REPUBLIC OF RWANDA

MINISTRY OF ENVIRONMENT

Assessment of Indicators, Baseline Data, and Targets for MEL in Rwanda's Mining: A GESI-enhanced perspective

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A GESI-enhanced perspective**

Ministry of Environment, Department of Environment and Climate Change, Kigali, Rwanda
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Executive Summary

Purpose and Scope

This report presents a gender equality and social inclusion- (GESI-)enhanced monitoring, evaluation, and learning (MEL) framework for Rwanda's mining subsector, building on earlier MEL pilots in agriculture (2022) and transport/human settlements (2023). It focuses on inclusive indicators for mining and water resource management under the Climate, Environment and Natural Resources strategic plan.

Context

Rwanda's Green Growth and Climate Resilience Strategy was revised in 2023 to align with its second *Nationally Determined Contribution* (NDC 2.0) commitments, and work toward its NDC 3.0 now includes stronger sector targets and social inclusion. Only 11.4% of workers in formal mining are women, while about 73,600 people rely on artisanal mining—83% of them women without social protection. The Ministry of Environment, Rwanda Environment Management Authority, Rwanda Mines, Petroleum and Gas Board, and sector policies require gender-disaggregated reporting, social impact assessments, and community development obligations.

Key Findings

Rwanda's policy environment—from the Environment Law (04/2018) and Mining Law (072/2024) to the *Revised National Gender Policy* (Ministry of Gender and Family Promotion, 2021) and Gender Budget Statements (GBS)—supports inclusive adaptation. Two indicators validated in April 2025 focus on climate-compatible practices (baseline 74.5%, target 90% by 2030) and site rehabilitation (994 pits targeted by 2030). Only 23 pits have been rehabilitated, and no data currently captures women, youth, or persons with disabilities in planning or implementation.

Strategic Recommendations

Require quarterly disaggregated reporting through standard templates; document participant demographics and support small community-led innovation grants; scale participatory mapping with a mobile geographic information system (GIS) tool verified against satellite data; build district MEL capacity with the Gender Monitoring Office; and create a GESI Advisory Committee with an annual "Inclusive Adaptation Scorecard." These steps will help ensure mining adaptation efforts protect landscapes while supporting fair and resilient livelihoods for all.

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List of Abbreviations

CENR   climate, environment, and natural resources

ESIA   Environmental and Social Impact Assessment

GESI   gender equality and social inclusion

GIS   geographic information system

GPS   Global Positioning System

MEL   monitoring, evaluation, and learning

MoE   Ministry of Environment

NAP   national adaptation plan

NDC   nationally determined contribution

NISR   National Institute of Statistics Rwanda

RMB   Rwanda Mines, Petroleum and Gas Board

REMA   Rwanda Environment Management Authority

1. Introduction

Rwanda began its path toward a climate-resilient, low-carbon future in 2011 with the launch of the *Green Growth and Climate Resilience Strategy*. The strategy was revised and approved by Cabinet in 2023, placing adaptation and mitigation on equal footing as core elements of sustainable development (Ministry of Environment, 2023). The update reflects new scientific insights and aligns the strategy with the enhanced *Nationally Determined Contribution* (NDC 2.0) submitted in 2020. Work is now underway on NDC 3.0, which introduces deeper sector targets and brings gender and social inclusion more firmly into national climate planning.

To turn these commitments into results, the National Adaptation Plan (NAP) Global Network launched Phase 3 support in February 2025. This new phase focuses on building strong monitoring, evaluation, and learning (MEL) frameworks for the mining and water resource management subsectors under the climate, environment, and natural resources (CENR) sector. It follows earlier MEL pilots in agriculture (2022) and applications in human settlements and transport (2023) (NAP Global Network, 2025).

