



National Responsible Small-scale Gold Mining Strategy 2026 - 2036



National Responsible Small-scale Gold Mining Strategy **2026 - 2036**



Supported by:

Improving Environmental Management in the Mining Sector of Suriname, with Emphasis on Artisanal and Small scale Gold Mining (EMSAGS) Project (Global Environment Facility (GEF); United Nations Development Programme (UNDP))

The National Responsible Small-scale Gold mining Strategy was drafted by the following experts: Mrs. Nathalie Emanuels, Mrs. Rosanna Isselt - Agard, Mrs. Pearl Playfair and Mr. Rickford Vieira

Foreword

The mining sector has long been a cornerstone of our nation's development, contributing significantly to economic growth, employment, and national revenue. In Suriname, this sector holds immense potential—not only as a driver of prosperity, but as a platform for advancing sustainability, equity, and responsible stewardship of our natural resources.

It is with this vision that we present the Responsible Small-scale Gold mining Strategy. This strategy reflects our collective commitment to transforming the ASGM sector into one that balances economic opportunity with environmental protection and social inclusion. It recognizes that the future of ASGM must be guided on the historical context not only by what we extract, but by how we manage, protect, and share the benefits of our natural wealth.

The strategy sets out a clear and ambitious roadmap to strengthen governance, define and formalize artisanal and small-scale gold mining, reduce environmental impacts, and promote innovation and transparency. It places strong emphasis on protecting High Conservation Value Forests, safeguarding water resources, and ensuring that mining activities do not compromise the ecological integrity upon which future generations depend.

Equally important, this strategy puts people at its center. It seeks to empower communities, create opportunities for all, including women and youth, and ensure that those most affected by mining activities are active participants in decision-making processes. Through inclusive policies, capacity building, and equitable benefit-sharing, we aim to foster a sector that contributes meaningfully to national and community development.

This strategy is the result of collaboration among government institutions, local communities, private sector stakeholders, and development partners. It reflects a shared understanding that responsible mining is not the responsibility of one entity alone, but a collective endeavor that requires partnership, accountability, and sustained commitment.

As Minister of Natural Resources, I am confident that the successful implementation of this strategy will position Suriname as a leader in responsible gold mining within the region. It will strengthen investor confidence, enhance environmental resilience, and improve the livelihoods of our people.

I call upon all stakeholders to embrace this strategy and to work together in translating its vision into tangible results. Let us ensure that the wealth beneath our soil contributes to a future that is not only prosperous, but also just, inclusive, and sustainable.

Drs. David Abiamfo
Hon. Minister of Natural Resources
Republic of Suriname

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Abbreviations and Acronyms

ASGM	Artisanal and Small-scale Gold Mining
BATs	Best Available Techniques
CBvS	Central Bank of Suriname
CSOs	Civil Society Organizations
EMSAGS	Improving Environmental Management in the Mining Sector of Suriname, with Emphasis on Artisanal and Small-Scale Gold Mining
GEF	Global Environment Facility
GEF GOLD+	Global Opportunities for Long-term Development of artisanal and small-scale gold mining (ASGM) Sector Plus
GMD	Geological and Mining Service of Suriname
GOS	Government of Suriname
Grassalco N.V.	Grasshopper Aluminum Company of Suriname
Hg	Mercury
LSM	Large-Scale Mining
NAP	National Action Plan
NCD	Nature Conservation Division
NGO	Non-Government Organization
NIMOS	National Institute for Environment and Development in Suriname
NMA	National Environmental Authority
OKGS	Commission for Restructuring the Small scale Gold Sector in Suriname
SBB	Foundation for Forest Control and production
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

Glossary of terms

Term	Description
Artisanal and Small-scale Gold Mining (ASGM)	Mining with rudimentary methods of exploration and exploitation, performed in the informal or semi-formal sphere, and executed by a work force that does not have a formal mining education. The Suriname mining legislation does not provide a direct definition of “artisanal” mining; only “small-scale” mining has been defined, as mining of which: “...its operations [are] characterized by small capital investment, low levels of technological sophistication, and at least 51% ownership by Surinamese citizens.”
Responsible Mining	Mining conducted in a manner that minimizes environmental impacts, promotes social well-being, respects human rights, and contributes to sustainable economic development.
Responsible Mining Strategy and Action Plan (RMSAP)	In the context of this report, RMSAP relates to the National Responsible Small-scale Goldmining Strategy 2026 -2036
National Action Plan	Approved framework by the Surinamese government (2023) including specific national priorities and outlining strategic actions, responsibilities, and timelines for reducing Mercury use in ASGMS.
Formalization	The process of bringing mining activities into the legal and regulatory framework through licensing, registration, compliance, and access to support services.
Climate-Sensitive Mining Governance	The integration of climate change mitigation, adaptation, and resilience considerations into mining policies, regulations, planning, and operations.
Geological Exploration	The process of investigating and assessing mineral resources through mapping, sampling, drilling, and other scientific methods.
Mine closure	The process of decommissioning a mining operation and rehabilitating the site to ensure long-term environmental and social stability.
Mine rehabilitation	Actions undertaken to restore land affected by mining activities to a safe, stable, and productive condition.
Free, Prior and Informed Consent (FPIC)	The right of Indigenous Peoples to give or withhold consent to activities affecting their lands, territories, and resources before such activities commence.

Jinchang	Leaching reagent which is believed to be applicable to heap leaching, pond leaching and carbon-in-leaching of gold-bearing oxidized ore, which is a high-tech patented product of Guangxi Senhe High Technology Ltd. (China). This method has been recently introduced by Chinese miners in the gold mining industry of Suriname. It is claimed that the product has many advantages such as simple operation (similar to the conventional cyanidation), high leaching rate, short leaching time, low toxicity and environmental protection, convenient transportation and storage and so on. It is currently known to be the only patented non-cyanide product for” environmentally friendly” gold extraction around the world. The main chemical compounds in the product includes $SC(NH_2)_2$, $NaSiO_3$, $NaOH$, $(NaPO_3)_6$
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- Ministry of Natural Resources:
- Bureau of the Minister of the Ministry of Natural Resources
- Directorate Mining of the Ministry of Natural Resources
- Nationale Environment Authority

Lastly, our appreciation towards all stakeholders who contributed by sharing data, deep-insights and field guidance to the consultancy team. Together, your contributions have laid a strong foundation for a more responsible, inclusive, and sustainable mining sector for present and future generations.

Executive summary

The National Responsible Small-scale Gold Mining Strategy 2026 - 2036 presents a comprehensive, multi-stakeholder roadmap to transform the Artisanal and Small-Scale Gold Mining (ASGM) sector in Suriname into a more **environmentally sustainable, socially responsible, and economically viable industry**. Recognizing the sector's critical role in national development—through employment generation, rural livelihoods, and gold production—this strategy addresses the urgent need to balance economic benefits with applied geological knowledge and practical mining techniques, environmental protection, public health, and good governance.

Artisanal and small-scale mining remains a significant contributor to Suriname's economy, particularly in interior regions where alternative livelihood opportunities are limited. However, the sector continues to face persistent challenges, including **informality, weak regulatory enforcement, environmental degradation, unsafe labor conditions, and the widespread use of mercury and cyanide**. These challenges not only threaten ecosystems and biodiversity but also pose serious risks to human health, community well-being, and the country's international environmental commitments.

This strategy is anchored in a clear **vision** *“A transparent, inclusive, and environmentally responsible small-scale gold mining sector that contributes to sustainable national development, safeguards ecosystems, and improves the livelihoods of all stakeholders—particularly local communities and future generations”*

The **mission**; *“To transform the small-scale gold mining sector through responsible practices, effective regulation, and strategic partnerships that minimize environmental harm, formalize artisanal and small-scale mining, and maximize socio-economic benefits”*.

To achieve this, the strategy is structured around six core strategic pillars:

Key strategic pillars

- **Technological Innovation and Modernization in Mining** - promote the adoption, development, and regulation of appropriate, efficient, and environmentally responsible mining technologies. Building the technical capacity of miners and institutions is essential for long-term sustainability. The strategy promotes access to applied geological knowledge and appropriate mining technologies, training programs, and knowledge-sharing platforms. Partnerships with academic institutions, private sector actors, and international organizations will support innovation and the adoption of best practices.
- **Environmental Stewardship** - Reduce pollution and protect biodiversity. The strategy prioritizes the reduction and eventual elimination of harmful substances such as mercury and cyanide through the promotion of cleaner mining technologies and practices. It emphasizes land rehabilitation, water quality protection, and biodiversity conservation, particularly in high conservation value areas. Practical interventions include the introduction of mercury-free processing methods, environmental awareness campaigns, and incentives for sustainable practices.
- **Governance G Formalization** - Strengthening of institutions and ASGM regulation. Addressing informality is central to improving oversight and accountability in the ASGM sector. The strategy proposes streamlined licensing processes, improved institutional coordination, and enhanced legal frameworks to support miner formalization. The identified actions contribute to eliminate the tense relation between ASGM and medium- large scale mining within the context of governance and formalization. This unsolved phenomenon has a huge impact on the financial - economic situation of the country. By transforming miners into the formal economy, the government can improve compliance, increase revenue collection, and provide miners with access to finance, training, and technical support.

- **Health & Safety** - Reduce exposure to hazardous substances. The focus is on safeguarding the well-being of miners, their families, and surrounding communities by addressing the significant occupational and public health risks associated with artisanal and small-scale mining. The strategy prioritizes the prevention and reduction of exposure to hazardous substances, particularly mercury and cyanide, through awareness campaigns, safer handling practices, and the promotion of alternative, non-toxic technologies. It further emphasizes the improvement of occupational safety standards by introducing guidelines for safe mining operations, including the use of personal protective equipment (PPE), proper shaft construction, and emergency preparedness measures.

In addition, the pillar seeks to strengthen access to basic healthcare services in mining regions, including regular health screenings, mobile health units, and partnerships with local health providers. Special attention is given to vulnerable groups, including women, children, and informal workers, who are often disproportionately affected by mining-related health risks. The strategy also promotes data collection and surveillance systems to monitor health trends and inform targeted interventions.

Through a combination of prevention, education, service delivery, and institutional strengthening, this pillar aims to significantly reduce mining-related accidents, occupational illnesses, and environmental health impacts, thereby contributing to safer, healthier, and more resilient mining communities.

- **Monitoring & Enforcement** - Improve compliance systems. A key component of the strategy is the establishment of a robust monitoring and evaluation system, including clearly defined mining zones¹ and strategically located monitoring sites. The integration of digital tools, geographic information systems (GIS), and remote sensing technologies will support real-time monitoring of mining activities. Strengthening enforcement capacity—through training, equipment, and inter-agency collaboration—will ensure compliance with environmental and social standards.
- **Community & Economic Development** - Ensure equitable benefits. The strategy recognizes the importance of inclusive development by promoting gender equity, youth engagement, and community participation. Targeted programs will support alternative livelihood opportunities such as agroforestry, eco-tourism, and small enterprise development, reducing dependence on mining while enhancing community resilience. Special attention is given to empowering women, who remain underrepresented in decision-making processes within the sector.

The Action Plan translates these strategic pillars into a series of **SMART objectives, detailed activities, timelines, and performance indicators**, supported by a comprehensive monitoring and evaluation framework. It also includes a **phased implementation approach**, allowing for adaptive management and continuous learning. Financial and resource planning estimates the investment required for effective implementation, while identifying potential funding sources, including government budgets, donor contributions, and private sector partnerships.

Cross-cutting themes such as **climate resilience, public health, gender equality, and stakeholder engagement** are integrated throughout the strategy. The document emphasizes the importance of collaboration among government agencies, local communities, civil society organizations, and international partners to ensure coordinated and sustained impact.

Ultimately, this Responsible Small-scale Gold Mining Strategy provides a **practical and forward-looking framework** to transition Suriname's ASGM sector from a largely informal and environmentally harmful activity into a **regulated, transparent, and sustainable economic sector**. Successful implementation

¹ Defining mining zones according to the Suriname mining code from 1986

will not only mitigate environmental and social risks but also unlock new economic opportunities, strengthen national governance systems, and position Suriname as a cooperative country, improving its responsible mining practices.

Responsible small-scale gold mining is not only an environmental issue, but a strategic obligation to ensure economic security, social stability and sustainable management of Suriname's natural resources!

Nederlandse samenvatting

De Verantwoorde Kleinschalige goudmijnbouw Strategie 2026 - 2036 presenteert een uitgebreide, multi-stakeholder routekaart om de Ambachtelijke en Kleinschalige Goudwinning in Suriname te transformeren tot een milieu- en **maatschappelijk verantwoordelijke en economisch levensvatbare sector**. Met erkenning van de cruciale rol van de sector in de nationale ontwikkeling—door werkgelegenheid, levensonderhoud van de gemeenschappen en goudproductie, wordt met deze strategie de dringende noodzaak om economische voordelen in balans te brengen met milieubescherming, volksgezondheid en goed bestuur aangepakt.

Ambachtelijke en kleinschalige goudmijnbouw blijft een belangrijke bijdrage leveren aan de economie van Suriname, vooral in rurale gebieden waar alternatieve bestaansmogelijkheden beperkt zijn. De sector blijft echter aanhoudende uitdagingen ondervinden, waaronder **informaliteit, zwakke handhaving van regelgeving, milieudegradatie, onveilige arbeidsomstandigheden en het wijdverbreide gebruik van kwik en cyanide**. Deze uitdagingen bedreigen niet alleen ecosystemen en biodiversiteit, maar vormen ook ernstige risico's voor de menselijke gezondheid, het welzijn van de gemeenschap en de internationale milieuverplichtingen van het land.

Deze strategie is geworteld in een duidelijke visie : *"Een transparante, inclusieve en milieuverantwoorde kleinschalige goudmijnbouw die bijdraagt aan duurzame nationale ontwikkeling, ecosystemen beschermt en het levensonderhoud van alle belanghebbenden verbetert—vooral lokale gemeenschappen en toekomstige generaties"*.

De missie; *"Het transformeren van de klein-schalige goudmijnbouw door verantwoorde praktijken, effectieve regelgeving en strategische partnerschappen die milieuschade minimaliseren, ambachtelijke en kleinschalige mijnbouw formaliseren en sociaal-economische voordelen maximaliseren"*.

Om dit te bereiken is de strategie gestructureerd rond zes kern strategische pijlers:

Belangrijke strategische pijlers

- **Technologische innovatie en modernisering in de mijnbouw** - het bevorderen van de adoptie, ontwikkeling en regulering van geschikte, efficiënte en milieuverantwoorde mijnbouwtechnologieën. Het opbouwen van de technische capaciteit van goudzoekers en instituten belast met de sector is essentieel voor langdurige duurzaamheid. De strategie bevordert de toegang tot geschikte mijnbouwtechnologieën, trainingsprogramma's en kennisdelingsplatforms. Partnerschappen met academische instellingen, actoren uit de private sector en internationale organisaties zullen innovatie en de toepassing van "best practices" ondersteunen.
- **Milieubeheer** - Verminder vervuiling en bescherming van de biodiversiteit. De strategie geeft prioriteit aan de vermindering en uiteindelijke eliminatie van schadelijke stoffen zoals kwik en cyanide door het bevorderen van schonere mijnbouwtechnologieën en -praktijken. Het legt de nadruk op rehabilitatie, bescherming van de waterkwaliteit en behoud van biodiversiteit, met name in gebieden met een hoge natuurwaarde. Praktische interventies omvatten de introductie van kwikvrije verwerkingsmethoden, milieubewustwordingscampagnes en incentieven voor duurzame praktijken.
- **Governance G Formalisatie** - Versterkte instellingen en ASGM-regulering. Het aanpakken van informaliteit is essentieel voor het verbeteren van toezicht en verantwoording in de ASGM-sector. De strategie stelt gestroomlijnde licentieprocessen, verbeterde institutionele coördinatie en verbeterde juridische kaders voor ter ondersteuning van de formalisering van goudzoekers. De geïdentificeerde acties ondersteunen gericht in het aandragen van oplossingen in de gespannen relatie tussen ASGM en middelgrote tot grootschalige mijnbouw binnen de context van bestuur en formalisatie. Dit fenomeen heeft namelijk een enorme impact op de financieel- economische

situatie van het land. Door goudzoekers in de formele economie te brengen, kan de overheid de naleving verbeteren, de inkomsteninning vergroten en deze gelegaliseerde goudzoekers toegang bieden tot financiering, training en technische ondersteuning.

