

CONSOLIDATED REPORT

COORDINATED AUDIT ON GOVERNANCE STRUCTURES FOR THE INTEGRAL MANAGEMENT OF MINING ENVIRONMENTAL LIABILITIES

A stylized, low-poly illustration of a mountain range in shades of orange, red, and pink. In the center, there is a structure resembling a mine entrance or a small building with a flat roof and a dark opening. Inside the opening, there are three small white stars. The illustration is set against a background of abstract, textured shapes in various colors, including green, blue, and yellow.

PUBLIC WORKS
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OLACEFS

COORDINATED AUDIT ON GOVERNANCE STRUCTURES FOR THE INTEGRAL MANAGEMENT OF MINING ENVIRONMENTAL LIABILITIES



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Suggested citation: OLACEFS. (2021). Coordinated audit on governance structures for the integral management of mining environmental liabilities. Office of the Comptroller General of the Republic.

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Latin American and Caribbean Organization of Supreme Audit Institutions
Teatinos 56, Santiago
Metropolitan Region, Chile



This coordinated audit is the result of the joint effort of various supreme audit institutions that are members of the Latin American and Caribbean Organization of Supreme Audit Institutions, OLACEFS. The national and subnational reports made by each SAI can be found on the following websites:

ARGENTINA

General Audit Office of the Nation of Argentina,
www.agn.gov.ar

PROVINCE OF BUENOS AIRES

Honorable Court of Accounts
of the Province of Buenos Aires,
www.htc.gba.gov.ar

BOLIVIA

Office of the Comptroller General of the
Plurinational State of Bolivia,
www.contraloria.gob.bo

BRAZIL

Federal Court of Accounts (TCU-Brazil),
<https://portal.tcu.gov.br>

STATE OF BAHIA

Court of Accounts of the State of Bahia,
www.tce.ba.gov.br

CHILE

Office of the Comptroller General
of the Republic of Chile,
www.contraloria.cl

COLOMBIA

Office of the Comptroller General
of the Republic of Colombia,
www.contraloria.gov.co

ECUADOR

Office of the Comptroller General
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EL SALVADOR

Court of Accounts of the Republic of El Salvador,
www.cortedecuentas.gob.sv

GUATEMALA

Office of the Comptroller General
of Accounts of the Republic,
www.contraloria.gob.gt

HONDURAS

Superior Court of Accounts of Honduras,
www.tsc.gob.hn

MEXICO

Superior Auditor of the Federation,
www.asf.gob.mx

PERU

Office of the Comptroller General
of the Republic of Peru,
www.contraloria.gob.pe

DOMINICAN REPUBLIC

Chamber of Accounts
of the Dominican Republic, www.camaradecuentas.gob.do

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PRESENTATION

Supreme audit institutions –SAIs– are essential pillars for good administration and the strengthening of democracy. This has been recognized in the recent of the United Nations General Assembly Special Session against Corruption –UNGASS–, where the role of SAIs in strengthening the integrity and correct use of public resources was highlighted.

The current economic, social and environmental problems have become common challenges for humanity, which must be faced in a coordinated manner by the different States. The United Nations 2030 Agenda is the agreed roadmap to face these challenges, through the sustainable development goals, SDGs. Working to achieve the SDGs is not the sole task of governments, but also requires joint efforts from the private sector, academia, civil society and, of course, SAIs.

Since 2016, SAIs have incorporated accountability for the results of the SDGs into their work, developing a strategic public control approach to support governments in their proper implementation.

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Aiming at strengthening alliances for sustainable development, the following report gives an account of the work carried out under the auspices of the Latin American and Caribbean Organization of Supreme Audit Institutions, OLACEFS. It has been prepared by the Public Works Working Group –GTOP– led by the office of the Comptroller General of the Republic of Chile –CGR– in coordination with 12 other SAIs and 2 subnational entities in Latin America.

This work, which began with its planning and training in 2019, was carried out during 2020 and now culminates in the consolidation of the results of the audits carried out by the SAIs.

We thank the SAIs and the different audit teams for their participation in this project, despite the challenges resulting from the COVID-19 pandemic. In addition, this process has had the valuable support of the German Cooperation, through the Deutsche Gesellschaft für Internationale Zusammenarbeit –GIZ– GmbH; as well as with the contribution of the Economic Commission for Latin America and the Caribbean –ECLAC– of the United Nations; the United Nations Department of Economic and Social Affairs –UNDESA; the Federal Institute of Geosciences and Natural Resources –BGR; the Working Groups on the Environmental Auditing –WGEA– and the Extractive Industries –WGEI– of INTOSAI; the Regional Cooperation Program for the Sustainable Management of Mining Resources in the Andean Countries –Minsus Program– and, in general, with the collaboration of specialists and experts in the area. To all of you, thank you very much.

This report consolidates the main results of the audit that, in a coordinated manner, evaluated the governance structures for the integral management of mining environmental liabilities in the region. Given the relevance of mining activity in our economies, the environmental impacts associated with it must be addressed with special care. In particular, those related to mining operations and facilities, including their deposits and waste paralyzed, inactive or abandoned that constitute a permanent potential risk –current and future– for the life and health of people and for the environment, either by affect water resources, soil and air quality.

As a complement to the national and sub-national audit reports that feed this report, this document manages to combine in its introduction a concept of mining environmental liabilities –MELs– a term that accounts for an environmental challenge that we face in the region. Second, the work methodology and management mechanisms that framed the evaluation carried out are presented. Finally, the report concludes with a regional analysis of the integral management of MELs and a mention of the instruments for their treatment, presenting a series of recommendations in order to safeguard the safety, life and health of people, as well as the protection of the environment against the effects and risks posed by MELs.

One of the main obligations of the States is to provide security to the population, which is not only identified with the maintenance of public order, but also includes environmental security. This entails the integral management and handling of risks associated with MELs, which are exacerbated by the effects of climate change, which is one of the great challenges facing humanity. For this reason, the environmental control and audit by SAls is a cornerstone for sustainable development.

We hope that the findings and recommendations of this coordinated audit on governance structures for the integral management of mining environmental liabilities will be an objective and technical contribution to the decision-making associated with the integral management of MELs in the region.



Jorge Bermudez Soto

Office of the Comptroller General of the Republic of Chile

Public Works Working Group

Executive Secretary of the Latin American and Caribbean Organization of Supreme Audit Institutions

PROLOGUE

Dear readers:

Mining environmental liabilities represent a serious problem for many Latin American and Caribbean countries. Many of them have historically based their economies on extractive activity, without sufficient care to avoid or mitigate the negative impacts of mining operations facilities and their waste dumps –inactive or abandoned– on populations and the environment. Many mining activities have left serious damage, such as contamination and risks affecting the surrounding water, air and soil, impacting entire communities over generations.

That is why the coordinated audit on governance structures for the integral management of mining environmental liabilities, carried out between 2019 and 2021, under the coordination of the Office of the Comptroller General of the Republic of Chile, has been one of the key initiatives supported by the Regional Project for Strengthening External Control in the Environmental Area, jointly implemented by the Latin American and Caribbean Organization of Supreme Audit Institutions –OLACEFS– and the German Cooperation for Sustainable Development, through the Deutsche Gesellschaft für Internationale Zusammenarbeit –GIZ– GmbH.

The participation of 12 supreme audit institutions and 2 associate members of OLACEFS, within the framework of activities of the Working Group on Public Works Audit –GTOP–, is a reflection of the regional relevance that the subject has and the interest conferred by this regional organization. This is also evidenced by the contributions of various key actors, including specialists and international bodies interested in the subject, such as the United Nations Economic Commission for Latin America and the Caribbean –ECLAC–, as well as the synergy with the Program of Regional Cooperation for Sustainable Management of Mining Resources in the Andean Countries –Minsus Program– and with the German Cooperation, through GIZ and the Federal Institute for Geosciences and Natural Resources –BGR–.

The main results are presented in this executive summary, based on a rigorous regional evaluation of the mechanisms that governments have generated to promote the integrated management of mining environmental liabilities. It should be noted that this initiative also made it possible to focus the analyses explored in a general way in the coordinated audit on environmental liabilities, carried out in 2016.

For GIZ, on behalf of the German Cooperation, it has been a great satisfaction to have contributed technically, during all work phases, in alliance with the GTOP and together with the supreme audit institutions of the region, to the realization of this initiative related to SDG 12, which deals with responsible consumption and production, and SDG 15, which refers to life on earth. We hope that this regional evaluation will contribute to substantial improvements in public policies, national regulations, management standards, training and other governance mechanisms related to mining environmental liabilities, given their environmental and social relevance.

Joint efforts to develop the capacities of SAIs, to promote cooperation and exchange of experiences between them and to optimize communication with external stakeholders, make even more sense with the promotion of regional initiatives of this nature that make visible the importance and contribution of external governmental control to promote the efficiency, effectiveness and transparency of the Public Administration, but even beyond it: by contributing de facto to environmental governance and a better quality of life for citizens.

A special thanks to the auditors who participated in this very relevant initiative.

We reiterate our appreciation to the Office of the Comptroller General of the Republic of Chile, leader of the coordinated audit, for the close collaboration and commitment, despite the vicissitudes imposed by the outbreak of the COVID-19 pandemic. A special recognition to the colleagues and collaborators in the Presidency and in the member SAIs of the OLACEFS Working Group on Public Works Audit.

We hope that the findings and recommendations of this coordinated audit will be used by decision makers in the various governmental bodies of the participating countries for the continuous improvement of public policies and the integral management of MELs. We also trust that they will serve to promote multilateral agreements on the subject, and that their compliance can be periodically reassessed by SAIs and external stakeholders in their national contexts.



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Director of the Regional Project for Strengthening External Control in the Environmental Area, GIZ Brazil

1. INTRODUCTION

1.1. MINING ENVIRONMENTAL LIABILITIES, MESs

1.1.1. Concept and problems of MELs

Many Latin American and Caribbean countries base their economies on the exploitation of natural resources, especially the extraction of minerals, hydrocarbons and construction materials. This phenomenon accelerated during the 20th century with the introduction of new technologies and, therefore, an increase in the scale and magnitude of these exploitations, which in many cases operated and ceased their activity without having adequate environmental standards.

As a consequence of the inadequate closure of mining operations, negative environmental impacts and externalities are produced in the territories of such activity, among them, abandoned tailings deposits, contaminated soils and water courses. They leave for posterity the so-called mining environmental liabilities –MEL– susceptible to generating significant risks to the health of people and the environment, which makes it necessary to have an adequate management of the processes for their identification, evaluation, monitoring, control or remediation.

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This determines the importance of managing both the prevention and correction of MELs, since their presence is due to the dynamism of the mining activity and the conditions in which it is carried out.

Thus, both the presence of MELs and the absence of mechanisms to manage the risk they generate, imply challenges for the development of a sustainable mining activity and to move towards an effective protection of the rights of the people exposed to these liabilities, especially, regarding their life, their health, living in a pollution-free environment, their access to water, among others.

Awareness of this environmental problem has mainly led to the enactment of environmental laws and regulations aimed at current or future mining developments, in order to prevent the generation of new MELs; in many cases, only with the perspective of closing mines for mining safety, without an integral, comprehensive perspective of the environment and nearby communities.

Thus, weaknesses are observed in the configuration of governance structures, such as the configuration of regulatory frameworks, the definition of specific attributions or the implementation of different mechanisms aimed at their management, remediation and reuse.

In this scenario, the analysis of the management of MELs presents technical difficulties, among them, those associated with the lack, in general, of a definition of the concept at the regulatory level, which will depend on the approaches, conditions, objectives or cultural elements of those countries undertaking the task.

Thus, in the context of this coordinated audit, the MELs were defined as: “Paralyzed, inactive or abandoned mining sites, facilities –including their deposits and tailings– that constitute a permanent, current and future potential risk to the life, health and safety of people and the environment.”¹.

1.1.2. Mining activity in the region and presence of MELs

According to the preliminary background information of this audit, the problems caused by the MELs are a common factor for a large part of the countries of the region that participated in this coordinated audit, while the responses and attention given by the governments is dissimilar.