Although mining is smaller than agriculture or manufacturing, it remains an important source of income. Around 73,600 people work in mining and quarrying (National Institute of Statistics of Rwanda [NISR], 2024). Women make up an overwhelming share—61,295 women (83%) compared to 12,316 men (17%)—even though women represent only 11.4% of formal mining employees and 16% of business owners in the sector (Rwanda Mines, Petroleum and Gas Board [RMB], 2022). This imbalance reflects the dominance of artisanal and family-based mining, which operates largely outside of regulation. As a result, many women work without basic protections such as health and safety standards, social insurance, or paid leave (NISR, 2024).

The irregular and unpredictable income from artisanal mining makes it harder for women to invest in education, health care, or new economic opportunities. Other forms of vulnerability—such as single motherhood, disability, or extreme poverty—are likely concentrated among women in mining, yet current data systems do not capture these dimensions. Closing these gaps calls for a full gender equality and social inclusion (GESI) approach that recognizes women as both income earners and caregivers, pairing income-stabilizing interventions with targeted social protection (International Council on Mining and Metals, 2023; World Bank, 2020).

At the same time, Rwanda's minerals—mainly cassiterite, wolfram, and coltan—offer opportunities. Stronger links between artisanal miners, cooperatives, and the formal economy, supported by better access to finance, technical training, and clearer regulation, could improve household resilience and contribute more meaningfully to national development.

This technical report is the first in the NAP Global Network's Phase 3 series and is structured in five sections:

1. **Introduction**: Outlines Rwanda's green growth pathway and explains the Phase 3 focus on MEL for mining and water resources within the CENR sector.

2. **Policy and Institutional Context**: Describes the laws, strategies, policies, and institutions—including the Ministry of Environment (MoE), Rwanda Environment Management Authority (REMA), and RMB—that shape a GESI-responsive mining framework.

3. **Review of Indicators, Baseline Data, and Targets**: Assesses current adaptation indicators, data quality, and proposed environmental and social equity targets.

4. **Adaptation Outcomes from a GESI Perspective**: Examines how interventions have reached vulnerable groups and highlights gaps in inclusive monitoring.

5. **Conclusion and Recommendations**: Summarizes the main findings and proposes five strategic shifts, including mandatory social disaggregation and a public "Inclusive Adaptation Scorecard," to ensure mining adaptation efforts benefit all groups.

2. Policy and Institutional Context for Mining and GESI

Rwanda's mining sector and its emerging GESI agenda are governed by a comprehensive suite of policies, laws, and strategies at both national and sectoral levels. The MoE holds overall oversight of climate adaptation, supported by the REMA, which is responsible for enforcing environmental laws and regulations, including overseeing Environmental and Social Impact Assessments (ESIAs) for all proposed projects.

In this regulatory role, REMA reviews and approves ESIA reports to ensure that proposed developments—ranging from mining operations to infrastructure projects—adequately identify, mitigate, and monitor potential environmental risks. By granting or withholding environmental clearance based on compliance with the Environment Law (No. 04/2018), REMA serves as the gatekeeper for sustainable development practices throughout the country.

The RMB is responsible for licensing, compliance monitoring, and sectoral policy development in mining. Its mandate was strengthened by Organic Law No. 13/2008 and redefined under Law No. 072/2024 on Mining and Quarrying, which incorporates gender equality, mandatory social and gender impact assessments, and enforceable community development obligations (Ministry of Finance and Economic Planning, 2024).

At the highest level, Vision 2050 positions mining within an integrated green economy, mandating value addition of mineral products, zero-deforestation extraction standards, and women's economic empowerment in communities adjacent to mining sites (Government of Rwanda, 2020). The *Second National Strategy for Transformation (NST 2, 2024–2029)* elevates environment, mining, and gender inclusion as co-equal pillars, aiming for USD 2.17 billion in mineral export earnings by 2029, along with gender-responsive budgeting across all sector ministries (Ministry of Finance and Economic Planning, 2024).