- **Gezondheid G Veiligheid** - Verminder de blootstelling aan gevaarlijke stoffen. De focus ligt op het waarborgen van het welzijn van goudzoekers, hun families en omliggende gemeenschappen door de aanzienlijke arbeids- en volksgezondheidsrisico's van ambachtelijke en kleinschalige goudmijnbouw aan te pakken. De strategie geeft prioriteit aan het voorkomen en verminderen van blootstelling aan gevaarlijke stoffen, met name kwik en cyanide, door middel van bewustwordingscampagnes, veiligere omgang en de promotie van alternatieve, niet-giftige technologieën. Verder wordt de verbetering van arbeidsveiligheidsnormen benadrukt door richtlijnen voor veilige mijnbouwactiviteiten in te voeren, waaronder het gebruik van persoonlijke beschermingsmiddelen (PBM), juiste schachtconstructie en noodvoorbereidingsmaatregelen.

Daarnaast streeft de pijler ernaar de toegang tot basisgezondheidsdiensten in goudwinningsgebieden te versterken, waaronder regelmatige gezondheidsscreenings, mobiele gezondheidsunits en samenwerkingen met lokale zorgverleners. Speciale aandacht wordt besteed aan kwetsbare groepen, waaronder vrouwen, kinderen en informele arbeiders, die vaak onevenredig worden getroffen door gezondheidsrisico's gerelateerd aan mijnbouw. De strategie bevordert ook systemen voor gegevensverzameling en surveillance, om gezondheidstrends te monitoren en gerichte interventies te informeren.

Door een combinatie van preventie, educatie, dienstverlening en institutionele versterking streeft deze pijler ernaar om ASGM gerelateerde ongevallen, beroepsziekten en milieugezondheidseffecten aanzienlijk te verminderen, en zo bij te dragen aan veiligere, gezondere en veerkrachtigere mijn gemeenschappen.

- **Monitoring G Handhaving** - Verbeter compliance systemen. Een belangrijk onderdeel van de strategie is het opzetten van een robuust monitorings- en evaluatiesysteem, inclusief duidelijk afgebakende mijnzones² en strategisch gelegen monitoringslocaties. De integratie van digitale tools, geografische informatiesystemen (GIS) en remote sensing-technologieën zal realtime monitoring van mijnbouwactiviteiten ondersteunen. Het versterken van de handhavingscapaciteit—door training, apparatuur en samenwerking tussen instanties—zal zorgen voor naleving van milieu- en sociale normen.
- **Gemeenschap G Economische Ontwikkeling** - Zorgen voor eerlijke en gelijke voordelen. De strategie erkent het belang van inclusieve ontwikkeling door gendergelijkheid, betrokkenheid van jongeren en participatie van de gemeenschap te bevorderen. Gerichte programma's zullen alternatieve bestaansmogelijkheden ondersteunen, zoals agroforestry, ecotoerisme en ontwikkeling van kleine ondernemingen, waardoor de afhankelijkheid van mijnbouw wordt verminderd en de veerkracht van gemeenschappen wordt versterkt. Speciale aandacht wordt besteed aan het versterken van vrouwen, die ondervertegenwoordigd blijven in besluitvormingsprocessen binnen de sector.

Het Actieplan vertaalt deze strategische pijlers in een reeks **SMART-doelstellingen, gedetailleerde activiteiten, tijdlijnen en prestatie-indicatoren (KPI's)**, ondersteund door een uitgebreid monitoring- en evaluatiekader. Het omvat ook een **gefaseerde implementatiebenadering**, die adaptief beheer en continu leren mogelijk maakt. Financiële en resourceplanning schat de investeringen die nodig zijn voor een effectieve uitvoering, terwijl potentiële financieringsbronnen worden geïdentificeerd, waaronder overheidsbudgetten, donateursbijdragen en partnerschappen uit de private sector.

² Het aanwijzen van mijnbouwzones conform het mijnbouw decreet van 1986

Doorlopende thema's zoals **klimaatbestendigheid, volksgezondheid, gendergelijkheid en betrokkenheid van belanghebbenden** zijn geïntegreerd door de hele strategie. Het document benadrukt het belang van samenwerking tussen overheidsinstanties, lokale gemeenschappen, maatschappelijke organisaties en internationale partners om een gecoördineerde en duurzame impact te waarborgen.

Uiteindelijk biedt deze Verantwoorde Mijnbouw Strategie en Actie Plan een **praktisch en toekomstgericht kader** om de ASGM-sector van Suriname te transformeren van een grotendeels informele en milieuschadelijke activiteit naar een **gereguleerde, transparante en duurzame economische sector**. Succesvolle uitvoering zal niet alleen milieu- en sociale risico's beperken, maar ook nieuwe economische kansen openen, nationale bestuursystemen versterken en Suriname positioneren als een land dat investeert in verantwoorde mijnbouwpraktijken.

Verantwoorde kleinschalige goudwinning is niet alleen een milieuvraagstuk, maar een strategische keuze voor economische zekerheid, sociale stabiliteit en duurzaam beheer van Suriname's natuurlijke rijkdommen!

1. Introduction

1.1 Background

Goldmining in Suriname was carried out for over one hundred years. As the mining sector plays a central role in Suriname's economy, with the implementation of this assignment the GEMS consultancy aims to contribute to technical, policy, and institutional advice for a responsible mining strategy and action plan. Inspired by gold discoveries across the border in the France department of La Guyane (French Guiana), the sector took off during the last quarter of the 19th century. Most of the commercial reserves were discovered in the greenstone belt, extending from north-central to south-east Suriname. By 1908, production peaked at 1209 kilograms. The construction of a 180-kilometer railroad, linking the capital city of Paramaribo to the gold fields followed by investments and steam shovels and dredging equipment did not produce the desired results, and many concessions were sublet to small-scale miners from the Caribbean, using less sophisticated methods.

The Maroons (descendants of escaped slaves) transported miners and their equipment over the treacherous rapids of the interior rivers. On the eve of independence in 1975 gold production was reduced to a trickle. Poor organization and management, insufficient prospecting, improper technology and uncontrolled mining, but also the high cost of labour and mining in very remote locations contributed to the decline of the sector.

After 1975 gold production techniques in Guyana inspired Suriname miners to invest in river dredging and a large contingent of Guyanese miners came to work in the gold fields, alongside maroon miners. The second gold boom got underway in the 1980s and 1990s. In the 1980s land dredging replaced river dredging as the most commonly used method, and as the years wore on more and more heavy equipment was introduced into the production cycle. Brazilian gold miners soon outnumbered Guyanese miners, and it is estimated that over 10.000 Brazilian miners were active in the sector alongside maroon miners.

Many of the operations in the interior are illegal. Uncontrolled small- to medium-scale gold mining has a negative impact on the environment and poses severe health risks for the miners and communities in the interior. The greatest environmental risks are posed by the use of mercury in the ore extraction process and the tailings and siltation caused by hydraulic mining.

Artisanal and small-scale mining, which is provided for under Section (Suriname Mining Decree) and historically been practiced in Suriname for years without adequate legal recognition. The interior war (1986 - 1992) had a negative impact on the sector due to the deteriorated field circumstances and economic situation. Government institution such as the GMD were not able to carry out mandatory obligations leading to great absence of government from that moment forward. The large influx of undocumented miners of different nationality is a great challenge to properly manage. The subsector plays a significant role in supporting rural incomes and livelihoods. This strategy serves as the primary government reference document for regulating artisanal mining, with the aim of formalizing the subsector and enhancing its overall contribution.

The development of the strategic plan 2026-2036 is done with the intention of providing a more structured approach to the management of the ASM while ushering a higher level of customer satisfaction.

The organizational tenants covering its Vision, Mission Statement, Core Values, Key Functions, Roles and Responsibilities occupy an important section on the plan.

1.2 Goldmining statistics

The following table summarizes key data and evidence underpinning the urgency and strategic direction of the Responsible Mining Strategy and Action Plan. The information is compiled using documents; World Bank reports on ASGM, Global Environment Facility gold program references and Minamata Convention on Mercury documentation. Chapter 9, References provides more information regarding the sources.

Table 1 Suriname Goldmining Statistics (source: different)

Thematic Area	Key Statistic / Insight	Value / Estimate	Source
Economic Contribution	Share of national gold production from ASGM	65-68% of total gold output	United Nations Development Programme (UNDP), Suriname
	Annual ASGM gold production (example year)	~18.9 tonnes (2015)	Peer-reviewed study (ScienceDirect - Environmental Research)
Employment & Livelihoods	Estimated number of people directly involved in ASGM	20,000 - 40,000 individuals	Academic studies (ScienceDirect)
	Officially registered miners	~17,000	Government/academic estimates
Informality & Governance	Level of sector informality	Majority informal or semi-legal	Academic literature (Journal of Cleaner Production)
	Presence of foreign miners (notably Brazilian)	Significant proportion of workforce	Academic studies
Mercury Use & Pollution	Miners using mercury in gold extraction	Up to 97.8%	Environmental Research (ScienceDirect)
	Estimated annual mercury emissions	Up to 63 tonnes/year	Environmental Research (ScienceDirect)
	Mercury contamination in rivers and sediments	Elevated above natural baseline levels	United States Geological Survey (USGS)
Deforestation & Environmental Impact	Total forest loss due to gold mining	>41,000 hectares	UNDP Suriname
	Increase in deforestation since 2000	~93% increase	UNDP Suriname
	Main driver of deforestation	Gold mining (primary driver in interior)	UNDP Suriname

Thematic Area	Key Statistic / Insight	Value / Estimate	Source
Health & Social Impact	Exposure pathways to mercury	Water, air, and food chains (especially fish)	Environmental health studies (ScienceDirect)
	Access to healthcare in mining regions	Limited / inadequate	Academic and field studies
Sector Growth & Pressure	Increase in mining-related deforestation (2008-2014)	Approximately doubled compared to earlier years	Environmental Research (ScienceDirect)
	Mining intensity	High relative to land area globally	UNDP Suriname
Future Potential	Presence of high-grade gold deposits	Confirmed in recent exploration areas	Industry reports / international media

1.3 Guiding Principles

The strategy is underpinned by five guiding principles, ensuring its effectiveness and fairness:

- **Objectivity and Impartiality:** Ensuring decisions are made based on factual evidence without bias.
- **Participatory Approach and Inclusivity:** Involving all relevant stakeholders and promoting broad engagement within the sector.
- **Gender Inclusivity:** Guaranteeing equal opportunities and representation for women in artisanal mining activities.
- **Clarity and Predictability:** Providing clear guidelines / codes of practice and consistent procedures for all participants.
- **Transparency and Accountability:** Promoting fairness in processes and holding individuals responsible for their actions.

1.4 Intervention trajectory

Three timeframes have been identified for thematic areas to be addressed during the implementation phase:

Immediate Intervention

- Collection and management of artisanal mining data and information (number of operators, mining method and equipment, location of operators).
- Establish clear guidelines for the legal structures, such as businesses or ASM Associations
- Identify and demarcate areas to facilitate access to mineral properties.
- Simplify the application and reduce the process time.
- Ensure adequate database system for all mining properties.
- A comprehensive education and awareness program

Medium-Term Intervention

- Management of hazardous chemicals and tailings
- Compliance monitoring of ASM operations
- Promotion of best practice.
- Addressing child labour and illegal mining operations
- Ensuring environmental, health, and safety standards

Long-Term Intervention

- Value addition and marketing support
- Training and access to finance
- Promotion of gender issues within the sector

1.5 Methodology

For this research a mixed-methods approach, combining document reviews, stakeholder consultations, SWOT analysis, comparative analysis with regional countries, environmental data assessment and national validation.

- Review of documents was used to set the stage for example assessing past initiatives as well as provide for different data, etc. Especially environmental data was collected through the phase of literature review.
- Stakeholder consultations are planned throughout the entire timeline of this project. Consultations are scheduled for physical meetings, electronic feedback, during workshops, etc.
- The legal and institutional analysis of this report used the fundamental concept of Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis. This method involves the consideration of strengths and weaknesses of an organization as the internal factors, and opportunities and threats as the external factors relating to the organization's environment.

- Comparative analysis was used during different; legal analysis where Suriname legislation was compared to legislation of Guyana, Sierra Leone and Uganda. Also, in the case of the mining techniques and best practices a comparison was made between the Surinamese ASGM, Guyana, Peru and Columbia.
- The draft ‘Responsible Small-scale Gold Minig Strategy 2026 - 2036’ document was presented during a national validation workshop. During the meeting the six strategic pillars were presented for feedback and validation through six working group session. The period for additional feedback was extended with 5 days to ensure that feedback that was not addressed during the workshop could be shared by email. The received feedback is integrated in this version of the document. The extensive validation report (Dutch) is attached as annex 10.4.

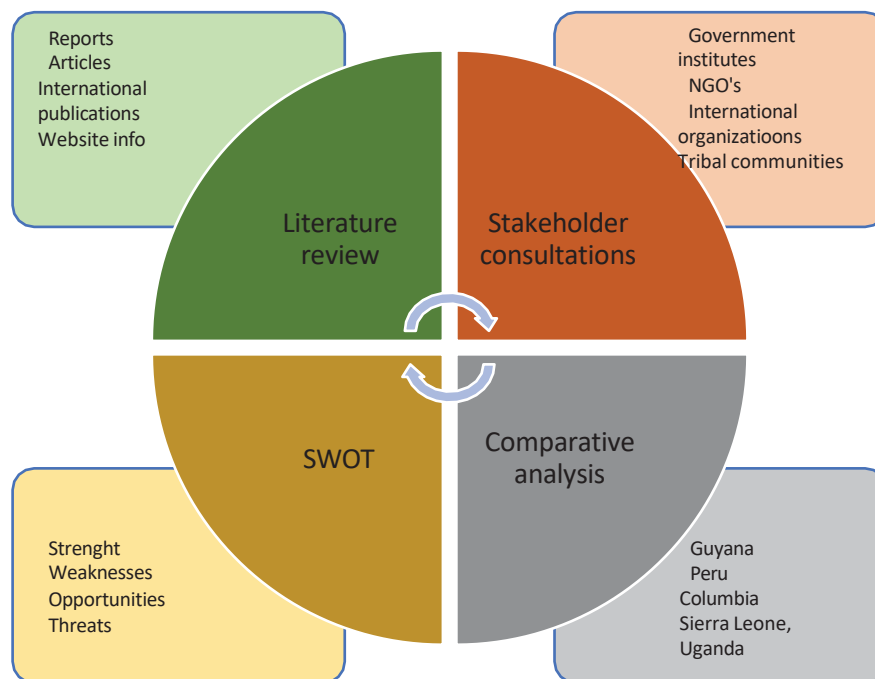


Figure 1 Methodologies used for the literature review & analysis

2. Situational Analysis

2.1 PESTLE Analysis

Political impacts

The political environment in Suriname presents both opportunities and risks for the mining sector. While strong international partnerships and growing attention to sustainability provide momentum for reform, challenges such as the absence of a national minerals and mining policy, institutional fragmentation, limited enforcement capacity, and political sensitivity around small-scale mining may hinder implementation. Strengthening governance, enhancing transparency, and aligning national policies with international standards will be critical to achieving the objectives of the RMSAP.