Despite this, differences in scale were observed. These are configured based on the following factors:

- a) age and evolution of the mining activity of the countries,
- b) type of mining developed,
- c) exploitation methodologies and
- d) the impact of the extractive industry on national economies – the main factor.

According to studies by the Economic Commission for Latin America and the Caribbean –ECLAC– mining activity has historically been intense in the countries of the Andean axis, especially in Bolivia, Chile and Peru, with a participation between 9 % and 10.5 % of mining in gross domestic product –GDP– national (Viana Ríos, 2018). Meanwhile, countries such as Mexico, Ecuador and Colombia show a participation between 4 % and 5.9 % of the mining GDP; while the countries of Central America and Brazil, between 0.2 % and 2 %.

The differences discussed here are determined by:

- 1) the type of mining –metallic, non-metallic and hydrocarbon resources;
- 2) the scale of its exploitation, the extraction technologies developed –surface, open pit, extraction quarries, underground, drilling or dredging; and
- 3) its legal or illegal origin.

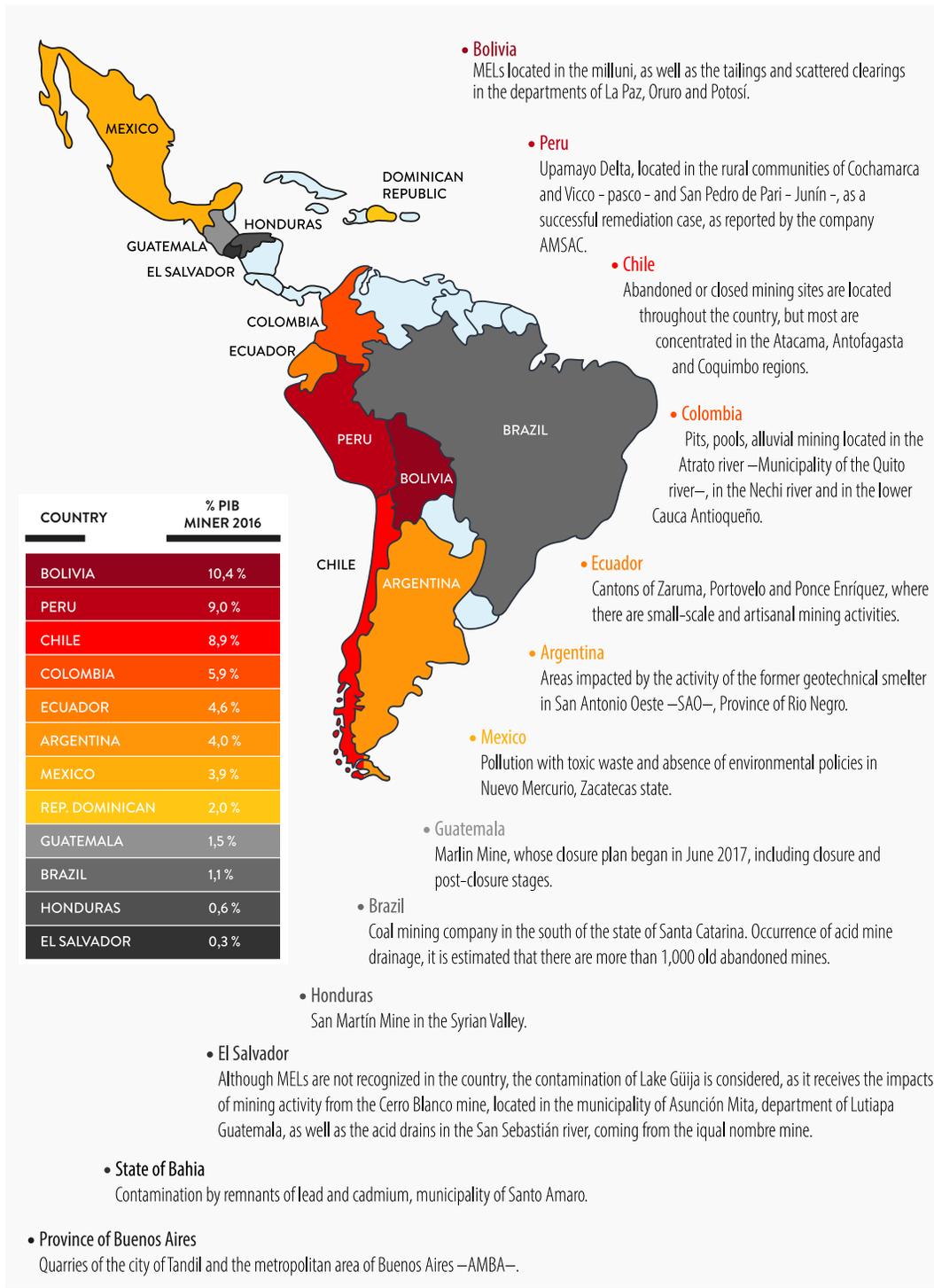
However, based on the particularities of the extractive mining industry and the environmental impacts of exploration and exploitation associated with it in each of the countries and in accordance with their national definitions, the audit teams identified the MELs or structures assimilable to this concept and related management instruments that would be subject to review.

The following are outstanding cases regarding the presence of MELs in the region.



1 Term coined in the CA-MEL planning workshop, developed from June 8 to 26, 2020.

FIGURE 1:
SHARE OF MINING IN **GDP** AND **MEL** CASES HIGHLIGHTED
BY THE AUDIT TEAMS.



1.1.3. Environmental impact of MELs in the region and the role of supreme audit institutions

At the regional level, the lack of guidelines, incentives and regulations oriented to the management of MELs constitutes an obstacle for the development and implementation of tools focused on the assessment of their risks and does not allow setting a prioritization with a view to their treatment (OLACEFS, 2016). The foregoing, in the context of promoting a sustainable management of natural resources, where the actions of the governments of the region in environmental matters are efficient, effective and economical.

Thus, the treatment of the risks generated by the MELs must respond to a management model, which will be defined by governance structures that ensure the assessment of their risk, its characterization and prioritization, while promoting the execution of concrete actions on those territories that require urgent and immediate intervention.

In this sense, the Working Group on Audit of Extractive Industries –WGEI– of INTOSAI, promotes the role of the supreme audit institutions –SAIs– in the good governance of the extractive industry, which encompasses the oil, gas and mining industries since they are in charge of stimulating the strengthening of accountability and transparency of government management of public resources. This, in order to ensure the optimal management of such funds and to improve a more transparent oversight of the industry, improving governance and ensuring that natural resources are used for the benefit of the public interest, which will depend on the mandate and knowledge of the SAI itself, the maturity of the sector and the regulatory framework of the place, being able to cover the entire value chain of the extractive industries sector, from the development of solid legal frameworks, to collection and fair and transparent distribution, as well as follow-up on environmental impact and sustainable policies (WGEI, 2019).

This is closely related to the sustainable development goals –SDGs– which are detailed in the following section. In this context, SAIs play an important role in the implementation of the SDGs and in ensuring the achievement of these goals.

Finally, there was an optimization of the actions taken by the States to protect and assist their citizens in the health context in which the audit was carried out. With this, public control has had to be strengthened to generate a strong impact on the development and conduct of public policies aimed at addressing the COVID-19 crisis or other matters of citizen affairs. In this sense, external control in environmental matters acquires relevance since it allows us to analyze the actions of the States from a broad perspective and, in the case of this coordinated audit, using a regional approach.

1.1.4. Management of environmental liabilities, Agenda 2030 and the contribution of OLACEFS

In order to strengthen the role of SAIs in promoting the 2030 Agenda and its 17 SDGs (UN, 2014), this coordinated audit was linked to these goals, in particular No. 12 –ensure sustainable consumption and production standards– and No. 15 –life of terrestrial ecosystems. This, considering the multiple interdependencies between the 17 sustainable development goals and assuming the need to know from a practical point of view, in the field of extractive industries, the governance aspects associated with the 2030 Agenda and how said instrument contributes to the implementation of public policies oriented to the management of MELs.

Similarly, the audit focused on target No. 4² of goal No. 12 and target No. 3³ of objective No. 15, which express the need to prevent the generation of alterations in the environment, including those that arise due to the existence and proliferation of MELs. This is due to the fact that liabilities can bring, among other things, the loss of forest cover in a significant percentage and the deterioration of ecosystems, breaking the balance that exists between them, affecting sustainability for human well-being and the species that inhabit the planet.

In the context of the fight against climate change as set out in the 2030 Agenda, the governments of the region must manage the recovery or restoration of the original conditions of contaminated sites, prioritizing those territories affected by existing and proven risks.

Thus, it is imperative to strengthen innovation to obtain data during the monitoring and evaluation of the sustainable development goals, especially in the COVID-19 health emergency, since it is necessary to support the development of policy responses to the crisis and promote the acceleration of the achievement of such goals over the course of the decade (UN, 2020).

1.2. COORDINATED AUDIT: GOVERNANCE STRUCTURES FOR A CORRECTIVE MANAGEMENT OF MELs

1.2.1. Coordinated audits

Within the framework of learning and institutional development and cooperation between supreme audit institutions, OLACEFS (2020) has promoted the execution of the so-called coordinated audits since 2013.

According to the international standards of supreme audit institutions –ISSAI– coordinated audits correspond to one of the three types of cooperative audits and are defined as a joint audit with independent reports – directed to the authorities of the supreme audit institution– or a parallel audit with a single consolidated report, in addition to the independent national reports (INTOSAI, n.d.-b).

Within the scope of OLACEFS, in addition to being an audit instrument, coordinated audits are effective tools for capacity building in the participating SAIs, promoting the dissemination and application of the best audit practices determined by the ISSAIs.

In this case, it is also an audit focused on the evaluation of the efficiency, effectiveness and economy of public acts (Office of the Comptroller General of the Republic, n.d.) and with a results orientation, which examines whether the desired objectives have been achieved and whether the programs operate according to their design (INTOSAI, n.d.-a).

By its nature, this audit model is especially useful for dealing with cross-cutting and cross-border issues, offering a vision with a regional perspective, aimed at highlighting and accelerating the management of MELs.

-
- 2 Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, as well as “significantly reduce their release into the atmosphere, water and soil,” in order to minimize their adverse effects on human health and the environment (UN, 2014).
 - 3 Fight against desertification, rehabilitate degraded lands and soils, with the intention of reaching a world with neutral soil degradation (UN, 2014).

1.2.2. This coordinated audit on MELs

The audit is coordinated in governance structures for the integral management of MELs and is part of the OLACEFS-GIZ project “Strengthening external control in the environmental area.” It takes advantage of the experience of the coordinated audit on environmental liabilities carried out in 2015 by the Special Technical Commission for the Environment –COMTEMA–. In addition, as part of the technical foundations, it used the results of the project “Regional cooperation for the sustainable management of mining resources” developed by ECLAC and the German Agency for International Cooperation –GIZ–.

As a result of the 2015 coordinated audit on environmental liabilities, led by the supreme auditing entities of Mexico and Peru, there were opportunities for improvement for the countries of the region, regarding the risks generated by the MELs. This situation was evidenced in a decisive economic sector, since the extraction of natural resources of mining origin historically constitutes a central axis in the regional economy.

This audit was led by the Office of the Comptroller General of the Republic of Chile –because it holds the Presidency of the Public Works Audit Working Group –GTOP– and had the technical support of GIZ, executing its field work during 2020.

1.2.3. Participants in this coordinated audit

The “coordinated audit of governance structures for the integral management of mining environmental liabilities” had 14 participants:

- 12 supreme audit institutions of the continent: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Peru and the Dominican Republic.
- 2 subnational audit institutions: the state of Bahia, in Brazil, and the province of Buenos Aires, in Argentina.

2. METHODOLOGY

2.1. GENERAL OBJECTIVE

Evaluate whether the countries and sub-national units participating in the coordinated audit have governance structures and management mechanisms that allow the implementation of actions for the integral management of the MELs. With emphasis on:

- a) risk identification,
- b) site prioritization, and
- c) implementation of measures to eliminate, mitigate or control the risks identified at the prioritized sites.