The *CENR Sector Strategic Plan* (2024–2029) operationalizes these targets by requiring mining operators to achieve 90% compliance with climate-compatible practices—such as energy-efficient processing and water-use reduction—by 2029, while also mandating annual reporting on gender-disaggregated indicators for employment, leadership appointments, and contractor sourcing (Ministry of Environment, 2024a). The 2023 update to Rwanda's *Green Growth and Climate Resilience Strategy* reinforces this direction by mandating that all new mining projects incorporate women-centric livelihood and resilience programming, including support for artisanal digger cooperatives and the provision of childcare facilities at processing sites (Ministry of Environment, 2023).

National legal instruments further bolster these commitments. The *Revised National Gender Policy* (2021) requires every sector to mainstream gender equality and empower women and girls (Ministry of Gender and Family Promotion, 2021), while Law No. 66/2018 of 30/08/2018 regulating labour in Rwanda prohibits gender-based discrimination in hiring, pay, and working conditions (Republic of Rwanda, 2018a). The Environment Law (No. 04/2018) mandates comprehensive ESIAs for all new

mining operations, explicitly including a GESI chapter to analyze differential risks and benefits by gender, age, and disability (Republic of Rwanda, 2018b).

Complementing the statutory framework, RMB's *Mining Sector Gender Strategy (2022–2026)* sets a target of 30% female workforce participation by 2027, prescribes gender-responsive mentorship and technical training for small-scale miners, and establishes a dedicated GESI Monitoring Unit to ensure real-time data collection and corrective action (RMB, 2022). The Extractive Industries Transparency Initiative National Committee, of which RMB is a member, adds another layer of accountability through regular disclosures of licensing, production, revenue, and social expenditures, with a new requirement to publish gender-disaggregated employment and procurement data starting in 2025 (Rwanda Extractive Industries Transparency Initiative, 2023).

Together, these laws, policies, and institutional mandates create a robust enabling environment for a GESI-enhanced MEL system in mining—one capable of tracking both environmental performance and equitable social outcomes, as well as driving continuous improvement in Rwanda's transition to a green, inclusive extractive economy.

3. Review of Indicators, Baseline Data, and Targets in the Mining Sector

Rwanda began reviewing its NDC, transitioning from NDC 2.0 to NDC 3.0, in January 2025, starting with nationwide consultations on January 24, 2025. The review includes a desk analysis of policy documents, technical reports, and data sources to compile an inventory of potential adaptation measures, indicators, baseline values, and target trajectories. Findings are discussed in workshops with national- and district-level stakeholders to evaluate the relevance, feasibility, and priority of each measure, which took place in March 2025.

Based on the feedback, the long list of measures is refined: indicator definitions are clarified, baselines are updated, and targets for 2030 and 2035 are recalibrated. Each lead institution is consulted to validate assumptions and provide cost estimates. The revised package of measures and indicators is assessed for funding requirements, mitigation co-benefits, and alignment with the United Nations Sustainable Development Goals.

From April 23 to 25, 2025, a validation workshop confirmed the interventions, indicators, baselines, and targets for 2030 and 2035. Under the overarching intervention of climate-compatible mining, two core adaptation indicators guide Rwanda's resilience agenda. In the mining sector, it was agreed to focus on climate-compatible practices, which are central to Rwanda's low-carbon, resilient development pathway. There are two indicators.

Table 1. Core mining adaptation indicators

Intervention	Indicator	Baseline of 2023/2024	Target 2030	Target 2035	Gender disaggregation comment
Climate-compatible practices	% of licensed operators deploying ≥ 3 climate-compatible practices	74.5%	90%	100%	Disaggregate by firm owner gender and % of female-led operators in compliance
Site rehabilitation	Number of abandoned mining/quarrying sites rehabilitated	0	994	NA	Track % of remediation contracts awarded to women-led small and medium-sized enterprises

Source: Ministry of Environment, 2025.

The first indicator looks at the share of licensed mining operators applying at least three climate-compatible practices. The baseline was 74.5% in 2023/2024. Operators choose from an agreed list of practices, which keeps a common standard while still allowing each site to pick what fits its conditions. These practices include measures such as better water-use efficiency, slope protection, and

stormwater controls, and some can also be used to reflect GESI considerations, depending on how they are applied. The target is 90% by 2030 and full coverage by 2035 (see Table 1). Although the indicator focuses on licensed operators, the approach can later be extended to the large number of unlicensed artisanal miners. Strengthening these practices across formal operations supports safer working conditions and helps protect nearby communities during droughts, floods, and landslides.