Table 2 Political impacts for RMSAP implementation and mitigation

	Impact	Implications for RMSAP	Mitigation
Government Stability and Policy Continuity	Changes in political leadership can disrupt long-term mining strategies, licensing processes, and investor confidence.	Risk to achieving 2030-2035 targets Delays in implementation of reforms and SOPs	Anchor strategy and policy within national development plans Secure multi-party or parliamentary endorsement
Strength of Governance and Institutional Capacity	Weak coordination between ministries (Mining, Environment, Forestry, Land Management) can lead to: Overlapping mandates Inefficient approvals Weak enforcement	Directly affects the objective on cross-agency coordination (2028) Weakens monitoring and compliance (2032 target)	Establish formal inter-agency platforms and develop professional and well-equipped institutions Clarify roles through legislation and SOPs
Regulatory and Policy Framework	Outdated mining laws discourage investment and enable informal/illegal mining.	Affects: Compliance rates (target: 50% by 2032) Investor attraction Environmental protection	Accelerate legal reform (by 2028) Align with international standards (e.g., ESG, responsible mining frameworks) if applicable

Political Will to Formalize Small-Scale Mining (ASGM)	Artisanal and Small-Scale Gold Mining (ASGM) is politically sensitive due to: Livelihood dependence Informal economy Social pressures	Resistance to enforcement leads to: Challenges in reducing mercury use Difficulty reaching compliance targets	Combine enforcement with incentives Introduce formalization programs + technical support (2030 objective)
Corruption and Transparency Risks	Perceived or actual corruption in: Licensing Inspections Land allocation can undermine trust and reduce revenue collection.	Weak enforcement of mining laws Reduced effectiveness of monitoring systems	Digital systems mining cadastre/database objective Transparent licensing processes Third-party oversight
Public Sector Resource Allocation	Limited government budgets may restrict: Geological surveys Monitoring capacity Laboratory development	Slows progress on: Mapping (2030) Labs (2035) Workforce development	Leverage: Donor funding / governmental funding from the sector itself Public-private partnerships (PPPs) Cost-recovery mechanisms
International Relations and Donor Influence	Suriname's relationships with: World Bank, Inter-American, Development Bank , Global Environment Facility can influence: Environmental standards Funding availability Policy direction	Opportunity to fund: Mercury reduction Capacity building Data systems	Align RMSAP with donor priorities (climate, ESG, biodiversity)

Land Use Conflicts and Political Sensitivity	Mining overlaps with: - Indigenous and tribal lands - Forestry concessions - Protected areas This creates political and social tension.	Delays in licensing Conflict risks Reputational issues	Strengthen land-use planning systems Ensure Free, Prior and Informed Consent (FPIC) principles
Decentralization and Local Governance	Limited capacity at district level (e.g., Brokopondo) affects: - Monitoring - Community engagement - Implementation of policies	Weak enforcement outside Paramaribo Reduced effectiveness of programs targeting miners	Build local institutional capacity Engage district authorities and traditional leaders
Political Influence of Mining Sector	Mining is a major economic sector, so: Political actors may resist strict regulations Policies may favor short-term revenue over sustainability	Slower adoption of responsible mining practices Compromised environmental standards	Demonstrate economic benefits of sustainability Use data (database + mapping outputs) to inform decisions

Economic impacts

Global trends in responsible gold production, certification systems, market incentives, traceability systems, and opportunities for Suriname are discussed³. International gold certification and standard schemes are crucial for ensuring responsible sourcing, ethical practices, and transparency in the gold supply chain. The table below describes the main schemes, their focus, and key requirements.

Table 3 Economic impacts of RMSAP and relevant information

Type of Scheme	Description	Focus	Key conditions G requirements	Core requirements
The LBMA Responsible Gold Guidance (RGG)	The London Bullion Market Association (LBMA) sets the global standard for the good delivery of gold. Its Responsible Gold Guidance is the de facto benchmark for the large-scale bar market	Combating money laundering, terrorist financing, and human rights abuses; ensuring gold is conflict-free and sourced responsibly	Chain of Custody: Not a full chain-of-custody standard; it's a due diligence standard based on the OECD's 5-Step Framework. · Scope: Applies to all LBMA Good Delivery Refiners.	1. Establish strong company management systems. 2. Identify and assess risks in the supply chain. 3. Design and implement a strategy to respond to identified risks. 4. Carry out independent third-party audit of supply chain due diligence. 5. Report annually on supply chain due diligence.
The Responsible Jewelry Council (RJC) Code of Practices	The RJC is a standards-setting and certification organization for the entire jewelry and watch supply chain.	Broad sustainability standard covering business ethics, human rights, social and environmental impact across mining, refining, and retail.	· Chain of Custody: Offers a separate Chain of Custody (CoC) Standard for precious metals, which can be certified alongside the Code of Practices. · Scope: Open to companies of all sizes, from mines to retailers.	1. Business Ethics 2. Due Diligence 3. Human Rights 4. Labor Rights 5. Health C Safety 6. Environmental Impact 7. Mining (if applicable) 8. Product Disclosure

³ The assessment of the illegal gold trade; the route of the gold after is sold by the miners and all royalties and taxes are paid was not part of this assignment.

Type of Scheme	Description	Focus	Key conditions G requirements	Core requirements
Fairtrade Gold C Fair mined Gold	These are ethical label schemes focusing on artisanal and small-scale mining (ASM)	Transforming ASM by providing premium prices, safe working conditions, environmental protection, and community development.	· Chain of Custody: Full physical chain of custody is required, from the certified mine to the final product. · Scope: Artisanal and Small-Scale Mining Organizations (ASMOs).	· Democratic organization and transparent management. · No child or forced labor; safe working conditions. · Minimized use of hazardous chemicals (e.g., mercury and cyanide reduction plans). · Environmental management and rehabilitation plans. · Traceability of all production. · Premiums: Miners receive a guaranteed Fairtrade Minimum Price plus a Fairtrade Premium (or Fair mined Premium) for community investment. · Audit: Independent, annual audits of mining organizations and of the supply chain.

Social impacts

Artisanal and Small-Scale Gold Mining (ASGM) is associated with a complex range of social impacts that extend beyond mining sites and affect surrounding communities and governance systems. In Suriname, ASGM communities as per definition are not present. The tension between local goldminers from communities living near or within mining areas and local mining companies or multinationals leads to conflicts and social disruption. The deterioration of the social cohesion of especially Maroon communities is also identified as a negative social impact.

The rapid and often unregulated influx of miners into remote interior areas contributes to:

- population pressures;
- social fragmentation;
- and weakened social cohesion.

Elevated levels of crime, including theft, violent assault, and armed robbery, are frequently reported in and around mining areas, driven by the circulation of cash, gold, and fuel, combined with limited law enforcement presence. ASGM zones may also function as magnets for irregular immigration, with cross-border miners entering informally in search of economic opportunity, complicating migration management, access to services, and legal accountability.

The predominance of transient and male-dominated populations has been linked to the expansion of commercial sex work, which in turn increases risks related to sexually transmitted infections, gender-based violence, and the exploitation of women and girls. In some contexts, these dynamics overlap with more severe human rights concerns, including trafficking in persons for labor and sexual exploitation, particularly affecting vulnerable migrants and indigenous populations. At the same time, religious and cultural belief systems play an important role in shaping social behavior and risk perception within ASGM communities. Spiritual beliefs related to luck, protection, ancestral spirits, and supernatural control over gold deposits can influence decision-making, occupational risk-taking, and attitudes toward environmental degradation and mercury use. Traditional norms and informal authority structures may provide social support and conflict resolution mechanisms, but can also reinforce gender inequality and exclusion from formal governance processes. Collectively, these social impacts underscore that ASGM is not only an economic activity but also a deeply embedded social system, requiring responses that integrate social protection, human rights, public health, cultural sensitivity, and community engagement alongside regulatory and environmental interventions.

Technological Impacts

One of the most significant challenges within the Artisanal and Small-Scale Gold Mining (ASGM) sector is the acquisition of mining equipment before establishing the economic viability of a mineral prospect. In many cases, investments are made without sufficient geological information or reserve

estimates, resulting in speculative operations with a high probability of failure. Such practices can lead to extensive environmental degradation, including unnecessary deforestation, water pollution, abandoned mining sites, non-payment of workers, and financial losses for investors and creditors.

A systematic approach to prospecting and deposit evaluation is therefore essential before significant investments are made. Effective prospecting enables miners to assess the economic potential of a deposit, optimize resource allocation, and reduce environmental and financial risks.

Prospecting and Geological Assessment

Research and Data Collection

Research constitutes the foundation of successful mineral prospecting. A sound understanding of the geological processes responsible for the concentration of gold and other heavy minerals is essential for identifying prospective mining areas. Particular attention should be given to geological features such as bedrock exposures, boulders, river bends, and other depositional environments where gold accumulation is likely to occur.

Prospecting activities should include:

- Review of historical mining records and exploration data;
- Analysis of geological and topographical maps;
- Identification of host rocks associated with gold mineralization;
- Assessment of hydrological and geomorphological conditions;
- Strategic sampling and field verification; and
- Consultation with local communities and miners operating within the area.

The Geological and Mining Department (GMD) possesses geological information that can support prospecting activities, although some datasets may require updating to improve their usefulness for contemporary mining operations.

Understanding Deposit Types

Gold deposits generally occur in two principal forms: placer deposits and lode deposits.

Placer deposits occur in river systems, streams, floodplains, and other alluvial environments where gold particles have been eroded from primary sources and concentrated through natural sedimentary processes. These deposits typically consist of unconsolidated gravels containing gold dust, flakes, or nuggets.

Lode deposits occur within solid rock formations and are generally associated with veins, fractures, or hydrothermal systems where gold has precipitated from mineral-bearing fluids. Historically, the majority of global gold production has originated from lode deposits.

Geological mapping and interpretation are essential for identifying the type and extent of mineralization present within a prospect. Such information provides the basis for determining appropriate prospecting and extraction methods.

Building Local Prospecting Capacity

The development of local prospecting expertise represents a significant opportunity for employment creation and sustainable mining development. Certificate-level training programmes focused on basic geology, prospecting techniques, sampling methodologies, and mineral evaluation could be implemented within mining communities and educational institutions located in gold-producing regions.

The establishment of a trained cadre of prospectors would contribute to improved investment decisions, reduce unnecessary environmental disturbance, and increase the overall efficiency of the mining sector.

Geological Indicators of Gold Mineralization

Geological indicators provide important evidence of potential gold mineralization and can assist in identifying prospective exploration targets. Common indicators include:

- Quartz veins;
- Alteration zones;
- Shear zones;
- Black sands; and
- Contact metamorphic zones.

Quartz veins are among the most widely recognized indicators of gold mineralization and frequently occur within metamorphic rock formations. Alteration zones reflect chemical and mineralogical changes within host rocks that may be associated with mineralizing fluids.

Shear zones formed through tectonic deformation often provide pathways for gold-bearing hydrothermal fluids and are therefore important exploration targets. Contact metamorphism may create favorable geological conditions for mineral deposition where intrusive rocks interact with surrounding formations.

Black sands, composed primarily of heavy minerals such as magnetite and hematite, commonly occur in placer gold environments. Although black sands alone are not reliable indicators of

economic gold concentrations, their presence may assist prospectors in identifying potentially mineralized areas.

Knowledge of these indicators can significantly improve the effectiveness of prospecting programmes and reduce the likelihood of unproductive mining activities.

Gravel Sampling and Panning

River and land gravel panning continue to be widely utilized throughout the ASGM sector and remain valuable prospecting tools. Most artisanal and small-scale miners possess practical experience in panning; however, the interpretation of sampling results often requires additional technical expertise.

Training in sampling methodologies, sample processing, and interpretation of results would enhance the ability of miners to evaluate prospects and make informed investment decisions. Proper sampling techniques can provide a low-cost method for identifying economically viable deposits while minimizing unnecessary land disturbance.

Legal and Land Tenure Considerations

Land tenure and mineral rights remain important considerations for prospecting and mining activities in Suriname. Although the Constitution provides a legal framework governing land ownership and resource utilization, disputes continue to arise regarding land rights, traditional land use, and access to mineral resources.

Prospecting activities should therefore be undertaken only after the necessary permissions, permits, and authorizations have been secured. Compliance with national legislation and regulatory requirements is essential for minimizing conflicts, promoting responsible resource management, and ensuring legal certainty for all stakeholders.

Given the evolving nature of laws and regulations, continuous dissemination of legal information and awareness programmes will be necessary to ensure that miners remain informed of their obligations and rights.

Prospecting Equipment

The equipment required for basic prospecting is generally affordable and accessible compared to production-scale mining equipment. Essential prospecting tools include:

- Gold pans;
- Shovels and picks;
- Portable augers

- Buckets;
- Sieves and classifiers;
- GPS units;
- Metal detectors; and
- Small sluice boxes.

These tools facilitate sample collection, processing, and preliminary evaluation of gold-bearing materials. Access to appropriate prospecting equipment can improve the quality of prospecting programmes while reducing unnecessary expenditure on large-scale machinery prior to confirming the economic viability of a deposit.

Deposit Evaluation

The evaluation of a mineral prospect is critical for determining whether mining activities are economically justified.

A simple evaluation method involves collecting representative gravel samples across a regular grid pattern, such as 50-metre by 50-metre intervals. Samples are processed through sieving, concentration using a small sluice box, and final recovery through panning. Gold recovered from each sample is weighed and recorded.

The resulting values can be expressed as gold grade (for example, grams per tonne) and plotted spatially to identify trends in mineralization. By combining information on deposit grade, area, and gravel thickness, an approximate estimate of the total gold content of the deposit can be obtained. Although preliminary in nature, such evaluations provide valuable information for investment decisions and can substantially reduce financial risks associated with mining ventures.

Importance of Prospecting

Effective prospecting contributes to economic growth, employment generation, technological development, and increased government revenue through the responsible utilization of mineral resources.

At the same time, proper prospecting reduces the likelihood of environmental degradation by minimizing unnecessary land clearing, water contamination, and disturbance of ecosystems associated with unsuccessful mining operations. Sound prospecting practices therefore represent an essential component of sustainable mineral resource development.

Conditions for the Adoption of Best Practices in ASGM

The promotion of best practices within the ASGM sector requires a comprehensive and integrated approach encompassing technical, environmental, social, and regulatory considerations.

Priority interventions include:

- Reduction of mercury emissions through the use of retorts;
- Adoption of mercury-free processing technologies where technically and economically feasible;
- Improved tailings management;
- Progressive mine closure and site rehabilitation;
- Environmental monitoring; and
- Strengthened stakeholder engagement.

Prospecting and secure land tenure are fundamental prerequisites for investment in improved mining technologies. Many miners remain reluctant to invest in equipment because the characteristics of their deposits are insufficiently understood.

The physical characteristics of gold particles—including size distribution, shape, and purity—vary considerably among deposits and significantly influence recovery efficiency. Consequently, these characteristics should be evaluated before selecting mineral processing technologies.

Sluice Box Optimization

The sluice box remains one of the most widely used and cost-effective gold recovery technologies in the ASGM sector. Under optimal conditions, recovery rates typically range between 40 and 75 percent.

Multi-stage sluice systems can improve recovery performance by targeting different particle sizes through the use of varying configurations of riffles and recovery surfaces. Additional benefits include greater flexibility in controlling flow rates and optimizing recovery conditions for specific deposit characteristics.

Lessons from Guyana

Guyana has accumulated considerable experience in promoting responsible mining practices through government-supported initiatives and technical assistance programmes.

Examples include:

- Rehabilitation of mined-out areas using Acacia species to establish vegetative cover;
- Pilot projects aimed at converting abandoned tailings ponds into productive land uses; and
- Operation of a Mineral Processing Unit within the Guyana Geology and Mines Commission that evaluates mercury-free technologies and provides technical guidance to miners.