The foregoing, within the framework of the “sustainable development goals” that promote the effective management of chemical products and all mining waste throughout their life cycle, in order to minimize their adverse effects on: safety, life, human health and natural habitats that are affected by this waste.

2.2. SPECIFIC OBJECTIVES

- a) Verify if the participating governments have governance structures for the integral management of MELs. For this purpose, mechanisms or instruments related to:
 - i) the construction of regulatory frameworks;
 - ii) the elaboration of medium and long-term strategies;
 - iii) the implementation and monitoring of the 2030 Agenda; and
 - iv) the promotion of citizen participation.
- b) Evaluate whether national governments have designed and implemented management mechanisms within the framework of the integral management of MELs. This in attention to:
 - i) the generation of specific regulatory frameworks;
 - ii) financing and incentive mechanisms for research and development –R + D– for risk assessment; and
 - iii) the prioritization of treatment of the aforementioned MELs.

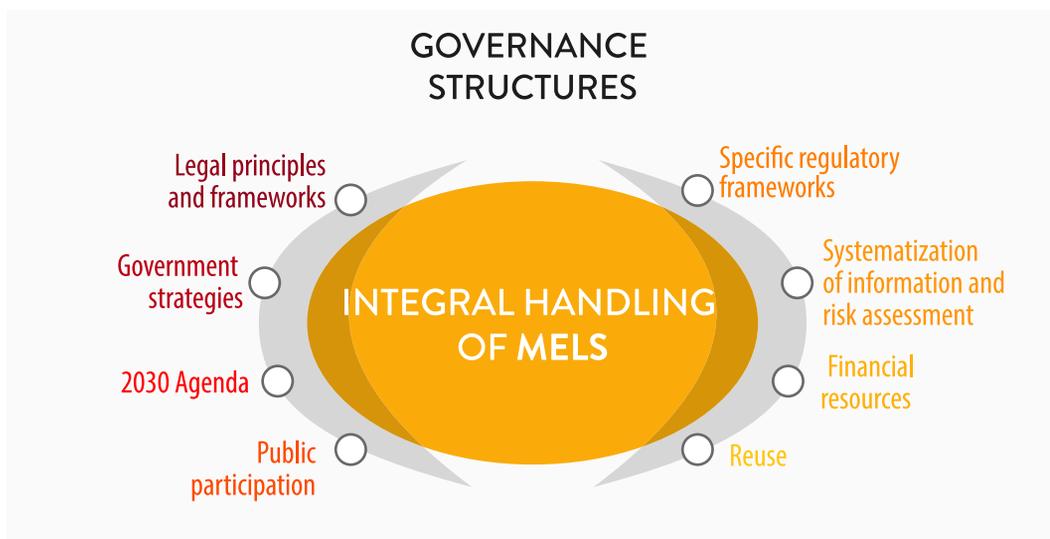
2.3. LEVELS AND MECHANISMS FOR THE MANAGEMENT OF THE MELs EVALUATED

In the absence of a clearly defined governance framework oriented to the management of MELs, the coordinated audit was configured based on the examination of two levels of MEL management:

- 1) **Level A.** Oriented to the evaluation of governance structures for MEL management.
- 2) **Level B.** Guided by instruments with a corrective focus.

In turn, each of these levels is made up of a series of specific management mechanisms, the existence and operation of which made it possible to establish whether the governments evaluated implement the integral management of the MELs.

FIGURE 2:
SIMPLIFIED SCHEME OF THE COORDINATED AUDIT



Source: compiled by author.

These management mechanisms were identified in the technical literature consulted (Muñoz Ávila, 2016) and in the elements of good governance promoted by the supreme audit institutions in environmental matters (Federal Court of Accounts, 2016).

TABLE 1:
MANAGEMENT MECHANISMS MEL

MECHANISMS EVALUATED	DESCRIPTION
National regulatory framework	It seeks to create and deepen systems that allow integral management of MELs or other structures or elements that generate environmental impacts. Relevant are the general norms –magna carta, legal principles, environmental regulation, public health– and those of the mining sector, which can be applied in the management of MELs or other structures or elements of interest for the coordinated audit.

<p>Government strategies for the integral management of MELs</p>	<p>Medium 5 to 10-year and long-term 10 to 20-year plans generated by national and sub-national governments to prevent the generation of MELs or for the corrective management of existing ones. Government strategies for the integral management of MELs may consider aspects related to:</p> <ul style="list-style-type: none"> a) the development or strengthening of regulatory frameworks, b) the management of the economic instruments involved, c) promoting participation, or d) the systematization and corrective management of the MELs.
<p>Implementation and follow-up of the 2030 Agenda</p>	<p>Legal frameworks and management instruments to determine the current status of MELs in the context of the 2030 Agenda for Sustainable Development. Recognize how national and sub-national governments institutionalized and organized control systems for the implementation of the sustainable development goals N°s.12 and 15.</p>
<p>Role of citizen participation</p>	<p>Recognition of systems that promote and ensure effective citizen participation, which can be or is being applied in the integral management of MELs, considered as a central, preventive and corrective element.</p>
<p>Specific regulatory framework</p>	<p>Regulatory frameworks oriented to:</p> <ul style="list-style-type: none"> a) the definition of liability regimes for MELs; b) financing mechanisms c) the competencies of public bodies; d) the identification of administrative procedures; e) the attributions to audit and sanction; and f) the definition of regeneration standards; among other instruments specifically applied to MEL management.
<p>Economic instruments for the corrective management of MELs</p>	<p>Recognize financing mechanisms most used for MEL management, i.e., permanent or intermittent sources of income, which come from general tax collection associated with environmental or mining management, from public-private collaborations for the regeneration of MELs or foreign assistance, through funds from international cooperation or loans from international banks.</p>
<p>Tools for systematization and corrective management of MELs</p>	<p>Central analysis mechanism, corresponding to the existence of MEL registries, the execution of risk assessments, the prioritization of their treatment and the eventual remediation of MELs.</p>
<p>Technologies for the reactivation of MELs</p>	<p>Capacity for the technological development of management-oriented alternatives aimed at the management and reuse of MELs, especially the development of secondary mining. Furthermore, it is recognized that this reprocessing can contribute to generating economic, social and environmental value through the conversion of MELs into assets.</p>

2.4. INTEGRAL MANAGEMENT OF MELs

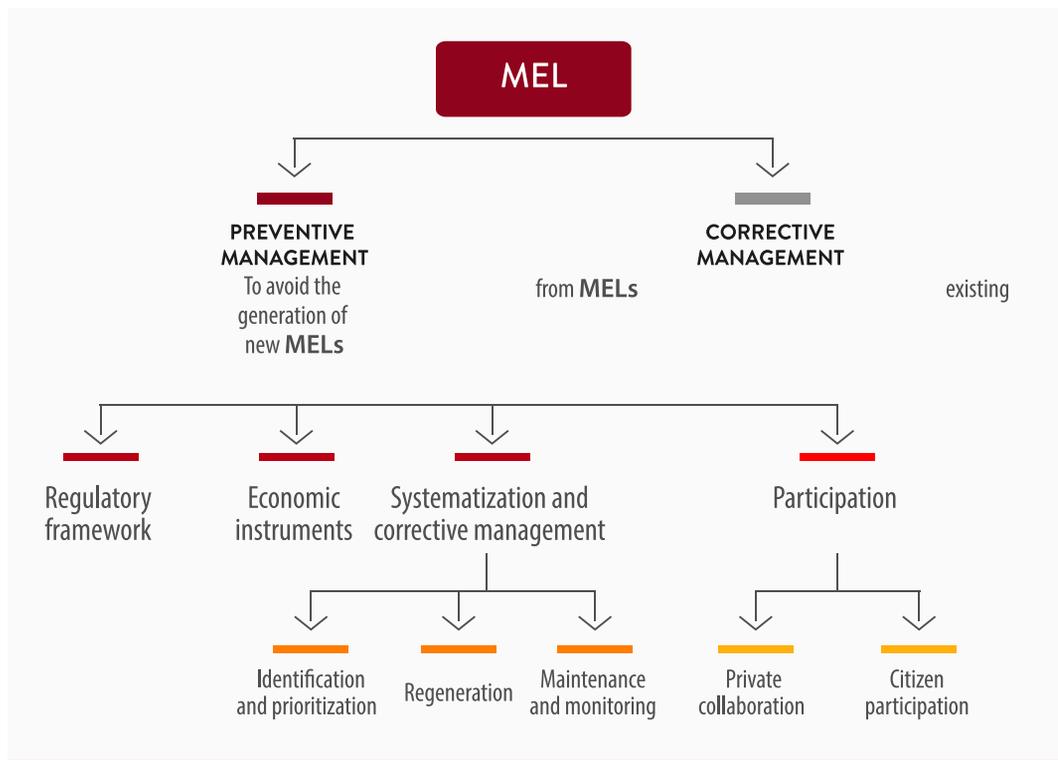
In order to progress in the integral management of MELs, the coordinated audit proposes as essential to have guidelines, incentives and regulations aimed at their prevention and restoration, remediation or recovery,⁴ by means of risk assessments and prioritization that optimizes resources based on their subsequent treatment.

In this scenario, governance structures for MELs must recognize two orientations, namely:

- 1) **Preventive:** that, by means of legal mechanisms, policies and strategies, it avoids the generation of sites contaminated by mining waste or the abandonment of unsafe and unstable mining operations that represent a risk to people and the environment.
- 2) **Corrective:** that it considers legal instruments, strategies and policies, as well as the consideration of economic mechanisms aimed at the recovery of sites affected by MELs.

In order to ensure such governance, both orientations must incorporate the participation of different actors and stakeholders, especially local communities, so that the solutions envisaged address their needs.

FIGURE 3:
MANAGEMENT ELEMENTS CONTAINED IN THE HANDLING OF MELs



Fuente: Oblasser (2016).

4 Concept that changes according to the technical and regulatory precepts, defined in the participating countries and sub-national units. It refers to the actions taken to recover certain environmental conditions in the affected area, the standard or level of development of which varies in each country.

However, for an efficient implementation of actions within the framework of corrective guidance, it is necessary to have information systematization tools that allow a registry of the existing MELs in each territory. With this, a risk assessment is sought that prioritizes their treatment, directing resources towards those sites that require rapid intervention and attention to their ecosystem needs, in order to preserve natural resources such as flora and fauna in conservation categories.

Thus, this audit based its development on the so-called “integral management of MELs.” This methodology considers the MEL management mechanisms, contained in the technical literature (Oblasser, 2016). These are basically the instruments that the expert community highlights in the treatment of MELs and that, therefore, were used by the participating supreme audit institutions.

2.5. EVALUATION METHODOLOGY FOR THE INTEGRAL MANAGEMENT OF MELs

Finally, from the point of view of the coordinated audit, it was deemed pertinent to provide the audit teams with different methodological tools so that they could generate comparative information and be able to plan convergent local audits from their technical and methodological perspective. Thus, they would be in a position to evaluate the implementation of the management mechanisms implicit in the integral management of MELs, in a regional context.

For the above, the coordinating team provided the following information collection manuals:

- 1) **Coordinated audit questionnaire:** its objective was to highlight and record in a common format the information collected in the inquiries carried out in each of the national and sub-national audits, by the participating supreme audit institutions.
- 2) **Evaluation instrument:** corresponds to surveys applied by participating supreme audit institutions, which were answered considering the background information revealed in their local audits. It allows the quantitative transformation of the data.

The data collection instruments presented here were used for the consolidation that allowed the comparison of the information collected in local audits, for which their development was complemented with the methodological tools designed by the participating supreme audit institutions. It should be noted that they were applied in a health context conditioned by the COVID-19 pandemic, which in many cases prevented visits and face-to-face meetings of the working group, among other limitations, and which are described in national and sub-national public access reports that complement this document.

Likewise, it should be noted that, in the coordinated audit questionnaire, the participating supreme audit institutions recorded the results of the local evaluations, responding to the audit questions and to each of the MEL management mechanisms that were evaluated. As mentioned, the exercise allowed the comparison of qualitative information, revealing the matters of interest for this analysis.