The second indicator—the number of abandoned mining and quarrying sites formally rehabilitated—addresses landscape-level vulnerabilities that exacerbate climate impacts. Starting from a baseline of zero remediated pits, the target of rehabilitating 994 sites by 2030 (with full remediation thereafter) signals a large-scale effort to restore natural terrain and hydrological functions (see Table 1). Earthworks, soil stabilization, and native revegetation will transform hazardous voids into vegetated buffers that absorb floodwaters, reduce erosion, and replenish aquifers.

These indicators advance Rwanda's adaptation agenda by enhancing operational and ecosystem resilience. Adoption of climate-compatible practices protects mining sites from climate shocks, while site rehabilitation mitigates land and water hazards, ensuring the extractive sector supports the nation's climate-resilient, low-carbon development goals.

4. Assessment of Adaptation Outcomes From a GESI Perspective

Over the past 2 years, Rwanda's mining sector has been testing landscape-scale adaptation measures such as rehabilitating degraded quarries, improving drainage around extraction pits, and installing dust suppression systems to reduce flood and erosion risks (Ministry of Environment, 2024b). Even with Article 15 of Law No. 072/2024 requiring site restoration plans that strengthen watershed resilience (Republic of Rwanda, 2024), only 23 out of 994 abandoned pits had been turned into flood-control basins or community rainwater catchments according the the consultations with officials in mining industry.

During the kick off workshop on adaptation MEL in the mining and water resources sectors held in April, it was noted that remediation reports do not indicate whether women, youth, or persons with disabilities were involved in planning or engaged for the work. This point was reinforced during the validation workshop on April 4, 2025, where one participant remarked, "We know a site was planted with native grasses, but we do not know who planted them or who took home the seedlings." The observation highlights the need for systematically collecting disaggregated data to better understand who actually benefits from remediation and adaptation efforts.

However, the *Gender Budget Statement 2024/2025* (GBS)[1] results indicate gradual but tangible progress in advancing gender and social inclusion in the mining and quarrying sector (RMB, 2025). The share of companies with gender-sensitive policies has reached 23%, surpassing the annual target and reflecting improved compliance through inspections and awareness activities. Women's participation in the workforce has risen to around 19%, with comparatively better representation in professional and technical roles than in senior management and core operational positions. Capacity-building initiatives, including training and business development support, have strengthened women's skills and employability, although these gains continue to be constrained by inadequate workplace conditions, particularly the limited availability of women-friendly facilities and childcare services. While overall budget execution was strong, lower investment in skills development points to the need for greater focus on interventions that can deliver more sustained gender equality outcomes.

Despite this progress, important gaps remain. Several participants cautioned that a narrow focus on technical outputs, such as the number of pits reclaimed or the volume of soil stabilized, risks overlooking wider aspects of social resilience. They emphasized the importance of systematically recording participant demographics during community consultations through simple sign-in tools capturing gender, age group, and disability status, complemented by follow-up beneficiary surveys to assess whether participants felt able to express concerns and influence decisions.

Participants further underscored the value of allocating a modest share of rehabilitation budgets to small grants for locally driven adaptation activities. Initiatives such as seedling nurseries, erosion control demonstration plots, and rainwater harvesting trials, managed by women's cooperatives,

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[1] This is a government planning and reporting instrument used to demonstrate how budgeted programs and expenditures respond to identified gender gaps and contribute to advancing gender equality and social inclusion.

youth associations, and elder groups, were seen as practical ways to strengthen inclusion and local ownership. These approaches also align with the Vision Umurenge Programme Direct Support, which provides unconditional cash transfers to the most vulnerable households, including elderly people, persons with disabilities and orphan-headed families, and helps cushion them against climate and livelihood shocks alongside public works and financial services.