These experiences provide valuable lessons that may be adapted to the Surinamese context.

Lessons from French Guiana

French Guiana has implemented a regulatory framework that links permit allocation to environmental compliance. Under this approach, miners are required to demonstrate adherence to environmental management requirements, including mercury-free processing methods, tailings management, waste disposal, fuel storage, mine closure, and site rehabilitation.

The system creates incentives for responsible mining by linking future permit opportunities to demonstrated environmental performance.

Emerging Technologies

Jinchan is a relatively recent chemical extraction technology developed in China and currently utilized by some mining operations in Suriname. While the technology is promoted as an environmentally friendly alternative to conventional extraction methods, available scientific literature remains limited and its effectiveness under Surinamese conditions has not yet been comprehensively evaluated.

Further research and independent testing are therefore required before broad recommendations can be made regarding its application within the ASGM sector.

Capacity Building and Technical Training

Capacity building represents one of the most important requirements for transforming the ASGM sector. A structured Training-of-Trainers (ToT) program should be developed to build technical expertise within mining communities.

Training programs should focus on:

- Basic geology and prospecting;
- Sampling and resource evaluation;
- Mercury reduction and elimination technologies;
- Mineral processing and recovery optimization;
- Environmental management and rehabilitation;
- Occupational health and safety; and
- Regulatory compliance.

Particular emphasis should be placed on engaging youth and technical-level students from mining communities, thereby creating local employment opportunities while supporting the long-term sustainability of the sector.

The establishment of a community-based technical support network could significantly enhance the adoption of responsible mining practices and contribute to improved environmental, social, and economic outcomes within Suriname's ASGM sector.

Legal impacts

The Legal and Institutional Component of the RMSAP provides the integrated analysis of the frameworks that govern Artisanal and Small-Scale Gold Mining (ASGM) in Suriname. It examines the full governance chain, from mining rights and land tenure to environmental regulation, institutional mandates, mercury control, fiscal oversight, stakeholder relations, and international obligations, as well as emerging climate governance responsibilities linked to deforestation, land degradation and national climate reporting and identifies the core reforms required to transition the sector toward responsible, transparent and sustainable practice.

- **Fragmented and outdated legal framework**

Suriname's primary mining legislation, the 1986 Mining Decree, remains the legal backbone of the sector, but it no longer aligns with modern governance requirements. The decree lacks:

- ASGM-specific licensing pathways;
- environmental and social safeguards;
- FPIC or structured community consultation procedures;
- mercury-management obligations;
- provisions for a functional national mining cadaster;
- any linkage to climate governance, land-use obligations or ecosystem-protection mandates.

The Draft Mining Act represents a substantial modernization of Suriname's mineral governance framework. It introduces clearer classifications of mining rights, strengthened compliance and enforcement tools, a comprehensive chapter on environmental protection, and institutional redesign through the establishment of the Mineral Authority Suriname (Delfstoffen Autoriteit Suriname, DAS). The Act also integrates consultation requirements and anticipates future harmonization with the forthcoming draft Law on Collective Rights of Indigenous and Tribal Peoples, ensuring alignment with evolving national and international standards. These provisions lay a solid legal foundation for more transparent, responsible, and sustainable sector management.

Within this framework, ASGM operations most naturally align with the category of "*klein mijnbouw*". This category offers a flexible legal basis upon which tailored procedures, conditions, and support measures for ASGM can be further defined through implementing regulations, guidelines, and

institutional protocols. These include environmental, social, mercury and climate-related conditions.

Similarly, the Draft Mining Act's provisions on consultation and environmental management create an enabling legal architecture that can be operationalized to meet FPIC-related commitments, Minamata obligations, and emerging climate governance requirements. Full realization of these objectives will rely on institutional readiness, detailed implementing decrees, and interagency coordination involving the Ministry of Natural Resources (MNR), DAS, NMA, and local authorities.

In this sense, the Draft Mining Act provides a robust and forward-looking platform for integrating RMSAP actions and serves as the legal anchor for the reform pathway described in Section 8.11.

Even though the focus of this report is on RMSAP, it must be stated that given the importance and impact of the mining sector as a whole on the country, including artisanal and small-scale mining, a national minerals and mining policy is a “conditio sine qua non” for the coherent and prosperous development of the mining sector in Suriname.

The minerals resources of Suriname are public property which must be managed for the collective interest of the people of Suriname. Therefore, the government of Suriname should develop and declare a national minerals and mining policy as the guiding principle to develop this sector and to ensure that Suriname's mineral potential is developed and managed on a sustainable economic, social and environmental basis.

- **Land tenure and FPIC as foundational governance gaps**

ASGM activities occur largely in areas where statutory land rights, customary tenure, and international jurisprudence collide. Suriname does not legally recognize collective land rights of Indigenous and Tribal Peoples (ITPs), nor does it require FPIC by law, even though FPIC is being used as part of mining rights application process and the Ministry of Natural Resources, has for some years a division which is responsible for matters regarding FPIC. As a result:

- mining rights can be issued on traditional territories without community consent⁴;
- land access disputes are systemic, not incidental;
- ASGM operators lack legal certainty and social license to operate;
- FPIC obligations under Inter-American Court jurisprudence remain unimplemented.

These fundamental gaps directly affect ASGM formalization, conflict prevention, mercury reduction, and the legitimacy of mining governance.

- **Institutional overlaps, weak enforcement, and limited coordination**

⁴ Although not legally prohibited the GMD requests formal advise from the district commissioner of the district of the mining license application.

The ASGM governance landscape involves multiple institutions: MNR, Geological Mining Department (GMD), NMA, Gold Sector Regulation Unit (OGS), Finance/Customs, District Commissioners, and traditional authorities, but their mandates overlap and often conflict. Across institutions, the assessment reveals:

- weak enforcement capacity in the interior;
- fragmented and outdated data systems with no integrated national cadaster;
- non-existent or limited environmental monitoring and mercury oversight;
- low fiscal capture and significant gold leakage due to informal trade;
- absence of inter-agency protocols for permitting, inspections, and conflict resolution.

The proposed reform process therefore requires strengthened coordination among existing institutions, supported by clear mandate definitions, adequate budget allocations, operational protocols, integrated information systems and institutional capacity strengthening.

- **Mercury governance: strong obligations, weak systems**

Under the Minamata Convention, Suriname must reduce and eventually eliminate mercury use in ASGM. However:

- mercury import controls remain incomplete;
- users and suppliers are not registered;
- ASGM operations commonly use whole-ore amalgamation and open burning;
- alternatives exist, but are not widely available or financially accessible;
- environmental monitoring is limited and fragmented.

Meeting Minamata obligations within the agreed implementation timelines will require legal reform, institutional strengthening, technology roll-out, market incentives, and enforcement mechanisms.

- **Gold marketing, traceability, and fiscal leakage**

The legal and financial systems governing domestic gold trade are insufficient to support responsible mining:

- ASGM gold is largely unreported and untraceable;
- gold buyers and exporters operate with minimal oversight;
- fiscal leakage is substantial due to undocumented production and informal exports;
- customs, tax authorities, MNR, and NMA operate with siloed datasets.

Without a chain-of-custody system and integrated fiscal-mining data flows, responsible and transparent gold trade will remain unreachable.

- **Comparative benchmarking: lessons from Guyana, Sierra Leone and Uganda**

Benchmarking shows that Suriname lags behind regional and global peers in:

- . formalization pathways tailored to ASGM;
- . FPIC and community land-rights frameworks;
- . public, digital mining cadasters;
- . environmental licensing adapted to small-scale operations;
- . mercury reduction strategies linked to licensing and inspections;
- . cooperative-based licensing and incentive models.

However, international practice offers multiple transferable models for licensing, environmental regulation, mercury phase-out, community agreements, and traceability systems.

- **Cross-Cutting synthesis: five structural constraints**

Across the entire governance architecture, five structural constraints repeatedly emerge:

1. the formalization paradox: miners cannot formalize without secure access and clear rules, yet formalization systems require pre-existing clarity on land, licensing, and obligations;
2. the enforcement deficit: institutions lack the tools, data, resources, and coordination mechanisms needed to enforce even existing rules;
3. the rights gap: unresolved issues surrounding Indigenous and Tribal Peoples (ITPs) land rights and FPIC undermine legal certainty and fuel conflict;
4. the mercury dilemma: Minamata obligations cannot be met without formalization, technology access, and enforcement, none of which are currently adequate;
5. the climate governance gap: Suriname faces increasing climate-related legal and policy obligations, stemming from deforestation, land degradation, biodiversity loss and international climate reporting (UNFCCC, NDCs, REDD+), yet these are not integrated into mining legislation, environmental permitting, ASGM formalization pathways, or land-use planning. As a result, ASGM continues to drive ecosystem impacts without alignment to national climate goals or reporting systems.

These structural constraints inform the design of the RMSAP legal and institutional reform roadmap.

- **Integrated gap analysis**

The assessment identifies gaps across seven domains:

- . legal and regulatory: outdated standards, missing ASGM category, no environmental obligations;
- . institutional: overlapping mandates, limited capacity, no integrated data systems;
- . mining rights and licensing: unclear pathways, no cooperative licensing, weak revocation processes;
- . land tenure and FPIC: no statutory recognition, no consultation procedures;
- . mercury governance: insufficient controls, weak monitoring;

- benchmarking-derived: lack of modern cadaster, absence of incentives, missing conflict-resolution mechanisms;
- stakeholder-validated (preliminary): transparency, coordination, land access, environmental coherence.

These gaps form the basis for sequenced legal and institutional reform.

The assessment also identifies a cross-sectoral climate governance gap: the absence of climate-related standards, reporting duties, deforestation controls and land-restoration requirements in ASGM regulation.

- **Reform roadmap: strategic priorities**

The proposed roadmap (Section 8.11) structures reforms across short-, medium- and long-term horizons, aligned with the Draft Mining Act, existing mining governance policies, Minamata obligations, and forthcoming legislative processes.

Priority domains include:

- legal modernization, including ASGM regulation and FPIC integration;
- strengthening DAS, NMA, and enforcement systems;
- introducing ASGM-specific licensing and traceability;
- establishing interim and long-term mechanisms for community participation;
- implementing mercury phase-out with technology, incentives, and monitoring;
- digitalizing the cadaster and harmonizing institutional workflows;
- integrating climate governance into ASGM oversight, including deforestation monitoring, land-restoration obligations, alignment with Nationally Determined Contribution (NDC) targets, and climate-sensitive permitting standards.

Stakeholder input will refine timelines, institutional responsibilities, and risk mitigation measures.

Environmental impacts

Environmental Sensitivity and Land Use Conflicts; High Conservation Value Forests (HCVFs) are critical ecosystems that provide essential environmental, social, and cultural services, including biodiversity conservation, water regulation, climate stability, and the protection of indigenous and local community livelihoods.

Figure 2 presents the spatial overlay of mining zones, protected areas, hydrological systems, and ecologically sensitive regions. This analysis forms the basis for identifying High Conservation Value Forests (HCVFs) and defining exclusion zones for mining expansion.

The map includes:

- Protected areas
- Buffer zones
- Hydrology (rivers/water systems)
- Mining zones (exploration, exploitation, formal small-scale mining)
- Greenstone belt (high mineral potential areas)
- Villages and geographic references

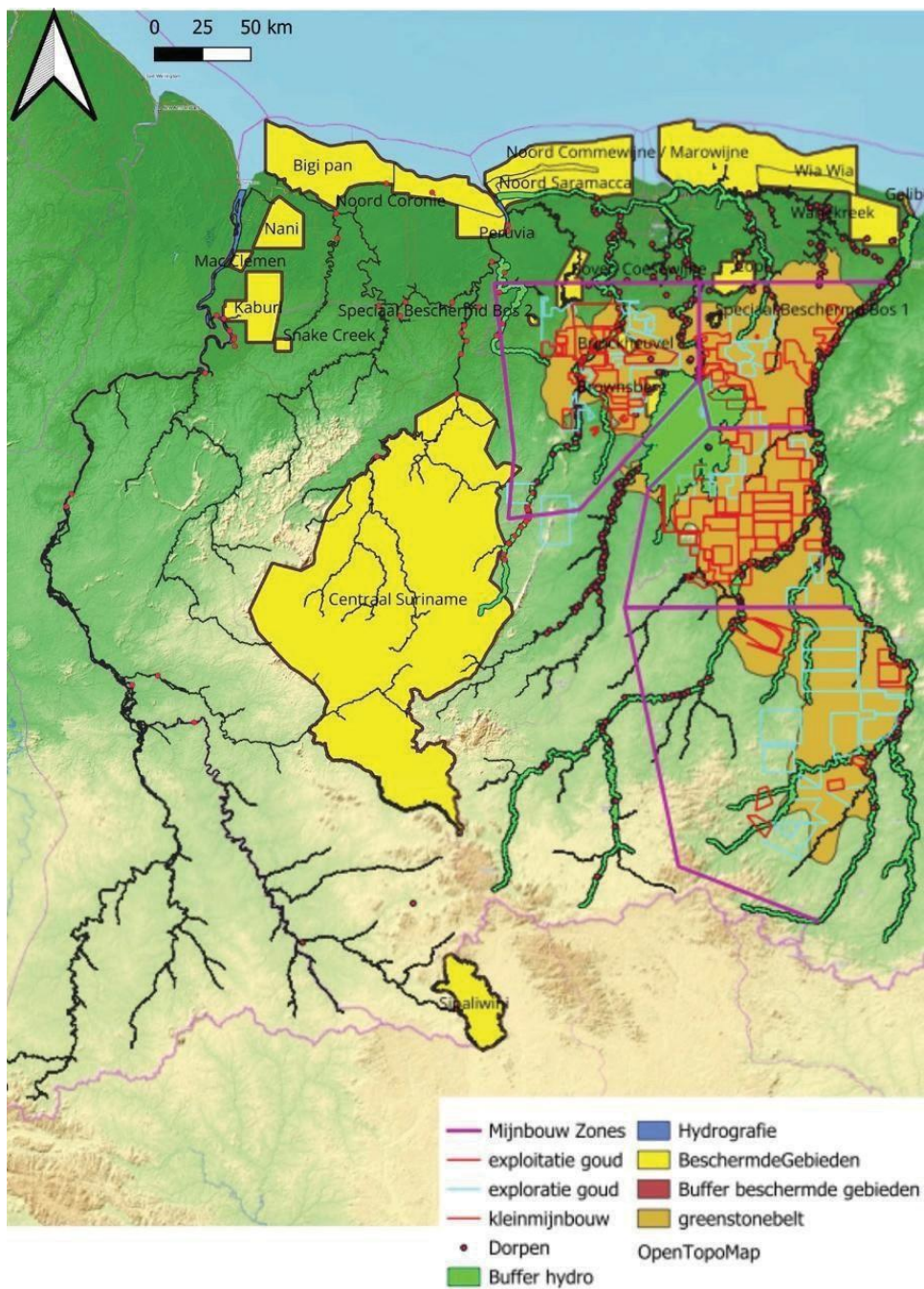


Figure 2 Map with Greenstone belt, Goldmining concessions, PA's and proposed buffers

The map also indicates potential conflict zones, where:

- Mining overlaps with protected areas or buffers
- Mining occurs near critical water systems
- Expansion pressure exists in greenstone belts

The information derived from the map provides sufficient evidence to justify; zoning decisions, stronger enforcement and policy reform.