In addition, a methodological tool was designed to quantitatively recognize the existence and development of governance structures for the implementation of the so-called “integral management of MELs” in each of the countries and sub-national units audited. Its objective was to identify the mechanisms for managing these liabilities disclosed by the experts and the participating supreme audit institutions. The results obtained were captured in an interactive visualization medium that allows following up on the results obtained, especially in those areas central to the management of the MELs, in order to progress in the solution of the problem. They are presented in the following sections.

IMAGE 1:
EVALUATION INSTRUMENT

PAM / Test by **Contraloría General de la República**

Escenario General de Latinoamérica y El Caribe en el manejo integral de Pasivos Ambientales Mineros

Este reporte presenta de manera interactiva los resultados de la Auditoría Coordinada sobre Estructuras de Gobernanza para el Manejo Integral de Pasivos Ambientales Mineros, PAM, desarrollado por el Grupo de Trabajo de Obras Públicas de la OLACEFS durante los años 2020 y 2021, y que contó con la participación de 12 Entidades de Fiscalización Superior (EFS) y 2 Entidades de Fiscalización (EF).

A partir de la aplicación de los instrumentos de consulta utilizados en la auditoría, cuyas respuestas fueron proporcionadas por los participantes, se disponen los resultados comparativos por cada temática de manejo de Pasivos Ambientales Mineros, exponiendo el escenario actual en que las estructuras de gobernanza de los distintos países y unidades subnacionales participantes se encuentran respecto de la prevención y recuperación de PAM.

Haciendo clic en las distintas temáticas de la barra principal se despliegan los principales comentarios y conclusiones del estudio, además de un detalle a nivel país o estado, y los hitos implicados. Clickando los comentarios se activan los tópicos relacionados. También se puede visualizar de forma interactiva la tabla de temáticas y de hitos.

La tabla inferior entrega el detalle del instrumento de consulta, presentando el escenario de cada país, en pleno.

El manejo integral de PAM

¿Cuáles son las características del marco normativo ambiental?
¿Cómo se planifica la prevención y tratamiento de PAM?
¿Se han identificado los PAM?
¿Cómo se fiscalizan los PAM?
¿Cómo se protege a las personas?
¿Cómo se definen las responsabilidades implicadas?
¿Qué trabajo hay en regeneración de PAM?
¿Cómo se trabaja la Minería Secundaria?
¿Cómo se integra a la ciudadanía?
¿Cómo se ha avanzado en la agenda 2030 dentro del contexto PAM?

¿Cuáles son las características del marco normativo ambiental?

La región presenta avances en materia de normativa ambiental, estableciendo principios generales para la gestión de los PAM.

Puede cambiar el mapa haciendo clic en el comentario o en alguno de los cuadros de las tablas.

Haga clic en cada comentario

Todos los países y unidades subnacionales participantes declaran contar con una Ley Medio Ambiental. No obstante, conforme se analiza en detalle este avance, s...

Solo seis casos declaran tener un Marco Normativo entorno a los Pasivos Ambientales.

En cinco casos se define y caracteriza el concepto de "Pasivo Ambiental".

Solo cuatro de ellos declaran contar con un Marco Normativo específico para la gestión de los "Pasivos Ambientales Mineros".

Y solo dos definen un concepto de "Pasivo Ambiental Minero".

La mayoría de los países cuentan con grado de avance en marco normativo que entrega potestades a algún Organismo Público, principalmente orientados a la prev...

Actualmente, ningún país cuenta con procedimientos administrativos bien delimitados para el tratamiento y gestión correctiva de los PAM.

© 2021 Mapbox © OpenStreetMap

Temáticas

Temática	Perú	México	Argentina	Ecuador	Chile	Brasil - Bahia	Honduras	Brasil	Argentina - Buenos Aires	Colombia	Guatemala	El Salvador	Bolivia	República Dominicana
Normativa	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Herramientas y Organismos Públicos	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Prevención de PAM	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Identificación de PAM	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Fiscalización de PAM	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Plan estratégico	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Monitoreo y seguimiento	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Responsabilidad	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Normativa regeneración	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Presupuesto	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Tecnología	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Acciones de Regeneración	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Seguimiento	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Colaboración	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Minerías Secundarias	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Acceso a la información	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Participación ciudadana	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Avance en la agenda 2030	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					

Hitos

Hito	Perú	México	Argentina	Ecuador	Chile	Brasil - Bahia	Honduras	Brasil	Argentina - Buenos Aires	Colombia	Guatemala	El Salvador	Bolivia	República Dominicana
Ley Medio Ambiental	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Marco Normativo de Pasivos Amb.	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Definición de "Pasivo Ambiental"	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Marco Normativo de Pasivos Amb.	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					
Definición de "Pasivo Ambiental"	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor	Avance menor					

Nivel de Avance

- Avance completo
- Avance mayor
- Avance menor
- Sin avance

3. EVALUATION OF MEL MANAGEMENT FROM A REGIONAL PERSPECTIVE

3.1. INTRODUCTION

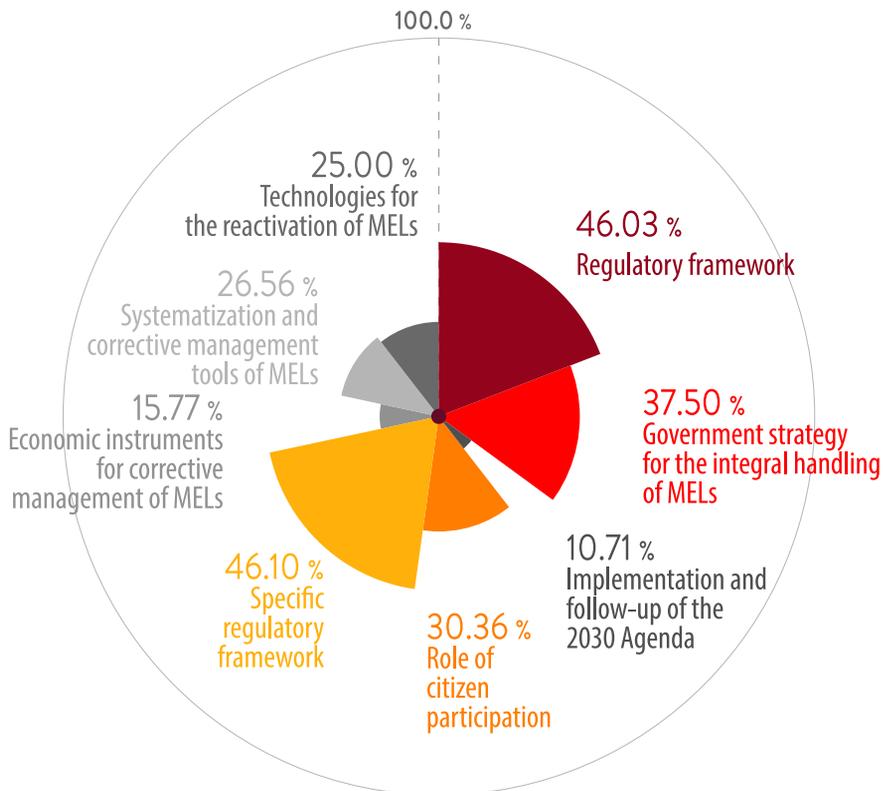
Latin American and Caribbean countries generally lack regulatory definitions regarding MELs and, therefore, do not have a legal framework under which to evaluate their compliance. Nor have they implemented public policies aimed at their management, and there is even a lack of information on the identification of the problem. In this scenario, the audit made it possible to recognize and evaluate the available institutional structures and mechanisms.

This section presents the integrated results of the analysis carried out by the participating supreme audit institutions. They provided the data to the coordinating team through the audit questionnaire, which reflects the execution of local audits in accordance with their respective mandates, regulatory frameworks and audit methodologies.

This situation implied the adaptation of parameters, language and formats developed in the planning of the coordinated audit. This in order to carry out a comparative evaluation that assumes the different levels of development in MELs in each of the participating countries and sub-national units.

3.2. SCHEME OF THE INTEGRAL MANAGEMENT OF MELs IN THE REGION

FIGURE 4:
MANAGEMENT ELEMENTS CONTAINED IN THE HANDLING OF MELs



Source: own elaboration.

According to the criterion “integral management of MELs,” it was observed that the region lacks tools for their adequate treatment. According to the exposed quantification, the percentages on average show values of 31 % and 28 % for the governance and corrective management structures, respectively. These parameters are conditioned by the presence of general regulatory frameworks –constitutions or other mining or environmental sector regulations– that assign competencies related to MEL management, with the aim of protecting the environment and people’s health.

Likewise, the development of strategic planning instruments for MEL management is observed, which translates into tools such as public policies. However, the analyses show that these programs are aimed at preventing new MELs, shifting the focus of action with respect to the restoration or remediation of environments degraded by the presence of MELs.

It was possible to establish, as a common conclusion, the inexistence of registries –that evidence the presence and risk of the MELs– which leads to the associated problem’s invisibility. As a result of it, the absence of financial instruments that allow sustained management over time was verified, while weaknesses in the mechanisms of active participation of the communities –either through information transparency or in the

design, implementation and monitoring of solutions to situations of contamination or structural risk that affect them— condition their vulnerability to risk.

However, although the audit identifies a general regulatory framework within which it would be possible to manage this environmental problem, it is worth noting the lack of a regulatory framework to deal with the MEL problem as such. Then, it is necessary to give autonomy to this concept, with the purpose of:

- a) recognizing its existence and its magnitude, and
- b) defining the urgency and the allocation of competencies and resources for their attention, providing their management with adequate governance.

3.3. NATURE OF MEL MANAGEMENT IN THE REGION

The management of MELs in the countries of the region participating in the audit is predominantly preventive, as can be seen from the evaluation carried out by the audit institutions. This means requiring adequate closure measures for new or currently operating sites, in order to avoid new MELs, which is expressed in both general and specific regulatory frameworks. The foregoing reaffirms the omission of management mechanisms associated with existing liabilities, the result of improper closure or abandonment of mining operations.

The exception is given by Peru, Ecuador and Mexico, who have both a preventive and corrective model. El Salvador, meanwhile, considers in its legislation the prohibition of mining, a general mandate to the State to carry out the adequate closure of existing mining operations, without prejudice to the limitations for their correct and full implementation.

FIGURE 5:
CHARACTER OF MEL MANAGEMENT IN THE GOVERNMENTS EVALUATED



Source: own elaboration.

According to the inquiries, the 14 governments have instruments aimed at preventing MELs, which, to the extent that they are effectively applied, would establish conditions for not generating new MELs. They are expressed in the regulation of the approval or closure of mining facilities, as well as in the environmental evaluation of projects, among others. In turn, these regulations are subject to audit, according to defined attributions and responsibilities.

However, the province of Buenos Aires, although it has some of the aforementioned prevention mechanisms, considering the origin of the MEL present in its territory –material extraction areas, such as quarries– it lacks a regulation on the closure of such sites.

