacts of mining

Gender Impact Assessment Tools

For an expanded list, see the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development's (IGF's) *Global Review: Integrating Gender Into Mining Impact Assessments*.

- Government of Canada: *Practitioner's Guide to Federal Impact Assessments*
- Oxfam: A Guide to Gender Impact Assessment for the Extractive Industries
- IMPACT: *Toolkit: Gender Impact Assessments for Projects and Policies Related to Artisanal and Small-Scale Mining*
- International Finance Corporation (IFC): *Questions to include in a gender-sensitive social impact assessment*
- IFC: *Unlocking Opportunities for Women and Business: A Toolkit of Actions and Strategies for Oil, Gas, and Mining Companies*
- United Nations Development Programme (UNDP) and African Development Bank: *Guidelines on Integrating Health and Gender into Environmental and Social Impact Assessments in Sub-Saharan Africa*
- UNDP and the United Nations Working Group on Business and Human Rights: *Gender Dimensions of the Guiding Principles on Business and Human Rights*

Additional Reading

- IGF *Mining Policy Framework*
- IGF *Gender in Mining Governance*
- IGF *Guidance for Governments: Improving Legal Frameworks for Environmental and Social Impact Assessment and Management*

Strategy 2: Require inclusive consultation, promote women's agency, and secure consent

Gender-Responsive, Inclusive Consultation Tools

- IFC: Gender and infrastructure toolkit
- IFC: *A Toolkit of Actions and Strategies for Oil, Gas, and Mining Companies*

Additional Reading

- Resources for the Future: *Community Engagement and Participatory Inclusion in Mining: Challenges, Barriers, and Opportunities*

- IGF *Mining Policy Framework*
- IGF Gender in Mining Governance
- Oxfam: *Recharging Community Consent: Mining Companies, Battery Minerals, and the Battle to Break From the Past*
- UN Declaration on the Rights of Indigenous Peoples
- UN Declaration on the Rights of Peasants and Other People Working in Rural Areas
- International Labour Organization (ILO) Convention 169
- Resources on Participatory Environmental Management: Strengths, weaknesses, opportunities, and threats analysis, participatory mapping, geographic information system mapping, scenario analysis, problem tree analysis, community-based monitoring, etc.
- *The Role of Participatory Environmental Monitoring Committees in Mining Regions in Peru*
- UNDP: *Peru: Women's Leadership in Protecting the Environment in Communities Impacted by Mining*

Strategy 3: Establish gender-equitable benefit-sharing mechanisms

Additional Reading

- ILO: *Decent Work and 2030 Agenda for Sustainable Development*
- ILO: *Guidelines for a Just Transition Towards Environmentally Sustainable Economies and Societies for All*
- ILO Convention 169
- ILO: *Violence and Harassment in the World of Work*, Convention, 2019 (No.190)
- IGF: *Women and the Mine of the Future*
- IGF: *Guidance for Governments: Local Content Policies*
- IGF: *Mining Policy Framework*
- ILO: *Women in Mining: Towards Gender Equality*
- ILO: *The Contribution of Social Dialogue to Gender Equality*
- IGF: Gender-Responsive Mining Policies: Case Studies on Skills, Employment, and Inclusive Governance

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