- Mercury contamination; mercury pollution leads to diverse ecosystems destruction and threatens fragile ecological communities. Many communities rely primarily on local water resources which are polluted and degraded by goldmining practices. Also, the provision of primary food sources becomes challenging due to goldmining. Estimated annual loss of mercury into the natural environment by ASGM miners has been estimated at about 16 T Hg/yr in air; 23 T Hg/yr in water and 23 T Hg/yr on land. The user ratio AU:Hg by ASGM miners was estimated at 1:3.3 ^(b).
- Chemical hazards; the unsafe and uncontrolled use of cyanide containing chemicals in heap leaching (mining technique) leads to mercury++ contaminated tailings.
- Deforestation; 90% of deforestation is related to ASGM activities.
- Water pollution of main rivers and creeks
- Sedimentation of natural waters; as ASGM uses lots of water nearby rivers and creeks are diverted to mining areas. In the absence of tailing ponds, mine run off waters directly flow to the waterways resulting in siltation of these waterways. Due to the use of mercury these run-off waters contain high levels of mercury which find their ways to connecting rivers. Another mining technique contributing to sedimentations is dredging, which results in small islands which form a barrier for the normal flow of the river.
- Biodiversity loss due to illegal/informal mining activities in protected areas.
- Landscape alteration
- Climate change

2.2 SWOT analysis

In table 4 an extensive overview of the SWOT analysis is presented.

Table 4 SWOT analysis

Strengths • Suriname has a gold-rich greenstone belt, many of which are already accessed by ASGM operators • There is increasing focus on ASGM from international organizations such as World Bank, Global Environment Facility, UNDP • The sector is relatively accessible, allowing individuals especially community members to enter with limited capital compared to large-scale mining • ASGM activities stimulate local supply chains, including transport, food services, equipment supply, and trade • The ASGM sector provides direct and indirect employment to thousands of people, especially in rural and interior districts • ASGM is a major contributor to gold production and foreign exchange earnings in Suriname.	Weaknesses • Inadequate Investment Resources • Understaff in critical areas • Inadequate information technology systems • Lack of field support • Public Relations shortcomings • Lack of transparency of the mining cadaster • Weak enforcement of environmental and safety standards • Widespread use of mercury and poor waste management practices • Low uptake of mercury-free and efficient gold recovery technologies • ASGM miners are often unorganized or inadequately structured, with limited cooperative systems • Limited awareness and enforcement of occupational health and safety standards • Communities are often economically dependent on mining, with few viable alternative livelihood options • Land Use Conflicts and Overlapping Claims due to overlaps between mining areas and protected areas, forest concessions and community/indigenous lands
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Opportunities ● To move the Land Management to ISO certification ● Numerous international sector support over the years has provided valuable information. ● To capitalize on favorable gold price ● To implement the blueprint for an integrated information system. ● To increase research to improve gold recovery (laboratory) ● To embrace good governance through transparency and accountability ● To build stronger linkages between the universities, trade schools and other educational institutions. ● Suriname's ASGM is very similar to Guyana's mining sector, hence the opportunities for technical, legislation and other support. ● Access to International Funding and Technical Support due growing global support for responsible mining from organizations such as World Bank, Global Environment Facility and UNDP ● Potential for premium pricing and international market access for responsible gold	Threats ● No buy-in from the miners ● Rapid decline in gold prices ● Human resource pressure ● Unclear policy ● Disconnect between policy intent and institutional imperatives ● Violence, instability and uncertainty impacts willingness for sustainable investments ● Conflicts between mining, conservation, and community land rights ● Public Health Risks; exposure to mercury and unsafe working conditions.
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2.3 Stakeholder Analysis

Stakeholders are an intrinsic part of the mining sector; their vision and knowledge are of exceptional important to ensure that the RMSAP is embedded in reality and prone for successful implementation.

Below an overview of stakeholders per type and group of essence for the ASGM sector. As much as the variety of Stakeholders suggests it is to be expected that views on the issue correlates with perspective and areas of interest. Within the process each selected stakeholder was consulted on their specific interest. A total list of all stakeholders consulted and key issues discussed is provided in the Annexes

Table 5 Stakeholder type and group for the ASGM sector in Suriname

Stakeholder type	Stakeholder group
Public Sector	National Government State Public Agencies Regional Government
Private sector	Large-scale Mining Companies ASGM and medium-sized mining organizations Mining Alliances Private Sector Equipment Suppliers Goldbuyers Financial institutions and credit cooperatives Private sector Logging Private sector Hospitality and Tourism Public-Private alliances Private Sector Associations
Civil Society	Environment-oriented organizations Gender-oriented organizations

Academia	Universities Vocational education and training
International Cooperation	Development Banks Development Agencies Embassies
Other relevant groups	Indigenous and Tribal Peoples Local Mining Associations (formal and informal) Traditional authority Local women and youth Organizations in mining communities

Public sector

The public sector in Suriname is a critical stakeholder, responsible for policy **formulation** regulating, monitoring, and mitigating environmental and social impacts in the Artisanal and Small-Scale Gold Mining (ASGM) sector. The sector faces various challenges and increasingly strives moving toward a multidisciplinary sustainable approach.

Private sector

The private sector is a critical and diverse stakeholder in the Artisanal and Small-Scale Gold Mining (ASGM) sector. A distinction can be made in Private Sector Entities directly involved in the mining activities such as large-scale mining companies, those involved through supply chains and services to the sector and private enterprises directly impacted by informal or unlawful mining activities.

Civil society

Civil Society Organizations (CSOs), community-based NGOs focused on environmental justice and sustainable development. are vital stakeholders in the Artisanal and Small-Scale Gold Mining (ASGM) sector, They act as bridges between local communities, miners, and government agencies focused on reducing mercury use, promoting formalization, and strengthening environmental and social sustainability. They participate in policy dialogue, capacity building, and Local Advisory Committees (LAC) to develop sustainable mining practices.

Academia

In Suriname, academia plays a critical role as a stakeholder in the Artisanal and Small-Scale Gold Mining (ASGM) sector, primarily by providing technical expertise, often serve on technical working groups to advise on policies and action programs. Furthermore, they conduct to essential research to understand the environmental impact of mining in specific areas and contribute to training and monitoring and guidelines for environmentally responsible mining practices.

International Cooperation

International cooperation acts as a crucial stakeholder in Suriname's Artisanal and Small-Scale Gold Mining (ASGM) sector by financing and implementing initiatives to phase out mercury and improve environmental sustainability. Key actors facilitate formalization, capacity building, and technical support.

Other relevant groups

Other relevant groups referred to are those living in mining communities or those directly affected by environmental degradation caused by mining activities. Indigenous and Tribal Communities, traditional Leaders, Women and Youth Groups in designated areas can play an essential role in local management, strengthening livelihoods, providing alternative income options, and improving community resilience to environmental degradation and negotiating land use.. They are therefore vital in the discussion of sustainable mining practices and formalization of the sector as are mining associations and Cooperatives representing non formal groups of artisanal and small-scale miners

3. Strategic Vision and Mission:

Vision Statement:

A transparent, inclusive, and environmentally responsible mining sector that contributes to sustainable national development, safeguards ecosystems, and improves the livelihoods of all stakeholders—particularly local communities and future generations

Mission Statement:

To transform the mining sector through responsible practices, effective regulation, and inclusive partnerships that minimize environmental harm, formalize artisanal and small-scale mining, and maximize socio-economic benefits

Key strategic pillars

- **Technological Innovation and Modernization in Mining** - promote the adoption, development, and regulation of appropriate, efficient, and environmentally responsible mining technologies
- **Environmental Stewardship** - Reduce pollution and protect biodiversity
- **Governance & Formalization** - Strengthen institutions and ASGM regulation
- **Health & Safety** - Reduce exposure to hazardous substances
- **Monitoring & Enforcement** - Improve compliance systems
- **Community & Economic Development** - Ensure equitable benefits

Core Values

- ***Commitment to excellence***

The government is committed to the highest standard of excellence in pursuit of its mission. The investing public and all relevant stakeholders deserves nothing less.

- **Accountability**

The government embraces the responsibility with which it is charged. In carrying out its mission, the employees must hold themselves accountable to the public and takes responsibility for achieving its goals.

- **Effectiveness**

The government strives to work creatively, proactively, and effectively in assessing and addressing issues relating to ASGM, the public and other stakeholders. The staff will be required to show a high level of commitment to finding innovative and flexible approaches to their work and using sound judgement to explore new ways to fulfil the mission in the most effective and efficient way possible.

- **Teamwork**

The government recognizes that its success depends on a diverse, coordinated team committed to the highest standards of trust, hard work and communication. The staff will be committed to working together and coordinating effectively with investors, other governmental agencies, international organizations, local mining associations, hinterland communities, educational institutions etc.

- **Fairness**

The government treats investors, miners, stakeholders and others, fairly and in accordance with the mining and other appropriate legislations. As an employer, the government will seek to hire and retain a skilled and diverse workforce, to ensure that all decisions affecting employees and the public are fair and ethical.

- **Gender equity and equality**

The government is committed to advancing gender equity and equality across the mining sector by ensuring that women and men have equal access to opportunities, resources, decision-making, and benefits. We promote the full and meaningful participation of women—particularly in artisanal and small-scale mining—while addressing systemic barriers, enhancing safety and working conditions, and fostering inclusive economic empowerment.

- **National awareness and stewardship**

The government leads a culture of national awareness and shared stewardship of mineral resources by promoting informed public engagement, transparency, and accountability. It recognizes that the sustainable management of the nation's mineral wealth is a collective responsibility, and we are committed to empowering citizens, institutions, and communities to actively participate in safeguarding the environment and ensuring that mining contributes to long-term national development.

4. Strategic Initiatives and Action Plans:

The following table provides an overview of the strategic pillars, related goals and objectives. Annex 1 (lo information regarding the goals, objectives, actions and key performance indicators.

The objectives for the Responsible Mining Strategy and Action Plan for the ASGM sector, are divided in:

- ✓ Quick wins; achievable within 3 years - by 2029.
- ✓ Medium term objectives; achievable in 4 to 10 years - by 2036
- ✓ Long-term objectives; achievable in 11 to 20 years - by 2046

Strategic pillar	Goal	Objective(s)	Achieved by:
Technological Innovation and Modernization in Mining	Geological Exploration Areas Identified	the Geological Service will identify, prioritize, and formally designate at least 90% of high-potential mineral zones nationwide, and complete baseline geological field assessments (mapping, sampling, and reporting) for each designated area, documented in annual exploration reports.	2030
	High-Resolution Geological Mapping	produce and publish 1:10,000 scale geological maps covering at least 70% of priority mineralized zones, and make them accessible through a national geodata platform to support prospecting and investment decisions.	2030
	Technical Support to the Sector	establish and operationalize a national mining technical support program, providing at least 4 structured training sessions annually and on-demand advisory services, reaching at least 60% of active miners and sector stakeholders.	2030

Strategic pillar	Goal	Objective(s)	Achieved by:
	Accessible Mining Database	develop and deploy a centralized digital mining cadastre ⁵ and information management system, enabling real-time data entry, and access for at least 80% of authorized users, with data retrieval times under 2 minutes.	2027
	Affordable Technologies	Assess the best affordable and applicable technologies for small-scale mining	2027
	Financial feasibility for technological innovation	Carry out a feasibility study regarding the financing of new mining technologies	2027
Environmental Stewardship	Functional Laboratories	establish and fully operationalize at least one accredited national laboratory for mineral analysis and environmental testing, capable of processing 90% of national testing demand within standard turnaround times	2035
	Protect High Conservation Value Forests	all High Conservation Value Forests are identified, mapped, and legally recognized as restricted mining zones (integrated into the national mining cadastre).	2030
		achieve zero new mining activities in designated High Conservation Value Forests (HCVFs, no-go zones) and restore 10,000 hectares of degraded land	2030
	Promote Environmentally Responsible Mining Practices	ensure that 60% of active ASGM operators adopt at least three approved environmentally responsible mining practices (e.g., tailings management, land rehabilitation, water management), supported through training, incentives, and compliance mechanisms.	2030
	Climate-Sensitive Mining Governance	Integrate climate-sensitive screening, no-go zones, cumulative impact assessments and REDD+/NAP priorities into all mining approvals, achieving zero new	2030

⁵ During the Validation workshop the establishment of a central and accessible mining cadastre is identified as priority

Strategic pillar	Goal	Objective(s)	Achieved by:
		mining in designated High Conservation Value Forests and climate-priority zones.	
	Mine Closure and Rehabilitation	Require 100% of licensed mining operations to prepare and implement approved mine closure, rehabilitation and financial assurance plans, with at least 10,000 hectares of degraded land restored.	2030
Governance G Formalization	Cross-Agency Coordination	institutionalize formal coordination mechanisms (e.g., inter-agency committee, MoUs, and quarterly meetings) among mining, environmental, labor, forestry, and land management agencies, resulting in at least 75% of mining-related decisions processed through integrated review systems.	2028
	Transparent and Investment-Friendly Legal Framework	review, update, and enact comprehensive mining legislation and regulations, ensuring full public access, stakeholder consultation, and alignment with international best practices, with at least 2 formal stakeholder consultation rounds completed.	2028
	Strengthen Governance and Formalization of ASGM	formalize 50% of ASGM operators through licensing, registration, and compliance frameworks, while reducing illegal mining activities by 30% .	2030
	Strengthened and Coordinated Mining Governance Institution	Strengthen and coordinate existing mining governance institutions, including GMD, OGS, NMA and other relevant agencies, through approved SOPs, enhanced staffing, equipment, budget allocations, inter-agency coordination mechanisms and field presence in all major mining districts.	2028
	Accessible and simplified ASGM licensing	Introduce simplified and affordable ASGM licensing procedures, including basic licenses, cooperative licenses, mobile registration units and district-level service points, enabling at least 50% of ASGM operators to formalize.	2030

Strategic pillar	Goal	Objective(s)	Achieved by:
	Mine-to-Market traceability	Establish a national mine-to-market traceability system, including a digital “Gold Dossier” linking production, transport, export and license data for at least 80% of formal ASGM production.	2030
	Public and transparent Mining Cadastre	Expand the digital mining cadastre into a publicly accessible platform integrated with MI-GLIS, including concession boundaries, license status, ownership, production and environmental compliance data.	2030
	Operational legal and institutional framework	Adopt and operationalize the Draft Mining Act, interim FPIC procedures, including all necessary implementing regulations, district-level guidance, institutional coordination mechanisms and at least two rounds of stakeholder consultation.	2028

Strategic pillar	Goal	Objective(s)	Achieved by:
		Enhance coordination and synergies among different institutions for generational health and well-being of affected communities .	2028
	Community Health and Social Well-being	reduce mining-related health risks (e.g., mercury exposure) by at least 40% in affected communities , through coordinated awareness programs, health services, and safer mining practices .	2032
Health G Safety	Reduce Mercury and Cyanide Pollution	reduce mercury use and acid mine drainage in ASGM by 50% and eliminate unsafe cyanide practices in 80% of monitored sites , in line with the Minamata Convention on Mercury	2028
	Reduction of impacts on human health	Expansion of options for biomonitoring of mercury exposure in populations at risk	2030
Monitoring G Enforcement	Compliance by Miners	Increase the proportion of miners compliant with mining, environmental, and related regulations from the 2026 baseline to at least 50% by December 2032, as measured through annual inspections, licensing records, and compliance audits.	2032
	Strengthened Monitoring C Enforcement	Ensure that 100% of licensed mining operations are inspected at least once annually, and that all identified violations are addressed within 90 days, through strengthened regulatory monitoring systems and enforcement mechanisms	2032
	Standard Operating Procedures (SOPs)	develop, approve, and implement standard operating procedures (SOPs) for the Land Management (Mining), Mining Regulatory Division, and Environmental Department, with	2030