A private sector representative illustrated these gaps by noting that, after heavy rains damaged farmland, a mining company rehabilitated gullies but did not engage local women's savings groups to support seedling nurseries, citing urgency. Integrating qualitative inclusion indicators into the Ministry of Environment's National Adaptation Plan dashboard, and setting a benchmark of at least 50% gender balance, would help ensure that such gaps prompt follow-up by the relevant authorities.

Concerns were also raised that official inventories continue to overlook many artisanal and informal pits, despite the flood and safety risks they pose. Expanding a mobile GIS platform co-designed with women's organizations and youth groups would enable communities to map abandoned pits, upload geotagged photographs, and identify hazards, such as water pooling or steep drop-offs near footpaths. Combining community mapping with remote sensing and local verification would support progress tracking toward rehabilitating 994 sites by 2030, while building local geospatial skills and fostering a stronger sense of ownership. In doing so, mining adaptation can move beyond a compliance exercise to become a driver of ecological restoration and fairer livelihood opportunities, consistent with the revised *Green Growth and Climate Resilience Strategy 2023* vision that environmental restoration and social inclusion must advance together.

5. Conclusion and Recommendations

5.1 Conclusion

Rwanda has set strong technical targets for climate-compatible mining, including a 90% uptake of low-impact practices and the rehabilitation of 994 abandoned sites by 2030. Yet these goals will not achieve their full impact unless equal attention is given to who participates, who benefits, and who remains excluded. The lack of disaggregated data on workforce composition and participation in workshops has made it difficult to understand the experiences of women, youth, and persons with disabilities. As one workshop participant pointed out, "We know a site was planted with native grasses, but we do not know who planted them or who took home the seedlings." Embedding gender, equity, and social inclusion throughout contracting, monitoring, and community engagement is therefore essential to ensure that adaptation investments deliver both environmental restoration and shared resilience.

5.2 Policy Implications and Recommendations

1. **Mandate disaggregated reporting in all contracts:** Update mining regulations and RMB licensing requirements so that every contractor submits quarterly payroll and participation data broken down by gender, age, and disability. Using standard templates will allow REMA to verify information during unannounced inspections and will help communities confirm who was hired through independent audit surveys.

2. **Include qualitative GESI indicators in the dashboard:** Every consultation and design workshop should record participant demographics and follow up with short surveys to assess whether participants felt able to contribute. A portion of each rehabilitation budget should support small innovation grants managed by women's cooperatives, youth groups, and elder networks, and their allocation should be tracked to ensure genuine inclusion.

3. **Expand participatory community mapping:** Introduce a mobile GIS platform co-designed with women's organizations and youth associations, enabling communities to map abandoned pits, upload GPS-tagged photographs, and identify flood-risk hazards. Twice a year, these uploads should be cross-checked with the Rwanda Space Agency's multispectral and thermal imagery to align community findings with satellite data and to ensure that all informal sites are captured and restored.

4. **Strengthen local MEL capacity:** Develop a national training program with the Gender Monitoring Office to equip district environmental officers with gender-responsive monitoring tools, including inclusive focus group methods and walk-along mapping. This will improve the ability to collect and interpret disaggregated data as activities unfold.

5. **Create participatory oversight and public scorekeeping:** Form a permanent GESI Advisory Committee that includes women's organizations, disability rights advocates, youth representatives, and members of mine-affected communities. The committee would review disaggregated MEL data and advise on corrective actions. An annual "Inclusive Adaptation Scorecard," prepared jointly with Gender Monitoring Office (GMO) and included in RMB's *Climate Compatible Mining Report*, would

make progress public by reporting metrics such as the share of contracts awarded to women-led small and medium-sized enterprises and livelihood outcomes after site closure by gender and age.

By adopting these measures, Rwanda can shift from a purely technical view of mining adaptation to an approach that combines environmental restoration with social inclusion. This will help rebuild landscapes while ensuring that every community member shares in the benefits of resilience.

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