TABLE 2:
INSTRUMENTS OF PUBLIC POLICY, STRATEGIES OR REGULATIONS FOR THE
PREVENTION OF MELs

COUNTRY	INSTRUMENT OF PUBLIC POLICY, STRATEGY OR REGULATION HIGHLIGHTED FOR THE PREVENTION OF MELs
Argentina	<p>Title XIII, second section, of the National Mining Code, Law No. 24,585. General Environmental Law, No. 25,675. Law No. 24,051, on Hazardous Waste and its regulatory decree. Federal Mining Agreement. The complementary regulations and minimum budgets –Act of San Carlos de Bariloche– approved by the Federal Mining Council in 1996. The decrees of the Provincial Executive Power establishing the enforcement authority in provincial jurisdiction of Title XIII, second section, of the National Mining Code. Provincial decrees for the implementation of complementary regulations and resolutions of an institutional nature and internal administrative procedure that complete the mining environmental management, such as Decree No. 968/97, which regulates the mining environmental impact assessment in the province of Buenos Aires. Environmental Liabilities Law, No. 14,343</p>
Bolivia	<p>Environmental Regulations for Mining Activities approved by Supreme Decree No. 24,782, of 1997, Title VII, on the closure of mining activities, establishes that the mining operator must close and rehabilitate the area of its mining activities upon partial or total conclusion of its mining activities or their abandonment for more than three years. Environmental control prevention regulations of Law No. 1,333, of 1992, on the Environment.</p>
Chile	<p>Decree No. 248, of 2007, of the Ministry of Mining, regulates the approval of projects for the design, construction, operation and closure of tailings deposits. Law No. 20,551, of 2011, which regulates the closure of mining sites and facilities. Decree No. 41, of 2012, of the Ministry of Mining, which approves regulations of the Law on the Closure of Mining Sites and Facilities.</p>
State of Bahia	<p>Law No. 10,431, of 2006, State Environment and Biodiversity Protection Policy and its regulations - Decree No. 14,024, of 2012-.</p>
Guatemala	<p>The National Development Plan: K'atun, Nuestra Guatemala 2032.</p>
Peru	<p>Law No. 28,611, General Environmental Law. Supreme Decree No. 012-2009-MINAM, National Environmental Policy. Law No. 28,090, Law that regulates the Closure of Mines. Supreme Decree No. 033-2005-EM, Regulation for the Closure of Mines. Supreme Decree No. 040-2014-EM, Regulation of environmental protection and management for mining exploitation, benefit, general work, transportation and storage activities. Law No. 27,446, Law of the National System for Environmental Impact Assessment and its regulations. Board of Directors Resolution No. 006-2019-OEFA/CD, Supervision Regulations.</p>

Dominican Republic	<p>Law No. 64-00, Environment and Natural Resources. Non-metallic mining standard. Law No. 123-71 and its implementing regulations, which prohibits the extraction of components of the earth's crust called sand, gravel, grit and stones. Resolution No. 001-2017, which approves the procedure for granting environmental authorizations for non-metallic mining operations. Compendium of environmental regulations and authorizations 2014.</p>
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TABLE 3:
INSTRUMENTS AIMED AT THE PREVENTIVE MANAGEMENT OF MELs

COUNTRY	FEATURED MEL PREVENTIVE MANAGEMENT TOOL
Bolivia	<p>The environmental regulation for mining activities establishes that the mining operator must close and rehabilitate the area of its mining activities at the partial or total conclusion of its mining activities or its abandonment for more than three years, according to the closure and rehabilitation plan approved in the environmental license (Supreme Decree No. 24,782, 1997, Title VII), whose granting details are established in the Environmental Control Prevention Regulations of Law No. 1,333, on the Environment, of 1992.</p>
Brazil	<p>Decree No. 9,406, of 2018, which regulates Decree-Law No. 227, of 1967, Mining Code. Mining regulatory standards of the National Mining Agency:</p> <ul style="list-style-type: none"> a) NRM-19 Disposal of tailings, waste and products; and b) NRM-20 Suspension, closure of the mine and resumption of mining operations. <p>Law No. 12,334, of 2010, National Dam Safety Policy. Law No. 14,066, of 2020, which alters Decree-Law No. 227, of 1967, Mining Code.</p>
Colombia	<p>Renewable Natural Resources and Environmental Protection Code, Decree Law No. 2,811, of 1974. Sole Regulatory Decree of the Environment Sector No. 1,076, of 2015, compilation of the regulatory decrees of Decree Law No. 2,811, of 1974. Policy for Sustainable Soil Management. Policy for Integrated Water Resource Management. National Policy for the Management of Residues or Hazardous Waste.</p>
Ecuador	<p>Environmental authorization procedures for new mining projects and environmental regularization of existing ones that do not have authorizations. In addition, based on criteria of importance, risk and scale of the project and the possible impacts derived from it; the need to present environmental guarantees is established. Mining Law (article 26). Organic Environmental Code (articles 172, 173, 179, 181, 183, 185). Environmental Regulation for Mining Activities (articles 5, 7, 10, not numbered 3 after 11, and from 34 to 42).</p>
El Salvador	<p>Law for the Prohibition of Metallic Mining and its regulations.</p>

Honduras	Mine Closure Regulation. Regulations of the National System of Environmental Impact Assessment Environmental Measures Contract.
Mexico	Official Mexican Standards –NOM– Mexican standards –NMX– procedures and administrative processes to carry out the evaluation and authorization of management plans, and accident prevention programs related to the prevention and preventive management of environmental liabilities and MELs on the part of the companies that carry out extractive activities or contaminate the soil.

3.4. INSTRUMENTS FOR THE TREATMENT OF MELs IN THE REGION

Of the 14 governments evaluated, only Ecuador, Mexico and Peru have instruments aimed at the corrective management of MELs. These regulatory mechanisms allow the development of an organized institutional framework with different actors, with a focus on the remediation of sites affected by MELs. They also establish a clear and limited definition of its concept, a key element for its identification and extended discussion with a view to its management.

TABLE 4:
INSTRUMENTS AIMED AT THE CORRECTIVE MANAGEMENT OF MELs

COUNTRY	FEATURED MEL CORRECTIVE MANAGEMENT TOOL
Ecuador	Organic Code of the Environment (articles 7, No. 4; 9, No. 10; 164; 166, No. 3; 294; 295; 296; and 297). Regulations to the Organic Code of the Environment (article 19, literal a). Unified text of secondary legislation of the Ministry of Environment (article 5, literal p). Environmental Regulation of Mining Activities (article 50).
Mexico	The General Law for the Prevention and Integral Management of Waste establishes preventing contamination of sites as one of its objectives, as well as carrying out its remediation (Article 1). Regarding the reuse of environmental liabilities and MELs, the General Law of Ecological Balance and Environmental Protection establishes that the necessary actions must be carried out to recover or restore the conditions of soils contaminated by hazardous materials or waste, so that they can be used in any type of activity foreseen by the applicable urban development or ecological management program (article 134, section V).
Peru	It has a specific legal system for MEL management, among which are mainly the following: Law No. 28,271 and amendments, law that regulates the environmental liabilities of the mining activity. Supreme Decree No. 059-2005-EM that approves the regulation of environmental liabilities of the mining activity, modified by Supreme Decree No. 003-2009-EM.

It should be noted that such instruments do not ensure the implementation of an integral management of MELs with a focus on their correction, in a profitable and prioritized manner. Consequently, the background information on the evaluation –carried out by each supreme audit entity – was expressed in the national and sub-national reports that complement this analysis. However, the existence of specific regulatory frameworks for such purposes makes it possible to tend to a systematic and effective management, attending to its risks in a prioritized way, considering the protection of the environment and the presence of populations affected by said condition, generating concrete actions for their protection, as well as for the safety and monitoring of people’s health.

In this sense, the governance system in the corrective management of MELs - established in Peru with the enactment of Law No. 28,271 - establishes administrative procedures for an implementation focused on critical processes of MEL management, such as:

- a) inventory updating –identification, characterization, prioritization of MELs;
- b) the determination of those responsible for its remediation;
- c) the identification, formulation and social evaluation of public investment projects for their remediation;
- d) the reuse of MELs; and
- e) the preparation of MEL closure plans, components of the MEL management subject to review, especially in matters related to the identification and evaluation of MEL risks, as well as those tools aimed at follow-up to remediation projects.

3.5. DEFINITIONS OF MELs

For the effective and coordinated management of MELs, a broad consensus is required regarding their definition, since this will determine the focus of action related to the needs raised by citizens, especially those exposed to their risks. In this sense, Peru is the only country in the region that has a specific definition and legal status.

On the other hand, Ecuador and Mexico, within the instruments designed to care for contaminated sites or waste, have a definition of environmental liability that includes those arising from mining activities.

In contrast, the remaining participating countries and sub-national units do not have general or specific definitions associated with these liabilities. However, they have conceptualizations applied in the context of other mechanisms for the management of waste, contaminated sites, or the stoppage of mining operations, which have allowed or would allow to protect mechanisms for their management. This can translate into a fragmented, partial, uncoordinated and unsustainable administration over time, which prevents the integral management of the MELs.

In a context lacking specific regulatory frameworks for the treatment of MELs, this has been developed based on the implementation of different instruments, which have identified the matter as a common problem. The latter is subject to the action of isolated initiatives, executed without planning or specific focus on risk management and that, therefore, do not establish an effective, efficient, economical and coordinated action of the MELs.

TABLE 5:
CONCEPTUALIZATION ASSOCIATED WITH MELs

COUNTRY	ULTIMATE ITEM	SOURCE	DEFINITION
Argentina	Environmental damage	Environmental Policy Law, No. 25,675	Any relevant alteration that negatively modifies the environment, its resources, the balance of ecosystems, or collective assets or values.
Bolivia	Environmental liability	General Regulations for Environmental Management	Set of negative impacts harmful to health or the environment, caused by certain works and activities existing over a certain period of time.
Brazil	Environmental liabilities in soil and groundwater	Brazilian Association of Technical Standards, NBR 15,515-2, from 2011	Environmental liability: damage inflicted on the natural environment by a certain activity or by all human actions, which may or may not be economically valued.
Chile	Mining environmental liability	Risk assessment manual for abandoned or paralyzed mining sites (SERNAGEOMIN, 2008)	Only a part of the paralyzed or abandoned mining operations is considered to present significant levels of risk to the safety or health of the population and the environment. The sites that present this type of risk are called mining environmental liabilities, MELs.
Colombia	Areas of mining activity in a state of abandonment	Risk assessment manual for abandoned or paralyzed mining sites	These areas constitute spaces in which some type of mining activity has been developed and which have ceased to be the object of exploration or exploitation for a certain time, for various reasons: resource depletion, loss of the operator's financial capacity, non-compliance with the environmental permits or licenses, problems with the public, among others. Thus they become MELs when debts are generated by virtue of the damages that the abandoned mining activity has caused.
Ecuador	Environmental liability	Environmental Regulations for Mining Activities	They are those environmental damages or negative environmental impacts not repaired or restored respectively, or those that have been previously intervened, but inadequately or incompletely and continue to be present in the environment, constituting a risk for any component, generated by a mining activity.
El Salvador	Environmental remediation	Law of Prohibition of Metal Mining	Clean up or correct the disturbance of the areas used or affected by the execution of mining activities, in such a way that they achieve, as far as possible, the characteristics of an ecosystem compatible with a healthy and balanced environment for the development of life.
Honduras	Environmental liability	Mine Closure Regulations	Concept that may or may not materialize at a geographic site contaminated by the release of materials, foreign or random waste, which were not remedied in a timely manner and continue to cause negative effects on the environment. Faced with the existence of environmental liabilities, it is necessary to resort not only to remediation or mitigation, but also to compensate the previously caused damages (article 8, paragraph L).

Mexico	Environmental liability	Regulations of the General Law for the Prevention and Integral Management of Waste (RLGPGIR)	Those sites contaminated by the release of hazardous materials or wastes, which were not remediated in a timely manner to prevent the dispersion of pollutants, but which imply a remediation obligation. This definition includes pollution generated by an emergency that has effects on the environment (Article 132, third paragraph).
Peru	Environmental liability	Law No. 28,271, which regulates the environmental liabilities of the mining activity	Environmental liabilities are those facilities, effluents, emissions, remains or deposits of waste produced by mining operations, currently abandoned or inactive, and that constitute a permanent and potential risk to the health of the population, the surrounding ecosystem and property (Article 2).
Dominican Republic	environmental damage	Law 64-00 on Environment and Natural Resources	Any loss, decrease, deterioration or damage caused to the environment or to one or more of its components.
State of Bahia	Degradation and degraded areas	Decree No. 14,024, of 2012, regulating the State Policy for the Environment and the Protection of Biodiversity	Se consideran áreas degradadas, entre otras: I. Those whose natural characteristics have been altered by the contamination caused by the spill of chemical products. II. Those that have not been properly recovered after having been subjected to mining exploration. III. Those that have been deforested without prior authorization. IV. Those that have suffered erosion as a result of anthropic activity. V. Permanent preservation areas occupied in an irregular manner. VI. Those whose natural characteristics have been altered by contamination caused by irregular waste disposal (Article 35).
Province of Buenos Aires	Environmental liability	Law No. 14,343	Environmental liability is understood as the set of environmental damages, in terms of contamination of water, soil, air, deterioration of natural resources and ecosystems, produced by any type of public or private activity, during its ordinary operation or due to unforeseen events throughout its history, which constitute a permanent or potential risk to the health of the population, the surrounding ecosystem and property, and which have been abandoned by the responsible party (Article 3).