Strategic pillar	Goal	Objective(s)	Achieved by:
		100% staff trained and SOP compliance monitored annually	
	Coordinated Multi-Agency Inspections	Establish multi-agency inspection teams involving MNR (including GMD and OGS), NMA, Customs, Police and district authorities, ensuring that all major mining districts are inspected at least twice annually under common protocols.	2030
	Mercury Monitoring and Control	Establish a national mercury registry and monitoring system covering import, distribution, storage, use and disposal of mercury, with 100% of licensed operators and suppliers registered.	2028
	Social Safeguards and Rights Protection	establish and operationalize a national grievance redress mechanism for mining-affected communities, ensuring that 100% of reported cases are addressed within 60 days	2028
Community G Economic Development	Skilled Workforce Development	ensure that at least 80% of staff within geological, regulatory, and environmental agencies meet defined competency standards, supported by annual training programs, certification, and performance assessments	2030
	Support Sustainable Economic Alternatives for Mining Communities	transition 30% of mining-dependent households to sustainable alternative livelihoods , increasing average household income by 20% .	2030
	Enable and promote equal rights for stakeholders from communities affected by goldmining activities	ensure that 100% of medium- and large-scale mining operations have signed and implemented Community Development Agreements (CDAs) with affected communities, including clear benefit-sharing, grievance mechanisms, and gender-inclusive provisions .	2030

Strategic pillar	Goal	Objective(s)	Achieved by:
	Local Content and Enterprise Development	establish and implement a Local Content Policy for the mining sector , ensuring that at least 30% of goods and services used by mining operations are procured from local businesses, including community-based and women-led enterprises.	2030
	Community Rights and FPIC	Implement legally binding FPIC procedures, grievance mechanisms and benefit-sharing arrangements in all mining-affected Indigenous and Tribal territories, ensuring that 100% of new mining activities are preceded by documented consultation.	2030
	Secure and Equitable Access to Mining Areas	Develop and implement regulated access arrangements for miners operating under tribute, subcontracting or cooperative arrangements, reducing land-use conflicts by 50%.	2030
	Capacity Building for Responsible Mining	Provide continuous training and support to miners, cooperatives, communities and government institutions on licensing, FPIC, environmental obligations, mercury-free technologies, occupational safety and cooperative formation, reaching at least 70% of target groups annually.	2030
	Gender Equality and Inclusion	integrate gender-responsive policies and practices across the mining sector, ensuring: • Equal pay for equal work • Zero tolerance for discrimination and harassment • At least 30% representation of women in decision-making structures	2030

Strategic pillar	Goal	Objective(s)	Achieved by:
	Stakeholder Engagement and Participation	establish inclusive stakeholder engagement platforms at national and district levels, ensuring that community representatives (including women and indigenous groups) participate in at least 80% of mining-related decision-making processes.	2028
	Access to Finance for Local Communities	facilitate access to inclusive microfinance, grants, or credit schemes for at least 500 community members and small-scale entrepreneurs, with at least 50% women beneficiaries, to support mining-related and alternative economic activities.	2030

Additional Stakeholder recommendations from the Validation Workshop

Governance G Formalization

Participants generally supported the proposed governance and formalization measures. Additional recommendations included strengthening accountability and transparency mechanisms, preventing conflicts of interest, accelerating formalization through simplified registration and licensing procedures, and expanding digitalization of regulatory systems.

Stakeholders further emphasized the importance of establishing a national gold traceability system and improving access to financial services for formalized miners. Participants noted that FPIC processes should remain community-driven and reflect the governance structures and decision-making procedures of Indigenous and Tribal Peoples, including community-specific protocols where applicable.

The workshop also highlighted that land-rights disputes constitute complex, long-standing public conflicts involving multiple stakeholders, interests, and sensitivities. Participants therefore recommended the use of professional mediation and conflict-resolution mechanisms to support dialogue and dispute settlement.

Monitoring G Enforcement

Participants emphasized the importance of strengthening monitoring and enforcement capacities to support RMSAP implementation. Key recommendations included increasing inspection frequency in priority mining areas, improving inter-agency coordination, equipping inspection teams with adequate logistical and technological resources, and developing standardized inspection and reporting procedures.

Stakeholders further stressed the importance of strengthening mercury monitoring and compliance with Minamata Convention obligations. Challenges identified include staffing shortages, logistical constraints, financial limitations, and resistance to enforcement activities in certain mining areas.

An additional recommendation concerned the grievance mechanism. Participants noted that, while the grievance mechanism was identified as an important component of the RMSAP, corresponding performance indicators were not reflected in the KPI presentation. It was therefore recommended that grievance-related indicators be incorporated into the monitoring framework.

5. Enabling Policies and Frameworks:

5.1 General

The proposed legal and institutional reforms are enabling conditions for the effectiveness of the technical, social and economic pillars of the strategy. Without a clear licensing framework, functioning institutions, secure land access, community participation procedures and effective enforcement, investments in mercury-free technologies, community development programmes and financial inclusion for miners cannot reach the scale or become sustainable.

The enabling framework therefore will consist of the laws, institutions, procedures, information systems and operational capacities that must be in place before the broader interventions can succeed. In practice, it provides the foundation upon which formalization, mercury reduction, environmental management, improved livelihoods and social acceptance depend.

At the same time, the technical, social and economic components will reinforce the enabling framework. When miners and communities experience practical benefits, such as improved access to finance, safer working conditions, better prices for traceable gold and reduced conflict with communities and concession holders, compliance with the new rules becomes more likely. The actions and implementation targets arising from this enabling framework are reflected under the relevant strategic pillars in Chapter 4 and elaborated further in the implementation roadmap below.

5.2 Purpose of the enabling framework

The enabling framework has four (4) principal purposes:

1. to create legal certainty for miners, communities, concession holders and Government institutions;
2. to establish a coherent institutional architecture capable of regulating and monitoring the sector;
3. to make formalization realistic and accessible for ASGM operators;
4. to ensure that environmental, social, fiscal and community interests are integrated into the governance of the sector.

The framework therefore links legal reform directly to operational realities in the field.

5.3 The seven (7) core components of the enabling framework

5.3.1 Legal and regulatory framework

The first and most fundamental layer of the enabling framework is the legal and regulatory framework. Suriname's current governance of the ASGM sector remains largely based on the 1986 Mining Decree. Although this decree continues to provide the formal legal basis for mining activities,

it no longer reflects the realities of the contemporary ASGM sector. It was developed at a time when ASGM played a much smaller role in the economy and before the emergence of current concerns relating to mercury use, environmental degradation, land conflicts, Indigenous and Tribal rights, traceability and international reporting obligations.

As a result, the current framework does not provide a specific legal category for ASGM, does not contain simplified procedures for small-scale operators and does not establish clear requirements for environmental management, mercury reduction or community participation. The absence of these provisions contributes directly to the persistence of informality. Many miners remain outside the legal system not because they reject formalization, but because the existing legal framework is inaccessible, complex and poorly adapted to their operational reality.

The enabling framework must therefore begin with the modernization of the existing legal and institutional framework through the Draft Mining Act and the strengthening of existing governmental institutions, including GMD, OGS and other relevant agencies, responsible for mining governance, regulation and oversight. These instruments provide the basis for a new regulatory approach in which ASGM is formally recognized as a distinct category within the mining sector. The future framework should include simplified and affordable licensing procedures, specific environmental and social obligations, operational mercury restrictions, clear procedures for license suspension and revocation, and legally binding mechanisms for consultation and FPIC.

Stakeholder consultations confirmed that legal modernization is regarded as a necessary but insufficient condition for reform. Miners, district authorities and community representatives consistently indicated that the legal framework must not only be modern, but also understandable and usable in practice. They repeatedly emphasized that permit applications should be shorter, less expensive and less dependent on travel to Paramaribo. Stakeholders also expressed concern that new rules may remain inaccessible if they are formulated only in legal language and are not translated into practical guidance, simplified procedures and district-level service points. These observations underline that the enabling framework must combine legal reform with a practical implementation strategy.

5.3.2 Institutional framework and governance

The second layer of the enabling framework concerns the institutions responsible for implementation and enforcement. The RMSAP proposes a governance structure based on a clear distribution of responsibilities between the Ministry of Natural Resources (MNR), existing technical mining institutions, operational mining agencies and the National Environmental Authority (NMA). Under this model, the Ministry of Natural Resources remains the sole competent authority for granting, renewing, suspending and revoking mining rights. Existing technical mining institutions and operational agencies shall be strengthened to support cadastre management, inspections, technical advice, compliance monitoring and field coordination, while NMA retains responsibility for environmental approvals and environmental enforcement.

The establishment of this institutional structure is essential because the current governance system is highly fragmented and lacks capacity. At present, several institutions exercise overlapping

functions and there is often uncertainty regarding which institution is responsible for which aspect of ASGM governance. During the stakeholder consultations, this institutional fragmentation emerged as one of the most frequently mentioned obstacles to formalization and compliance. Government institutions, miners and communities all reported that there is insufficient coordination between agencies, limited information-sharing and inconsistent communication with miners and concession holders.

Stakeholders specifically pointed to the overlap between the government agencies. Different institutions may provide different instructions, apply different standards or intervene without prior coordination. In practice, this results in delays, uncertainty and a lack of trust in the regulatory system. Stakeholders also emphasized that inspections are often irregular, reactive and focused primarily on punitive enforcement rather than guidance and problem-solving.

For this reason, the enabling framework requires more than a formal clarification of institutional roles. It also requires the strengthening and improved coordination of existing institutions involved in mining governance, including technical services, operational agencies and environmental authorities. Joint inspection teams, common reporting formats, integrated information systems and formal coordination protocols between MNR, GMD, OGS, NMA and other relevant agencies are necessary to create a coherent institutional architecture. In addition, the future system should adopt a more service-oriented approach in which institutions provide guidance and support to miners seeking to formalize, rather than interacting with them only through enforcement.

5.3.3 Land tenure, community rights and FPIC

The third layer of the enabling framework concerns land tenure, community rights and FPIC. This issue is of central importance because most ASGM activities take place in areas that overlap with customary territories traditionally occupied and used by Indigenous and Tribal Peoples. At present, these communities do not have formally recognized collective land rights under national law, while FPIC has not yet been operationalized through legislation or administrative procedures.

This legal vacuum creates significant uncertainty. Mining rights may be granted in areas that are claimed or occupied by communities without any legally binding requirement to consult those communities beforehand. In many cases, communities become aware of mining activities only after concessions have already been issued or operations have already started. This contributes directly to tensions between miners, concession holders and communities and undermines the legitimacy of the licensing process.

The enabling framework must therefore provide a clear legal and procedural basis for community rights and FPIC. This requires the adoption of the Draft Collective Rights Law and the development of operational procedures that define when consultation is required, which communities are affected, who may represent the community and how consent or objections must be documented. The framework should also establish grievance mechanisms, mediation procedures and benefit-sharing arrangements in order to reduce conflict and improve long-term relations between miners and communities.

The stakeholder consultations demonstrated that unresolved land access and lack of FPIC are among the most significant barriers to formalization. Indigenous and Tribal representatives repeatedly stated that communities are often consulted too late and that existing consultation practices are inconsistent, informal and not legally binding. Communities expressed the need for earlier engagement, more transparent information and a formal role in decisions concerning mining activities on their traditional territories.

At the same time, miners also identified land insecurity as one of their principal concerns. Many miners operate through informal tribute, tribute-sharing or subcontracting arrangements within concessions granted to third parties. These arrangements are rarely regulated, often poorly documented and highly vulnerable to abuse. Miners reported that they may invest in a site only to be removed without notice or subjected to arbitrary conditions imposed by concession holders. The enabling framework must therefore not only recognize community rights, but also provide greater legal certainty regarding the access arrangements under which miners operate and obtain formal consent from the right holder.

5.3.4 Governance, transparency and information systems

The fourth layer of the enabling framework concerns governance, transparency and information systems. Effective ASGM governance is impossible without reliable information regarding who holds mining rights, where those rights are located, which conditions apply and whether those conditions are being respected.

The current governance system does not provide this level of transparency. Information relating to concessions, mining rights, production, exports, inspections and environmental compliance is scattered across multiple institutions and databases. Much of this information is not publicly accessible. As a result, miners, communities and even Government institutions often lack clarity regarding the status of particular concessions or the rights and obligations attached to them.

The absence of an integrated and transparent information system contributes to overlapping claims, uncertainty regarding dormant or inactive concessions, weak enforcement and opportunities for corruption and informal arrangements. Stakeholder consultations confirmed that lack of transparency is one of the principal reasons why miners distrust the formal system. Miners indicated that they often do not know whether an area is already licensed, whether a concession remains active or which procedures apply. Communities likewise indicated that they are rarely informed when concessions are granted, renewed or transferred.

The enabling framework must therefore establish a modern and publicly accessible mining cadastre. This cadastre should be georeferenced, integrated with MI-GLIS and linked to information on production, environmental compliance and exports. The modernized system should provide public access to concession boundaries, licensed status, ownership information and key decisions regarding renewal, suspension and revocation. In addition, the enabling framework should support

alignment with SEITI and other transparency initiatives in order to strengthen accountability and public confidence.

Stakeholders strongly supported the creation of a single digital platform through which miners, communities and Government agencies can access licensing information and submit applications. They also emphasized that transparency must extend beyond the cadastre itself and include public communication regarding inspections, environmental obligations and the reasons for enforcement decisions.

5.3.5 Fiscal, trade and traceability framework

The fifth layer of the enabling framework concerns the formalization of gold trade and the establishment of a transparent fiscal framework. At present, a large proportion of ASGM gold enters the market through informal channels. Gold may pass through multiple buyers before reaching an exporter, with little or no documentation concerning its origin, the identity of the producer or the environmental and legal conditions under which it was produced.

This lack of traceability undermines both governance and revenue collection. The State loses significant amounts of revenue through under-reporting and informal exports, while it also becomes difficult to distinguish between gold produced in accordance with the law and gold originating from illegal operations or environmentally harmful practices. The absence of traceability also undermines the possibility of rewarding miners who choose to formalize and adopt mercury-free methods.

The enabling framework must therefore create a mine-to-market traceability system in which gold can be linked to a valid mining title, an environmental authorization and an identifiable producer or cooperative. One option is the introduction of a “Gold Dossier” that accompanies gold throughout the supply chain and links each export to a specific license and production record.

The framework should also integrate customs data, Central Bank records, tax information and cadastre information in order to strengthen fiscal oversight and reduce opportunities for smuggling or fraud. At the same time, the fiscal regime for ASGM should be simplified and adapted to the realities of small-scale operators. This regime should be based on the new defined definitions for artisanal and small-scale mining. If taxes, royalties and administrative procedures remain too complex or too costly, miners will continue to rely on informal channels.

Stakeholders therefore emphasized that the enabling framework should not only impose stronger controls, but should also create incentives for compliance. Suggested measures included easier access to banking and digital payment systems.

5.3.6 Institutional capacity and operational readiness

The sixth and final layer of the enabling framework concerns institutional capacity and operational readiness. Even the most advanced legal and institutional framework will not function in practice if the responsible institutions do not have sufficient personnel, equipment, financial resources and technical expertise.

The consultations demonstrated that many institutions currently face severe capacity constraints. Stakeholders also emphasized that existing monitoring systems remain largely inactive. Institutions frequently intervene only after serious environmental damage, community conflict or illegal activity has already occurred. Preventive monitoring, regular inspections and follow-up mechanisms remain weak. In addition, institutions often lack the technical capacity required to monitor mercury use, verify environmental compliance or manage digital cadastre systems.

For this reason, the enabling framework must include substantial investment in institutional capacity. Existing mining institutions, operational agencies and NMA must receive adequate staffing, technical support and budget allocations, together with the operational resources needed to maintain a regular presence in mining areas. The future system should also establish mobile inspection teams, standard operating procedures, integrated reporting systems and a permanent programme of institutional training.

Furthermore capacity-building should not be limited to Government institutions. Miners, cooperatives and community representatives also require support, such as practical training on licensing, environmental obligations, mercury-free technologies, occupational safety and cooperative formation.

The enabling framework should therefore be understood not merely as a set of laws and institutions, but as a long-term Programme for building the knowledge, resources and operational capacity necessary for responsible ASGM governance.

5.3.7 Climate governance and environmental safeguards

The seventh layer of the enabling framework concerns the integration of climate and environmental safeguards into ASGM governance. Suriname has increasing obligations under its National Adaptation Plan (NAP), its Nationally Determined Contributions (NDCs), REDD+ commitments and international climate agreements. At the same time, ASGM contributes significantly to deforestation, land degradation, biodiversity loss and water pollution.

Despite these parallel realities, current mining legislation and licensing procedures do not yet adequately integrate climate-related obligations. There are no clear requirements regarding:

1. deforestation controls linked to mining activities;
2. land restoration and rehabilitation after mine closure;
3. climate-sensitive zoning that avoids high-conservation-value forests and vulnerable ecosystems;
4. reporting on the cumulative environmental impact of mining activities in a given watershed or forest zone.

The enabling framework must therefore ensure that climate governance becomes an integral part of ASGM regulation. This includes:

1. Linking mining licenses to restoration obligations.

Each license must include a binding rehabilitation plan with clear timelines and financial assurance mechanisms.

2. Requiring climate-sensitive environmental screening.
No license shall be granted in areas identified as high-priority for climate adaptation, biodiversity conservation or carbon storage under Suriname's NAP and REDD+ strategy.
3. Aligning the cadastre and monitoring systems.
The future digital cadastre (see 6.3.4) must be interoperable with national forest and climate reporting systems, including deforestation alerts and land-use planning data.
4. Integrating cumulative impact assessments.
Licensing decisions must consider the combined effect of multiple mining operations in the same region, not only individual site-level impacts.

Without these measures, the enabling framework will fail to reconcile ASGM formalization with Suriname's climate commitments, and the sector will continue to contribute to deforestation and ecosystem degradation that undermine long-term resilience.

5.4 Reform roadmap and sequencing

The enabling framework is operationalized through a reform roadmap consisting of three (3) implementation phases. This sequencing is necessary because legal reform, institutional strengthening, environmental protection, community rights and formalization measures cannot be introduced simultaneously. Some elements must precede others.

5.4.1 Phase 1 - Laws and institutions (months 1-18)

The first phase focuses on creating the legal, institutional and informational foundations without which later interventions cannot function.

Key deliverables:

1. Adoption and modernization of key mining legislation including a national minerals and mining policy and supporting regulations within the first 18 months. If the Draft Collective Rights Law requires more time, interim FPIC procedures are introduced administratively.
2. Strengthening of existing institutions: existing mining and environmental institutions receive enhanced operational capacity, staffing, inspection capabilities and inter-agency coordination mechanisms. Existing operational responsibilities are clarified and coordinated among the relevant institutions.

3. Launch of digital cadastre: a GIS-based, publicly accessible mining cadastre is designed and launched in pilot form, integrated with MI-GLIS.
4. Design of simplified licensing: a progressive formalization pathway is developed, including a Basic ASGM License with reduced fees.
5. Interim FPIC procedures: a pending the Collective Rights Law, administrative procedures for consultation and free, prior and informed consent are issued.

5.4.2 Phase 2 - Licenses and traceability (months 18-36)

The second phase rolls out the core enabling systems that make formalization realistic and verifiable.

Key deliverables:

1. ASGM license rollout: simplified licenses (including cooperative and group-based licenses) are issued through mobile units and district-level offices, not only in Paramaribo.
2. Operationalization of FPIC: legally binding consultation procedures, grievance mechanisms and benefit-sharing arrangements are implemented in pilot regions.
3. Traceability system: the "Gold Dossier" (linking each export to a valid mining title, environmental authorization and producer) is introduced. All gold buyers and exporters are digitally registered.
4. Joint inspections: multi-agency inspection teams (MNR, including GMD and OGS; NMA, customs, police) operate under formal coordination protocols.
5. Mercury registry: a national mercury monitoring system is established, tracking import, use, storage and disposal.

5.4.3 Phase 3 - Mercury phase-out and scaling up (months 36-60)

The third phase focuses on scaling up, phasing out mercury, and full integration of data systems.

Key deliverables:

1. Mercury phase-out: whole-ore amalgamation and open burning are prohibited in all licenses. Retorts become mandatory; mercury-free technologies are supported through subsidies and financing.
2. Public cadastre completed: the modernized digital cadastre and integrated mining information systems are fully operational and publicly accessible online, containing concession boundaries, license status, ownership, production data and environmental compliance records.
3. Benefit-sharing arrangements: community benefit-sharing mechanisms are operational in all mining-affected areas.

4. Full data integration: cadastre, production, export, customs, Central Bank, tax and environmental data are interoperable on a single platform, aligned with SEITI and climate reporting (NAP, REDD+).
5. Closure and rehabilitation: all licenses include binding mine closure and rehabilitation plans with financial assurance.

6. Risk Management and Mitigation

The risks identified in this chapter are based on the six principal risks that could delay or undermine the implementation of the Responsible Mining Action plan.

	Risk	Mitigation measure
Governance G Legal Risk	Delay in adoption of Draft Collective Rights Act	Introduce interim FPIC procedures administratively within Phase 1.
	Existing mining institutions remain under-resourced	Provide ring-fenced budget allocations, donor support, institutional strengthening and a risk-based inspection strategy prioritizing high-impact areas.
	Conflict in mining communities	Activate interim consultation platforms and grievance mechanisms before full FPIC is legally required.
	Informal gold trade undermines Traceability	Phase in fiscal incentives (e.g., reduced royalty rates) for gold sold through formal, traceable channels before imposing full enforcement.

	Low voluntary compliance	Combine regulation with training, financial incentives, and alternative livelihood programmes, not only punitive enforcement.
	Delays in mining law reform	Establish a high-level inter-ministerial task force with clear deadlines; conduct parallel stakeholder consultations.
	Weak inter-agency coordination	Formalize coordination through MoUs, joint committees, and integrated approval systems.
	Corruption in licensing and enforcement	Digitize licensing (cadastre), introduce transparency portals, and conduct independent audits.
	Political changes affecting policy continuity	Anchor RMSAP in national development plans and secure multi-party endorsement.
Environmental G HCVF Risks	Mining expansion into High Conservation Value Forests (HCVFs)	Legally designate HCVFs as “no-go zones” and integrate into mining cadastre and licensing systems.

	Weak enforcement of environmental regulations	Increase inspection frequency, use satellite monitoring, and apply penalties consistently.
	Continued mercury and cyanide pollution	Promote mercury-free technologies, provide subsidies/incentives, and enforce phased bans.
	Deforestation and biodiversity loss	Introduce mandatory rehabilitation plans and enforce environmental impact assessments (EIAs).
Community G Economic Development Risks	Exclusion of women and vulnerable groups	Implement gender quotas, targeted training, and dedicated funding for women-led enterprises.
	Failure of alternative livelihood programs	Conduct market-driven feasibility studies and provide long-term support (not one-off grants).
	Community distrust in mining companies	Ensure transparent Community Development Agreements (CDAs) and regular communication.

	Limited access to finance for local entrepreneurs	Establish microfinance schemes and partner with financial institutions.
Technical G Data Risks	Delays in geological mapping and data availability	Prioritize high-potential zones and partner with international geological institutions.
	Failure to implement mining cadastre/database	Use phased digital rollout, ensure IT support, and train staff.
	Limited adoption of new mining technologies	Provide incentives, demonstrations, and technical support programs.
	Poor data quality and accessibility	Standardize data collection and establish centralized data governance protocols.
Institutional Capacity Risks	Shortage of skilled personnel	Implement continuous training programs and partner with academic institutions.
	High staff turnover in government agencies	Introduce retention incentives and career development pathways.
	Limited presence in remote mining areas	Deploy mobile units and decentralize services to district level.

	Insufficient funding for implementation	Diversify funding sources (government, private sector, donors) and phase implementation.
Financial & Economic Risks	Fluctuation in gold prices affecting sector stability	Promote economic diversification and establish stabilization mechanisms.
	Insufficient private sector buy-in	Engage mining companies early and align incentives with compliance.
	Over-reliance on donor funding	Develop cost-recovery mechanisms and increase national budget allocation.
	Fluctuation in gold prices affecting sector stability	Promote economic diversification and establish stabilization mechanisms.

7. Financial and Resource Planning:

The implementation of the Responsible Mining Strategy is underpinned by a comprehensive financial and resource planning framework that aligns investments with the strategic pillars of environmental protection, governance and formalization, monitoring and enforcement, community engagement, and technological innovation. The cost structure distinguishes between capital expenditures—such as the establishment of monitoring sites, procurement of environmental testing equipment, and deployment of GIS and remote sensing systems—and recurrent operational costs, including staffing, field operations, maintenance, and data management.

Human resource requirements⁶ are central to the strategy's success and include a multidisciplinary team of environmental inspectors, GIS and data analysts, community engagement officers, and regulatory enforcement personnel. In parallel, targeted investments in technology—such as satellite monitoring, drone surveillance, and digital data collection platforms—will enhance the efficiency, accuracy, and transparency of monitoring efforts, particularly in remote interior regions.

Financing of the strategy will be pursued through a blended approach, combining national budget allocations with support from international development partners, private sector contributions, and innovative financing mechanisms where feasible. To ensure financial feasibility and scalability, implementation will follow a phased approach, beginning with the establishment of core monitoring infrastructure in priority mining areas, followed by gradual expansion and system integration.

Cost-efficiency measures, including the use of existing institutional frameworks, inter-agency collaboration, and capacity building of local stakeholders, will be prioritized to enhance sustainability and reduce long-term operational costs. Financial planning will be closely linked to the Monitoring and Evaluation framework, applying results-based budgeting principles and ensuring transparent tracking of expenditures against defined outputs and outcomes. This integrated approach ensures that financial resources are effectively mobilized, managed, and aligned with the overall objective of promoting a responsible, transparent, and sustainable mining sector in Suriname. The following financial data are conceptual and based on internationally available data (Annex 10.5).

Table C Total estimated RMSAP implementation investments

Cost Category	Year 1	Year 2	Year 3	Year 4	Year 5	Total (USD)
Capital Investments (CAPEX)	620,000	180,000	120,000	80,000	50,000	1,050,000
Operational Costs (OPEX)	480,000	520,000	560,000	600,000	640,000	2,800,000
Human Resources	420,000	450,000	480,000	510,000	540,000	2,400,000

⁶ The Human resource requirements is based on the implementation team responsible for the implementation of the RMSAP. The team members can be selected from current management and monitoring institutes or can be derived from new institutes to be established (ex. DAS)

Cost Category	Year 1	Year 2	Year 3	Year 4	Year 5	Total (USD)
Technology C Data Systems	150,000	120,000	100,000	90,000	90,000	550,000
Community Engagement C Training	80,000	100,000	120,000	140,000	160,000	600,000
Monitoring C Evaluation (MCE)	50,000	60,000	70,000	80,000	90,000	350,000
TOTAL (USD)	1,800,000	1,430,000	1,450,000	1,500,000	1,570,000	7,750,000

The following table provide the relevant detail information per cost category.

1. Capital investments

Item	Unit Cost	Quantity	Year 1	Year 2	Year 3	Total
Establishment of Monitoring Sites (basic infrastructure)	75,000	4	300,000	-	-	300,000
Environmental Testing Equipment (water, soil, mercury kits)	20,000	4	80,000	20,000	10,000	110,000
Vehicles (4x4 for field monitoring)	45,000	4	180,000	-	-	180,000
Boats (river access areas)	15,000	4	60,000	-	-	60,000
Drone Equipment (UAVs)	10,000	4	40,000	20,000	10,000	70,000
Office C Field Equipment (IT, furniture)	10,000	4	40,000	10,000	-	50,000
Subtotal			700,000	50,000	30,000	780,000

2. Annual Human Resources

In the future human resources costs and personnel can be embedded in the operationalization of the DAS and as such these costs can be part of the Authorities budget.

Table 7 Human Resources budget of the RMSAP

Position	Annual Salary	Quantity	Total/Year
Project Manager	60,000	1	60,000
Environmental Officers	30,000	4	120,000

Position	Annual Salary	Quantity	Total/Year
GIS/Data Specialist	35,000	2	70,000
Community Engagement Officers	25,000	4	100,000
Field Technicians	20,000	4	80,000
Administrative/Finance Staff	25,000	2	50,000
Total per Year			480,000

3. Operational costs

Table 8 Operational costs RMSAP

Item	Annual Cost
Fuel and Transportation	120,000
Field Missions C Allowances	100,000
Equipment Maintenance	60,000
Office Operations	50,000
Communication C Connectivity	40,000
Security C Site Protection	50,000
Miscellaneous / Contingency	80,000
Total per Year	500,000

4. Technology and Data systems

Table 5 Operational costs RMSAP

Item	Year 1	Annual (Y2-Y5)	Total
GIS Platform Development	80,000	-	80,000
Satellite Data C Licensing	30,000	30,000	150,000
Mobile Data Collection Tools	20,000	10,000	60,000
Data Hosting C Dashboard Maintenance	20,000	20,000	100,000

Item	Year 1	Annual (Y2-Y5) Total
Total	150,000	360,000

5. Community engagement and capacity building

Table 10 Community engagement and capacity building budget

Activity	Annual Cost
Training for Miners (Responsible Mining)	60,000
Awareness Campaigns (national C local)	40,000
Gender C Youth Inclusion Programs	30,000
Stakeholder Consultations	30,000
Total per Year	160,000

6. Monitoring and evaluation

Table 11 Monitoring and evaluation budget RMSAP

Item	Annual Cost
Baseline Studies	50,000 (Year 1)
Annual Evaluations	40,000
Mid-Term Review (Year 3)	60,000
Final Evaluation (Year 5)	80,000
Data Collection C Reporting	30,000
Total (5 years)	350,000

In summary:

- Total Estimated Budget: **USD 7.75 Million (5 years)**
- Cost per Mining Area (approx.): ~USD 1.9 Million over 5 years
- High-impact investments: Monitoring sites, vehicles, and technology systems
- Sustainability strategy: Gradual transition to government financing + private sector contributions

8. Monitoring and Evaluation:

The RMSAP will be monitored through KPIs, annual reporting, and mid-term evaluations.

Purpose

The Monitoring and Evaluation (MCE) Plan provides a structured framework to track the implementation, performance, and impact of the RMSAP. It ensures accountability, supports evidence-based decision-making, and enables adaptive management to achieve sustainable and inclusive mining sector outcomes.

It is recommended that **modern monitoring technologies** are integrated to strengthen oversight capacity. The monitoring system will incorporate:

- **Satellite Monitoring (e.g., Sentinel, Landsat)**
For detecting deforestation, expansion of mining pits, and changes in land use patterns
- **Drone Surveillance (UAVs)**
For high-resolution, localized monitoring of mining sites and environmental impacts
- **GIS-Based Dashboard**
A centralized platform that aggregates spatial and field data from all monitoring sites
- **Mobile Data Collection Tools**
Field officers equipped with tablets or smartphones for real-time reporting

This technology-enabled system ensures that monitoring is **continuous, transparent, and scalable**, even in remote interior regions.

Objectives of the MGE System

- Track progress against **SMART objectives and annual targets**
- Measure results across environmental, social, economic, and governance pillars
- Identify implementation challenges and inform corrective actions
- Ensure transparency and accountability to stakeholders
- Support reporting to government, partners, and development agencies

Key Performance Indicators (KPIs)

The MCE system will monitor a set of core indicators aligned with the strategy's pillars. The table below gives a general overview of these core indicators. The logframe (Annex 10.3) provides more detail information regarding the actions and related key indicators.