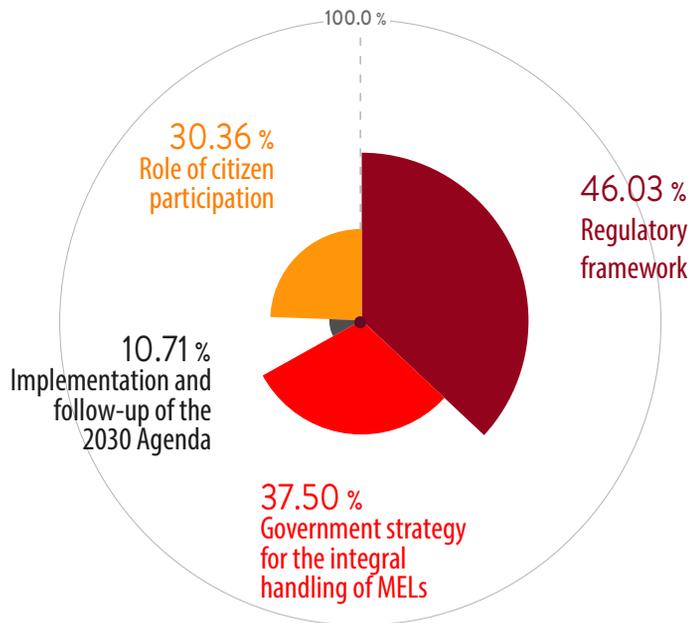
4. ANALYSIS AND RECOMMENDATIONS WITH A REGIONAL PERSPECTIVE

4.1. LEVEL A: GOVERNANCE STRUCTURES

Regarding the governance structures for MEL management, the countries of the region average 31 % development in the parameters measured –levels, mechanisms and components of the management of the MELs evaluated, showing poor progress in the coordination of relevant actors for MEL management, both from civil society and from the State.

Decisions adopted in this regard must be based on broad agreements, which expedite action on the environment and populations exposed to the direct and indirect impacts generated by MELs. Likewise, citizens must be well informed and active throughout the entire management process.

FIGURE 6.
MECHANISM LEVEL A
GOVERNANCE STRUCTURES



Source: own elaboration.

4.1.1. Regulatory framework

It was possible to establish that, at the regional level, 46 % development is achieved, which is associated with the existence of legal principles, attributions and responsibilities regarding the management of the risks generated by the MELs. This is independent of the existence of regulations that explicitly or autonomously regulate them. However, there was a lack of definitions regarding:

- a) the concept of mining environmental liabilities,
- b) regulatory tools and
- c) administrative procedures for the implementation of their corrective management.

This scenario obstructs the ability to deepen systems for MEL management or other structures or assimilable elements that generate environmental impacts on the territory. Therefore, there are no adequate elements that guarantee a correction of the damage already caused, promoting the presence of the risk that these places can generate.

4.1.2. Government strategies

Concerning these, a 37.5 % development was observed in the evaluated parameters, highlighting the results associated with the existence of preventive planning instruments with those responsible for their implementation. Along with the absence of public policy tools aimed at developing mechanisms for the treatment of MELs, the lack of national strategies that consider aspects related to the management of contingencies, emergencies or disasters related to the structural or physicochemical conditions of MELs stands out. The latter accentuates the vulnerability of populations and elements of the environment subject to the risks that these structures generate.

4.1.3. 2030 Agenda

Regarding its implementation and follow-up, 10.7 % development was achieved, being the management mechanism evaluated with the lowest level of progress. This is a consequence of the lack of effective local structures and with their own indicators for implementing the agenda, which establish the link between the goals and the reality and needs of the territories in relation to the MELs. The latter, given their specificity, lack autonomy in public management and, ultimately, are invisible, which prevents the benefits associated with the implementation of this international tool from acting on the development of policies aimed at addressing them.

In this regard, it must be considered that the long-term global goals impose the sustainable development goals, as well as the focus on following up on the indicators; furthermore, they act as drivers of public policies in fundamental matters to address sustainable development during this decade.

However, in Ecuador and Mexico, the presence of coordination mechanisms that make it possible to link the efforts on the MELs with the 2030 Agenda stands out. These tools enable the mapping of such actions and thereby contribute to the achievement of the sustainable development goals.

4.1.4. Citizen participation

This aspect showed a development of 30.4 % on the evaluated parameters, which is configured from the existence of general instruments, not specific to the MELs, which facilitate and guarantee citizen participation, as well as access to public information and that have the potential to be applied during the management of MELs. However, these tools generally lack procedures or mechanisms for the follow-up and monitoring of community requirements. Consequently, the main actions in the integral management of MELs are limited in terms of transparency, risk communication and citizen participation in the decision-making process. These would allow mitigating risk exposure, since they provide elements of protection, and would help prioritize and build more effective and efficient solutions that reflect the experience and needs of the affected people and communities.

4.1.5. Recommendations

Regulatory framework

Generate mechanisms and instruments to consolidate the MEL concept, allowing the design and coordination of integrated and coordinated actions between the competent bodies, aimed at the management, control, mitigation or elimination of its significant risks.

Government strategies

Define national or local policies and strategies, assigning roles, responsibilities and medium and long-term goals. In this context and through active coordination, the different entities with environmental, mining, health and other competencies would exercise their powers to manage the risk caused by the presence of MELs, from an integrated perspective. In turn, actions must be taken in the short term for the management of contingencies, emergencies or disasters, related to the structural or physicochemical conditions of the MELs.

2030 Agenda

Strengthen the mechanisms aimed at monitoring and evaluating the sustainable development goals, even more so, in the health emergency caused by COVID-19. For this, the mapping of those procedures related to the management of the MELs is required and the contribution of these to the achievement of the goals and targets of the 2030 Agenda is verified. The establishment of specific and local indicators, directly associated with the problems faced by each of the territories and communities, is used.

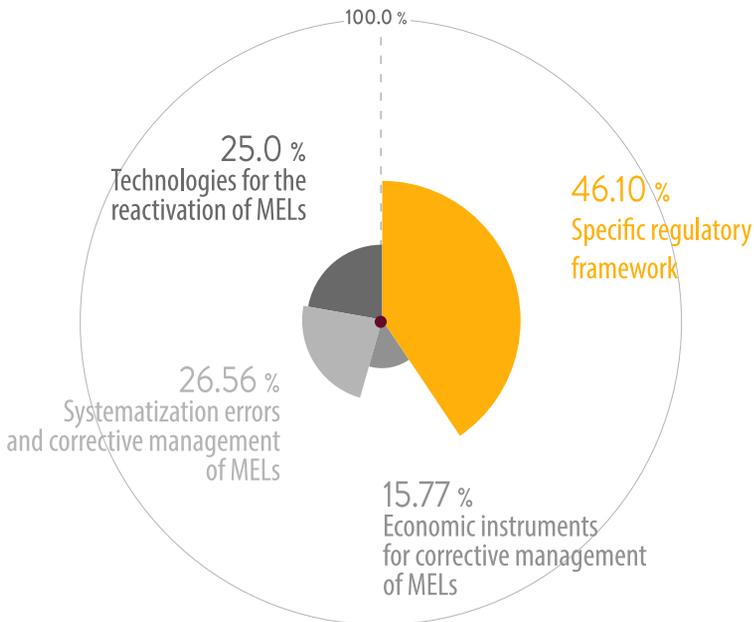
Public participation

Encourage access to environmental data held by governments, through the publication of the registries of the sites affected by the presence of MELs that are available, including the necessary information to allow citizens to fully understand them. If they have background information, national and local governments should directly and actively communicate existing risks to nearby communities. Likewise, it is recommended to establish participatory processes that allow communities to be consulted and influence decision-making at all stages of the risk management process.

4.2. LEVEL B: CORRECTIVE MANAGEMENT

In relation to the implementation of corrective management mechanisms for MAPs, the governments evaluated have an average of 28 % development, confirming previous diagnoses regarding the absence of mechanisms for the treatment or recovery of sites affected by the presence of MELs.

FIGURE 7.
LEVEL B MECHANISM
CORRECTIVE MANAGEMENT



Source: own elaboration.

4.2.1. Specific regulatory frameworks

Progress of 46 % was observed in the region, based on the existence of mechanisms for assigning responsibility for the management and regeneration of MELs. The demarcation of supervisory powers in regulated matters and the identification of instruments to collect information or other measures in the framework of the evaluation and investigation of MELs also contribute. The latter, with a view to characterizing the MELs identified in the territories. On the other hand, the absence of the definition of regeneration standards of the sites in which there are MELs and, with this, the lack of mechanisms for the follow-up and control of the applied measures stands out.

4.2.2. Economic instruments

A development of 15.8 % is reached in the subjects evaluated, being a critical factor when projecting the management of the MELs, since the governments of the region have not established specific financing mechanisms for the identification, characterization, prioritization and remediation of those, which obstructs the application of other tools for their treatment. However, there are cases such as Colombia, Ecuador and

Mexico, where financing instruments are recognized in the framework of national budgets that do not make direct reference to the presence of MELs, despite having contributed to their management.

Worth noting is the case of Peru, whose Ministry of Energy and Mines has received, between 2015 and 2020, a variable budget for the treatment of MELs. It should be considered that the framework of the Law of Financial Balance of the Public Sector Budget of that country has allowed the transfer of maximum amounts between 2015 and 2020, in favor of the company Activos Mineros S.A.C. –AMSAC– for the purposes of remediation of MEL. Thus, between 2015 and 2016 it contributed 20 million soles; in 2018, 170 million; in 2019, 80 million; and in 2020, almost 112 million; totaling approximately 400 million soles, equivalent to 108 million dollars⁵.

4.2.3. Systemization tools

A development of 26.6 % was observed, confirming the general condition regarding:

- a) the absence of MEL registries,
- b) the execution of risk assessments,
- c) prioritization for their treatment and
- d) their eventual remediation.

Among the advances observed are the “guidelines for the categorization according to environmental risk of potentially contaminated sites,” which serve in the identification and analysis of MELs and have facilitated progress in their treatment. However, local audits expose deficiencies in the implementation of these methodologies, because their application is not subject to regulatory compliance, in addition to showing technical difficulties for their execution, considering a context lacking regulation and financing. Notwithstanding the usefulness of MEL’s remediation actions carried out within this framework, it can be seen that these correspond to isolated efforts, the result of specific initiatives that lack follow-up mechanisms that allow validating the effectiveness of the investment and the efforts made.

The absence of solid structures that guarantee the identification, characterization, prioritization and eventual remediation of MELs has led to a massive lack of strategies on the part of governments to follow up on the health of people exposed to MELs. In addition, inactivity is observed in the execution of short, medium or long-term control actions against contamination, which increases the vulnerability of the populations affected by this situation. The lack of these mechanisms contributes significantly to the invisibility of the problem, with which MELs do not appear on the radar of government priorities, making it difficult to develop regulatory frameworks and strategies for their treatment.

4.2.4. Technologies for the reactivation of MELs

With 25 % development, it was observed that, in four countries of the region, there are initiatives that analyze the technical and economic viability of reusing MELs. It is understood that, from their implementation, the risk originated by the presence of MELs can be managed, in addition to generating social or economic benefits for those who carry out said action or represent an alternative of total or partial self-financing of their management. In this context, there are projects at the regional level that have the potential to activate the treatment of MELs.

5 According to an exchange rate, as of April 17, 2017, of 3.7 soles per dollar.

However, at the regional level, there are no initiatives to promote the reuse of MELs nor a specific regulatory framework, with the exceptions of Peru, where such action is regulated under the concept of secondary mining or reprocessing, and of the province of Buenos Aires, where there are instruments for the subsequent use of MELs, related to filling quarries with non-hazardous waste and the development of urbanization projects.

4.2.5. Recommendations

Specific regulatory framework

Generate regulatory frameworks for MEL management, defining regeneration standards for the impacted environmental components that respond to broad agreements, including the opinions emanating from local communities affected by risk conditions. These regulations must define both the reference parameters at the national level and the attributions and responsibilities of each of the competent actors in the matter, especially in relation to follow-up on people's health.

Economic instruments for the corrective management of MELs

Allocate specific resources to finance initiatives related to the management of MELs and structures similar to that concept. This, in order to design, coordinate and implement systematic actions among the competent bodies, which specifically aim at the management, control, mitigation and elimination of the significant risks generated by these structures.

Systematization tools for the corrective management of MELs

Develop inventories of the MELs present in the territories, analyzing their risks on a scientific basis and generating prioritized lists that determine profitable and focused management in urgent situations to address. Along with this, implement action plans for those communities affected by risk, considering mechanisms for monitoring people's health and aspects such as the effectiveness and equity of the measures implemented.

Technologies for reactivation of MELs

Generate regulatory mechanisms that promote the reuse of MELs, considering their characteristics and the social and economic benefits they produce.

4.3. FEATURED FINDING

From a regional perspective, the absence of official publicly accessible inventories and evaluations that allow the identification of both the location of the MELs and the risks arising from their presence stands out.

This lack of information is the main cause of the invisibility of the problem, verifying that the MELs are not being considered in the agendas and medium- and long-term planning instruments of the countries and sub-national units participating in this coordinated audit. Logically, this results in the non-existence of government strategies for the care and protection of the affected environment, as well as for ensuring the safety and follow-up on the health of people exposed to an unknown risk condition –for not having been evaluated or communicated– and has prevented the undertaking of a political agenda that encourages the issuance of regulatory frameworks, all of which increases the vulnerability of the population.

In this way, the absence of registries of the environmental liabilities of the countries or sub-national units participating in the audit leads to the generation of fragmented and incomplete databases, which do not allow to recognize the quantity, location and danger of such structures, with the required territorial scope.

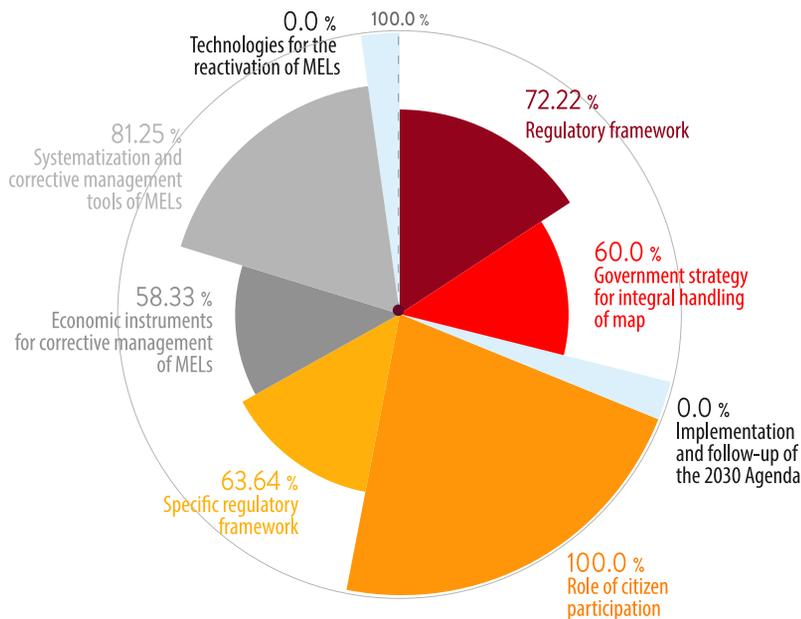
Likewise, assuming the lack of background information for decision-making by governments, the general absence of specific regulatory frameworks and other management mechanisms that address the presence of MELs in the territory was observed. In other words, the environmental and social problem lacks strategic planning in the region, causing the implemented initiatives to propose a weak, fragmented and uncoordinated action, a situation that must be reversed in the short term, by the audited governments.

5. INTEGRAL MANAGEMENT OF MELs IN THE COUNTRIES EVALUATED

5.1. ARGENTINA

Argentina has achieved a development of 54 % on the minimum management model, focusing on the prevention of these liabilities.

FIGURE 8:
ARGENTINA



Source: own elaboration.

General Situation

The country lacks specific legislation for the management of mining environmental liabilities. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory. However, based on standards of constitutional rank, the Environmental Policy Law No. 25,675 and the National Mining Code, guidelines are established for the achievement of a sustainable and adequate management of the environment at the national level, which allow it to have instruments or tools applicable to MEL management.

Governance structures

Article 124 of the National Constitution recognizes the original domain of the provinces over the natural resources existing in their territory. For this reason, in mining matters, it is the provinces that are responsible for the integral management of mining environmental liabilities. The federal institutionalization of environmental issues is given by Law No. 25,675, of Environmental Policy, which establishes the minimum budgets for the achievement of a sustainable and adequate management of the environment at a national level.

In the absence of a specific minimum budget standard regulating mine closure, the “Good practices resource guide for mine closure” is a prevention tool for the generation of MELs. Regarding its corrective management, the federal institutionalization in environmental matters is applicable—laws Nos. 25,675, 24,051 and 24,585. Likewise, the existence of the IDB loan contract No. 1865/OC-AR was verified, intended for the execution of the Environmental Management Program for Sustainable Production in the Productive Sector, subscribed between the Argentine Republic and the Inter-American Development Bank, IDB, whose objectives were to promote the adoption of clean production practices by small- and medium-sized companies as a corporate environmental management strategy, in addition to the incorporation of the environmental variable in the mining activity.

Argentina adopted the preventive mining environmental regime as a political strategy.

As of the approval of the Strategic Plan for Argentine Mining Development (resolution SM 47/20) for the period 2020–2023, the establishment of the National Mining Sustainability Program, the National Community Development Program and the National Program for the Diagnosis of Mining Environmental Assets and Liabilities have been considered.

Although there is a body responsible for coordinating the actions necessary for the implementation of the 2030 Agenda, no actions have been developed to incorporate the integral management of MELs in this instrument.

There is no national standard that regulates the management of MELs, so there is no specific procedure that is binding in decision-making and that guarantees citizen participation in MEL management. However, the General Environmental Law indicates that the national environmental policy should promote social participation in decision-making processes.

Corrective management

Although there is no specific regulatory framework for MEL management, at the national level, the mining environmental legal framework contemplates the environmental damage generated by mining activity and an associated liability regime.

There is no national inventory of MELs. However, partial registries have been practiced by the Argentine Geological Mining Service and geoenvironmental studies have been carried out in three areas of the country: San Antonio de los Cobres—Salta and Jujuy—the Farallón Negro volcanic complex—Catamarca—and in

the Fuegian mountain range Tierra del Fuego. During 2017 and then in 2020, it was proposed to develop a national inventory of MELs, based on the methodology of the Contaminated Sites Identification Program.

Based on the jurisdictional competencies established, the national government arranged measures to remedy those liabilities of the mining activity prior to the enactment of Law No. 24,585. These actions were limited to the Mining Environmental Management Subprogram, GEAMIN, within the framework of the loan agreement signed with the Inter-American Development Bank, IDB. As a pilot experience, they sought to remedy environmental liabilities through the elimination of the contamination source, the proper disposal of waste and a monitoring system, in three priority areas:

- a) Metal Huasi Lead Smelter in Abra Pampa –Jujuy province;
- b) Lead Smelter in San Antonio Oeste –Río Negro province;
- c) Sulfateras de Calingasta –San Juan province.

As a result, two of the three selected areas were remedied, with the removal, transportation, final disposal of slag and contaminated soils, and recovery of the intervened areas in San Antonio Oeste still pending.

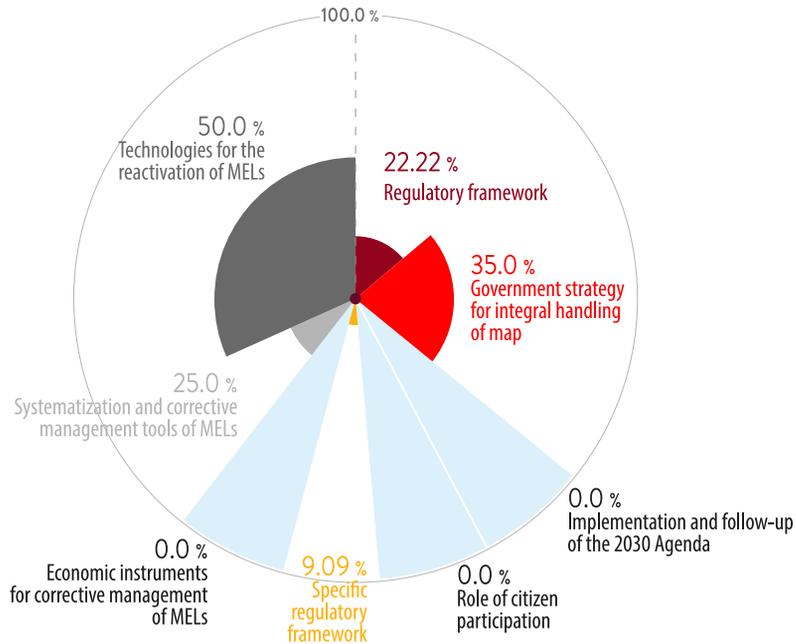
The aforementioned initiatives have made progress in prioritizing MELs and remediation actions. However, these are pilot experiences of a punctual nature, so they do not respond to a management policy assured over time and that, therefore, allow the implementation of their integral management.

Argentina does not have an inventory of mining environmental liabilities and their associated environmental risks that would allow the identification of priority liabilities to implement remediation actions according to their characterization.

5.2. BOLIVIA

Bolivia has achieved a development of 17 %, focusing on the prevention of these structures.

**FIGURE 9:
BOLIVIA**



Source: own elaboration.

General Situation

There is no specific legislation for the MEL management. However, the Political Constitution of the State defines the general framework for the management of environmental liabilities, by establishing that the State and society will promote the mitigation of harmful effects on the environment and environmental liabilities affecting the country, allowing a general framework for its management. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory.

Governance structures

Regarding the prevention of MELs, it has standards and tools aimed at the proper closure of mining operations, considering the rehabilitation of the affected areas. It also includes a liability regime that establishes an accounting forecast to cover the cost of said closing.

The Ministry of Environment and Water prepared the Sector Plan for the Integral Development of the Environment and Water –2016 to 2020– and formulated the National Program for the Restoration or Rehabilitation of Life Zones, which will contribute to the protection, prevention or remediation of pollution environmental components of the earth. However, as of 2020, it was verified that said program has not been implemented.

The mechanisms of citizen participation provided for in Law No. 341, of 2013, have not been put into operation for MEL management.

Likewise, it was verified that there are no coordination instruments between the competent bodies, regarding actions related to the integral management of MELs and their implementation within the framework of the 2030 Agenda.

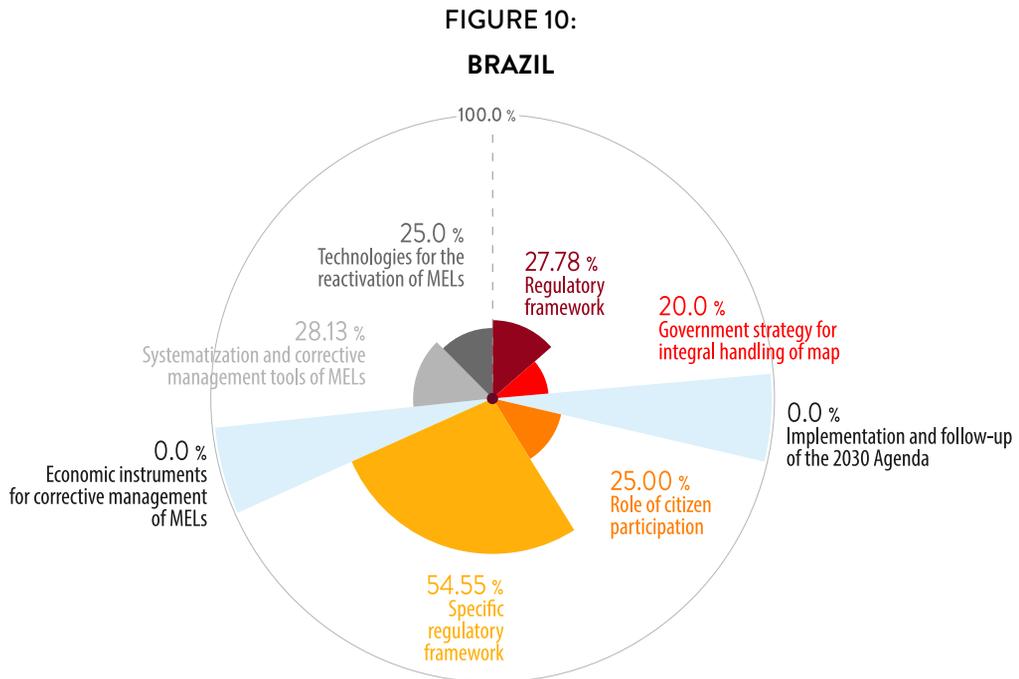
Corrective management

Bolivia has a general regulatory framework for the delimitation of responsibilities of the mining operator, which is determined through a baseline environmental audit, an integral part of the environmental operating license, which is generally used to define responsibilities to the new operator and not for the remediation of MELs. However, there is no specific framework that considers a regime of responsibility for the management and generation of MELs.