Table 12 Monitoring & Evaluation and KPI's

Governance G Compliance	% of miners compliant with mining and environmental regulations
	Number of inspections conducted annually
Environmental Management	% reduction in mercury use
	Ha of High Conservation Value Forests (HCVFs) mapped and legally protected
Community G Economic Development	% of women and local community members employed in mining activities
	Number of Community Development Agreements (CDAs) implemented
	% of mining-dependent households transitioned to more sustainable alternative livelihoods
	% of new mining activities binded by FPIC procedures
	number of trainings conducted to diverse groups on licensing, FPIC, environmental obligations, mercury-free technologies, occupational safety and cooperative formation
Technical G Data Systems	% coverage of high-resolution geological mapping
	Functionality of mining cadastre/database system
Health G Safety	Awareness about mercury contaminations and symptom identification (no of awareness campaigns) Number of persons participated in research of Biomonitoring of mercury exposure Number of miners/operations using of PPE's and retorts
Monitoring G Enforcement	Annual reports of deforestation rate, number of field inspections, maps of satellite and drone images
	% of identified non-compliance cases addressed through corrective or enforcement actions

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10. Annexes

10.1 Description of the Map with proposed buffers

Spatial Delineation of Priority Mining Areas and Monitoring System

The map presented in this Responsible Mining Strategy identifies **four priority mining areas** (hereafter referred to as *Mining Area 1-4*) across Suriname. These areas have been delineated through a spatial analysis combining **satellite imagery, historical mining data, environmental sensitivity mapping, and field-based intelligence**.

The selected mining areas represent zones with:

- High concentration of artisanal and small-scale gold mining (ASGM) activity
- Significant environmental pressure, particularly on forest ecosystems and river basins
- Presence of nearby communities vulnerable to pollution and land degradation
- Strategic importance for sector formalization and regulatory enforcement

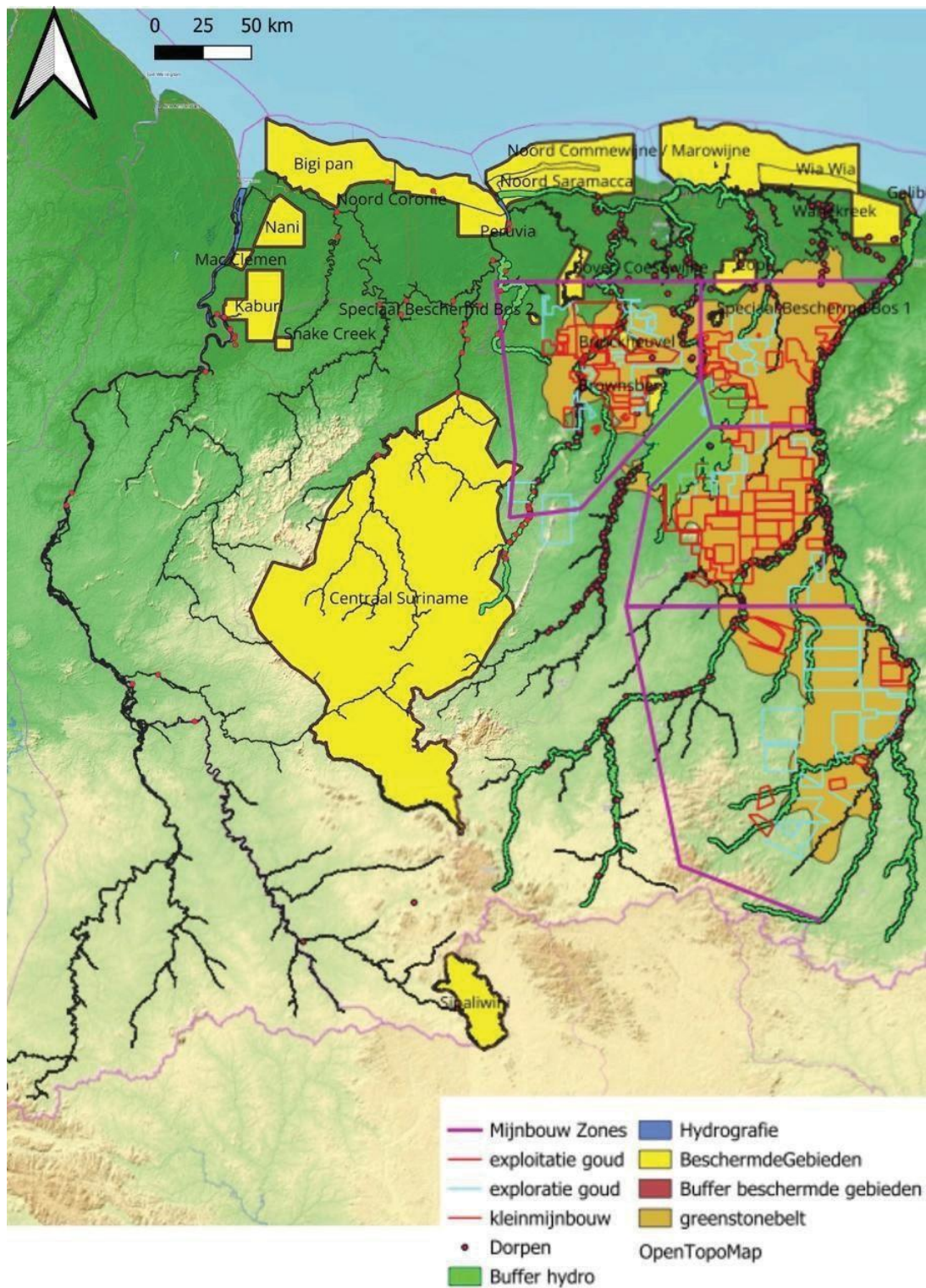
The Mining areas can be defined as follows:

- Mining Area 1; Brokopondo Zone
- Mining Area 2; Sipaliwini Interior Zone
- Mining Area 3; Marowijne Zone
- Mining Area 4; Saramacca Zone

Monitoring Site Allocation and Functional Design

Each mining area contains **at least one projected monitoring site**, strategically located to optimize operational effectiveness and geographic coverage. These sites are not randomly placed; rather, they are informed by **Geographic Information Systems (GIS)** analysis and multi-criteria decision-making. The six (6) monitoring sites are listed below:

- Road to Atjoni km14 (Area 1 bordering the south of Brinkheuvel Nature Reserve)
- Road to Atjoni km 58 (Area 2 and 3)
- Sniesiekondre (Area 4 and Merian)
- Alcatraz (island within Blommenstein Reservoir near Lebidoti)
- Sarakreek (chinamega)
- Anapaike



Site selection criteria include:

- Proximity to active and high-density mining clusters
- Location along critical waterways (for mercury and sediment monitoring)

- Accessibility via existing transport routes (road or river)
- Identified environmental risk hotspots from remote sensing data
- Opportunities for engagement with local communities and mining operators

These monitoring sites will function as **decentralized operational hubs**, with core responsibilities including:

1. Environmental Monitoring

- Water quality testing (mercury, turbidity, cyanide where applicable)
- Deforestation tracking using satellite data
- Land degradation and rehabilitation assessments

2. Compliance and Enforcement Support

- Field inspections and verification of mining practices
- Support to formalization processes and licensing compliance
- Reporting illegal mining activities

3. Data Collection and Knowledge Management

- Real-time and periodic data capture
- Integration into a centralized national mining information system
- Contribution to evidence-based policymaking

4. Community Engagement and Awareness

- Outreach to miners on responsible practices
- Gender-inclusive participation and awareness programs
- Conflict sensitivity and grievance reporting mechanisms

10.2 Key Reference Frameworks G Comparable Sources for conceptual model financial and resource planning

1. Multilateral Development Programs (ASGM G Environment)

- World Bank - Extractives Global Programmatic Support (EGPS), mining governance and formalization projects
- United Nations Development Programme - Environmental governance and mercury reduction programs
- Global Environment Facility - ASGM and mercury reduction projects under the Minamata Convention

These sources typically show:

- Monitoring systems costing **USD 1-3 million per region/project phase**
- Strong emphasis on **blended finance + phased implementation**

2. Mercury G ASGM-Specific Programs

- UN Environment Programme - Minamata Convention implementation projects
- Artisanal Gold Council - Field-level ASGM interventions

Typical insights:

- Environmental monitoring + training programs range **USD 500K-2M per country component**
- Heavy allocation to **training, equipment, and community engagement**

3. GIS, Remote Sensing G Monitoring Systems

- Food and Agriculture Organization - forest monitoring systems
- NASA / European Space Agency - open satellite data (reduces cost assumptions)

Typical benchmarks:

- GIS dashboards: **USD 50K-150K setup**
- Annual data systems C maintenance: **USD 20K-100K**

4. Field Operations in Remote Areas (Comparable Contexts)

Projects in:

- Amazon Basin (Brazil, Peru, Guyana)
- Central Africa (DRC, Ghana)

These inform:

- 4x4 vehicles: **USD 40K-60K**

- Field staff salaries (development sector): **USD 20K-60K/year depending on role**
- High logistics costs due to **transport, fuel, and remoteness**

5. NGO G Donor Budgeting Standards

- European Union project budgets
- USAID program costing models

These influenced:

- Inclusion of **MGE (5-10% of total budget)**
- Structured breakdown into **CAPEX vs OPEX vs HR vs Program Costs**

ORGANIZATION AND GOVERNANCE SETTING COORDINATING INSTITUTION		SUPPORT SERVICES		IMPACT	
Governance & Formalization	Accessible and simplified ASGM licensing	Provide legal and administrative support to miners	Processing time for mining permits	# mining permits, assessment of miners perception regarding support	Human resource and funding available
	Strengthen collaboration between agencies (e.g., Geological Mining Service, Suriname Ministry of Natural Resources, Suriname)	Establish MOU's between agencies Enforce mining restrictions Organize joint activities (patrols, trainings, etc.)	MOU's, # joint activities	Meeting reports	Willingness to collaborate, Availability of funding
	Public and transparent Mining Cadastre	Communication and awareness campaign to promote the mining cadastre Setting up an annual evaluation system for updating	# stakeholders making use of the mining cadastre	Mining cadastre	Availability of funding
	4me-to-Market traceability	HCVFs will be legally recognized	Demarcated HCVFs	Reduced mining activities in no-go zones	Political support and stakeholders willingness
	Community Health and Social Well-being	Implement community awareness campaigns on health risks	mercury imports and usage levels	Mercury import reports	Mercury reduction Policies in place
Health & Safety	Reduce Mercury and Cyanide Pollution	Promote retorts and closed systems	of mercury-free processing units installed	Implementation of NAP	Availability of funding and stakeholders willingness
	Reduction of impacts on human health	Establish cyanide management protocols Monitoring of air, water and soil by conducting testing programs Introduce and subsidize mercury-free technologies Execute a multi-annual biomonitoring program	Water quality indicators in mining regions	Data availability	Availability of funding
	Compliance by Miners	Training of both miners and inspection personnel Develop compliance protocols Create incentives for positive compliance	no of miners trained in safe alternatives	Trained miners and mine inspectors	Availability of funding
	Strengthened Monitoring & Enforcement	Deploy satellite monitoring and GIS systems Train and equip environmental inspection teams	% of mining areas monitored	Trained miners and mine inspectors and equipment available	Availability of funding
	Standard Operating Procedures (SOPs)	Develop SOPs for priority practices Train miners and communities in SOP	of inspections conducted annually	SOP's	Human resource and funding available
Monitoring & Enforcement	Coordinated Multi-Agency Inspections	Establish joint enforcement task forces	of enforcement actions taken	Reports	Availability of funding
	Mercury Monitoring and Control	Introduce community-based monitoring systems	Compliance rate improvements	Monitoring data	Human resource and funding available
	Social Safeguards and Rights Protection	Develop a centralized data platform	Criteria data platform Protocols for data gathering	Data	Human resource and funding available
	Skilled Workforce Development	Conduct skills-gap assessments in mining communities. Provide scholarships and vocational training opportunities. Develop mining-related technical certification programs. Promote STEM education among youth. Support literacy and adult education programs. Facilitate apprenticeships and internships with mining companies. Develop financial literacy and business management training.	Number of people trained. Employment rate among program beneficiaries. Number of scholarships awarded.	Training reports & reports on scholarships awarded	Human resource and funding available
	Support Sustainable Economic Alternatives for Mining Communities	Identify alternative livelihood opportunities in mining regions. Develop vocational and technical training programs for youth and women. Promote climate-smart agriculture and agroforestry initiatives. Support ecotourism and cultural tourism enterprises. Develop value chains for non-timber forest products (NTFPs). Promote handicraft production and marketing. Support aquaculture, poultry, and small livestock enterprises. Establish demonstration projects showcasing alternative income sources.	Number of households benefiting from alternative livelihood programs. Percentage increase in non-mining income sources. Number of women and youth trained.	Documents, reports of training programs, initiatives on climate related activities	Human resource and funding available

Community & Economic Development	Support Sustainable Economic Alternatives for Mining Communities	Identify alternative livelihood opportunities in mining regions. Develop vocational and technical training programs for youth and women. Promote climate-smart agriculture and agroforestry initiatives. Support ecotourism and cultural tourism enterprises. Develop value chains for non-timber forest products (NTFPs). Promote handicraft production and marketing. Support aquaculture, poultry, and small livestock enterprises. Establish demonstration projects showcasing alternative income sources.	Number of households benefiting from alternative livelihood programs. Percentage increase in non-mining income sources. Number of women and youth trained.	Documents, reports of training programs, initiatives on climate related activities	Human resource and funding available
	Enable and promote equal rights for stakeholders from communities affected by goldmining activities	Assess infrastructure needs in mining communities. Improve access to clean water and sanitation facilities. Support renewable energy solutions for remote communities. Upgrade transportation and community access roads. Improve digital connectivity and internet access. Support health and educational infrastructure development. Establish community centers and training facilities	Number of infrastructure projects completed. Percentage of households with improved access to services. Number of community facilities upgraded.	Improved infrastructure, digital services	Human resource and funding available
	Local Content and Enterprise Development	Conduct socioeconomic baseline assessments in mining communities. Develop Community Economic Development Plans for mining regions. Support the establishment of local business incubators and entrepreneurship programs. Facilitate access to microfinance and small business financing. Promote local procurement policies within the mining sector. Develop market linkages for local products and services. Support the formalization of mining-related small and medium enterprises (SMEs). Establish community investment funds financed through mining revenues.	Number of local businesses supported. Percentage of mining related procurement sourced locally. Number of jobs created for local residents.	Baseline reports, Community economic plans	Human resource and funding available
	Community Rights and FPIC	Develop grievance and conflict resolution mechanisms. Strengthen the capacity of community organizations and cooperatives. Promote participatory planning and budgeting processes. Train community leaders in governance and negotiation skills.	Number of consultation meetings held. Percentage of women participating in decision-making structures. Number of grievances resolved through formal mechanisms.	Grievance mechanism established and functional	Human resource and funding available
	Secure and Equitable Access to Mining Areas	Local procurement programs linking mining operations with community enterprises	# increased local purchases	Functional procurement programs	Human resource and funding available
	Capacity Building for Responsible Mining	Formalization and strengthening of mining cooperatives Financial literacy and savings programs for miners and their families	#bankable community members	Bank reports	Human resource and funding available
	Gender Equality and Inclusion	Develop targeted entrepreneurship programs for women and youth. Support women-led and youth-led enterprises. Provide leadership and business development training. Facilitate access to financing and markets. Promote women's participation in mining value chains. Establish mentorship programs. Support childcare solutions that enable women's economic participation.	Number of women-owned businesses supported. Number of youth enterprises established. Percentage increase in female participation in economic activities.	Reports VSB, SITA, KkF	Human resource and funding available
	Stakeholder Engagement and Participation	Establish community consultation and dialogue platforms. Train community leaders in governance and negotiation skills. Support women's participation in community decision-making. Facilitate engagement between communities, miners, and government agencies Financial literacy and savings programs for miners and their families Community investment and benefit-sharing mechanisms	Number of consultation meetings held. Percentage of women participating in decision-making structures. Number of grievances resolved through formal mechanisms.	Project monitoring reports	Human resource and funding available
	Access to Finance for Local Communities				