Thus, the country does not have a national inventory of MELs. However, the Geological Mining Service carried out an inventory between 2005 and 2013, which does not cover the total extension of the territory. Likewise, within the framework of project BOL/91196 "Management of environmental liabilities in protected areas and their influence on water resources," an inventory of MELs was carried out in 8 national protected areas, generating the prioritization of mitigation or remediation actions, based on the degree of risk identified. However, it was verified that the intervention plans have not been executed.

5.3. BRAZIL

Brazil has achieved a development of 22 %, moving towards a preventive model for these liabilities.



Source: own elaboration.

General Situation

There is no specific legislation for MEL management. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory. However, instruments such as the Federal Constitution, Law No. 6,938, of 1981 –National Policy on the Environment– and Law No. 12,305, of 2010 –National Solid Waste Policy– among others, were recognized, which establish general guidelines for their treatment.

Thus, the Brazilian regulatory framework does not ensure the implementation of instruments and mechanisms that allow for the integral management of MELs. However, there are regulations that support the regime of responsibility and citizen participation in the corrective management of MELs, which must be addressed.

Governance structures

There is a deficient implementation of the standards for the prevention and preventive management of MELs –regulation of the closure of mines, administrative and operational procedures in the case of rehabilitation of impacted areas, highlighting the safety of the dams. As a consequence of this, there are no public policy instruments and clear strategies aimed at their management and treatment.

In planning, the 2030 National Mining Plan of 2010 stands out, which identifies sustainable production among its objectives, for which it executes actions in solid waste management. Within the latter, it promotes an inventory of abandoned mines and the recycling or reuse of mining waste, which promote actions to

address the MEL problem. However, the absence of national strategies for the management of contingencies or emergencies related to the structural or physicochemical conditions of the environmental liabilities derived from mining activities was noted.

Regarding the 2030 Agenda, the government entity responsible for the implementation and follow-up of said instrument did not identify its link with the management of the MELs.

Although it has mechanisms that facilitate and guarantee citizen participation and transparency of information, there is no regulatory framework on MELs, so their application is not guaranteed.

Corrective management

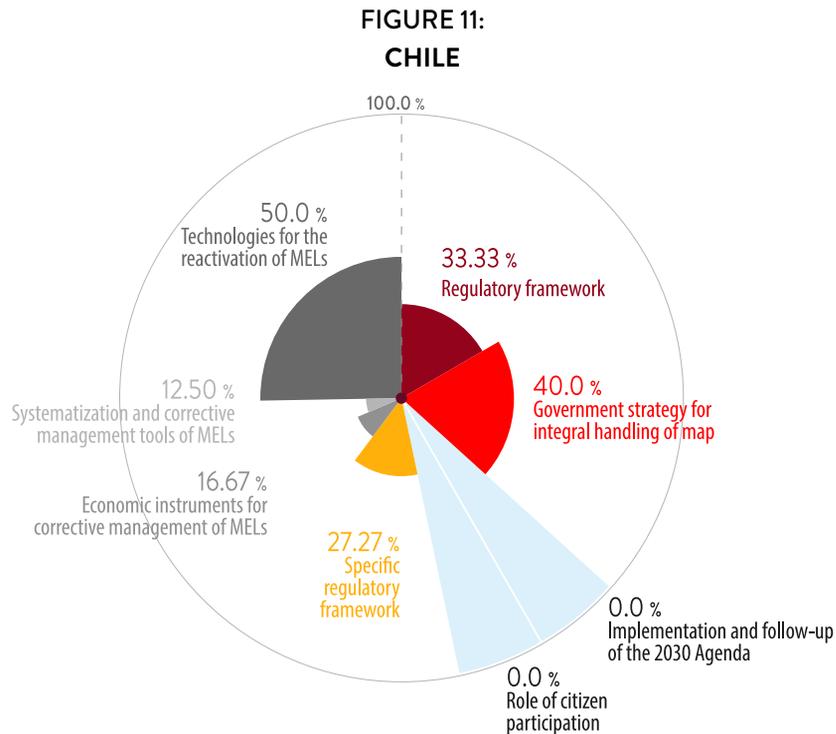
The general regulatory framework in Brazil highlights the obligation –specific to those who pollute– to recover environmental damage caused by mineral extraction, regardless of when the damage occurred. In this sense, the National Mining Agency has audit powers in relation to the abandonment of a mine, as well as due compliance with the mine closure plan. However, as there is no specific legislation for MELs, the inspection competencies on the integral management of MELs are established in various regulations.

Likewise, within the regulatory framework of the country's environmental legislation –such as CONAMA resolution No. 420, of 2009, which refers to the development of risk assessments– administrative and operational procedures were defined for the rehabilitation of prominent areas of mining origin that were impacted. Despite this, these tools are not implemented with respect to MELs, since there is no inventory of them at the federal level. Notwithstanding this, there were isolated cases of MEL identification, such as the MEL mapping project initiated by the Federal Public Ministry in the state of Espírito Santo, in addition to initiatives carried out in some states, such as São Paulo, Minas Gerais and Río de Janeiro

Likewise, it should be noted that innovation and development programs financed with public funds to implement technologies for the regeneration of MELs were verified, especially through academic activities and the Mineral Technology Center.

5.4. CHILE

Chile has achieved a development of 22 % with preventive management mechanisms.



Source: own elaboration.

General Situation

There is no specific legislation for MEL management. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory. However, management mechanisms are identified by a multiplicity of bodies that can be associated with the MEL management. This is based on the legal principles that should guide this management, mainly with respect to the risk to people's health and the environment that these structures generate.

Governance structures

Powers and attributions of the competent public bodies are recognized in the management of the risk originated by the presence of these liabilities, mainly through the management of potentially contaminated sites and abandoned or paralyzed mining operations. The Mining Operations Closure Law and its regulations are the main regulatory instrument to prevent the generation of MELs. However, there is no long- or medium-term strategy for treating them.

There are no national strategies related to the management of contingencies –structural or physicochemical– of the MELs. This is to the detriment of the need for risk management of assimilable structures, distributed over a large part of the territory, some of which are in direct contact with populated areas.

In the management of the structures assimilable to MELs, it was verified that the competent public entities have not mapped the actions developed in the sustainable development goals and that, as of July 2020, the coordination mechanisms for the implementation of the 2030 Agenda were inactive.

In addition, the absence of tools that guarantee citizen participation –applicable to the management of MELs and in the processes related to the management of potentially contaminated sites– and risk assessment in the framework of abandoned or paralyzed mining operations was detected.

Corrective Management

There are no tools that define a regime of attribution of responsibility for the treatment or remediation of MELs and different from that of environmental damage contemplated by national legislation. In this context, it was confirmed that the National Geology and Mining Service executes audits in matters related to the preventive management of MELs, while the Superintendency of the Environment verifies compliance with environmental instruments.

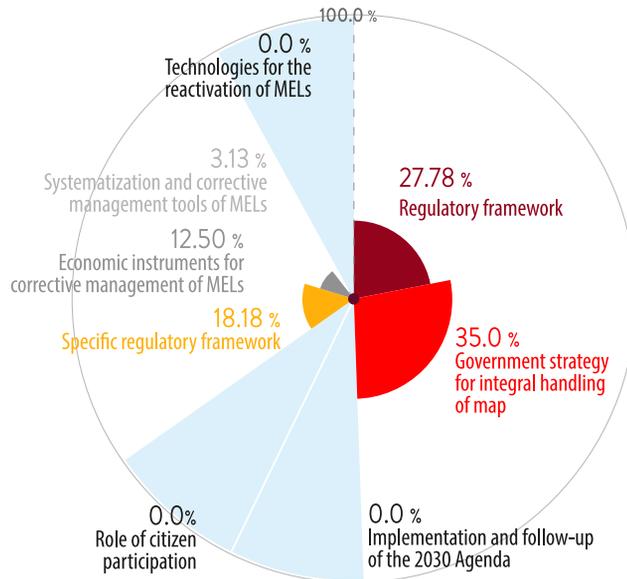
There are no standards for the regeneration of structures assimilated to MELs, which is related to the lack of a soil quality standard at the national level that allows to accredit the concentrations of contaminants of interest, on the occasion of the treatment and regeneration of impacted soils.

It does not have an inventory of MELs at the national level. The registries of potentially contaminated sites and abandoned or paralyzed mining sites –prepared by the competent entities– have been developed under dissimilar methodologies and criteria, identifying structures of different origins, in addition to not having been shared and integrated into a unified base. Nor is there an evaluation and prioritization of these structures, with a view to their treatment.

5.5. COLOMBIA

Colombia has achieved a development of 13.2 % with a focus on prevention.

**FIGURE 12:
COLOMBIA**



Source: own elaboration.

General Situation

There is no specific legislation for the management of mining environmental liabilities. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory. However, there are public policies, especially national development plans, which address the matter. Thus, with legal rank, the National Development Plan, PND, 2014–2018 “All for a new country,” established the need to implement an integral strategy for the identification, attention and environmental remediation of mining areas in a situation of abandonment. This initiative did not materialize, postponing solutions to the problem for mining liabilities in the country.

Governance structures

Within the framework of the preventive management of MELs, the legislation obliges employers to implement a risk management plan, which allows preventing or correcting situations of this nature. These translate into the design and implementation of risk reduction measures, emergency plans that are mandatory. Likewise, there are guidelines for municipalities and districts to provide information to form the national inventory of high-risk settlements and to incorporate risk management in land-use plans. However, the highest risk management body in the country, the National Unit for Risk and Disaster Management (UNGRD), does not carry out preventive work, and it was found that there are no goals on the subject in this entity.

Within the framework of strategic prevention, the local audit found that the governments have formulated national development plans with a 4-year implementation period. Specifically, in the 2014–2018 PND and in the 2018–2022 PND, objectives related to the management and treatment of MELs were proposed. However, the non-fulfillment of the goals in the matter was verified, highlighting the absence of follow-up indicators and the inaction regarding the design of tools for their treatment.

With regard to citizen participation, the mechanisms applicable to the integral management of MELs are established at the legal level. They help to guarantee greater and better access to information for the communities interested –including those that are only potentially interested– in the preventive and corrective management of MELs, and that are binding in nature. Notwithstanding the foregoing, it is planned to incorporate specific measures in the Comprehensive Strategy for the Management of Environmental Liabilities

Finally, the absence of initiatives linking the 2030 Agenda with the management of MELs was verified.

Corrective management

Although there is no responsibility attribution regime for the treatment or remediation of MELs, the law establishes that administrative sanctions in environmental matters have a preventive, corrective and compensatory function, to guarantee the effectiveness of the principles and purposes provided in the Constitution, international treaties, the law and regulations. In this sense, the National Mining Agency is the entity in charge of auditing mining titles and enforcing the stipulations of exploration and exploitation contracts, in order to prevent the MELs from materializing.

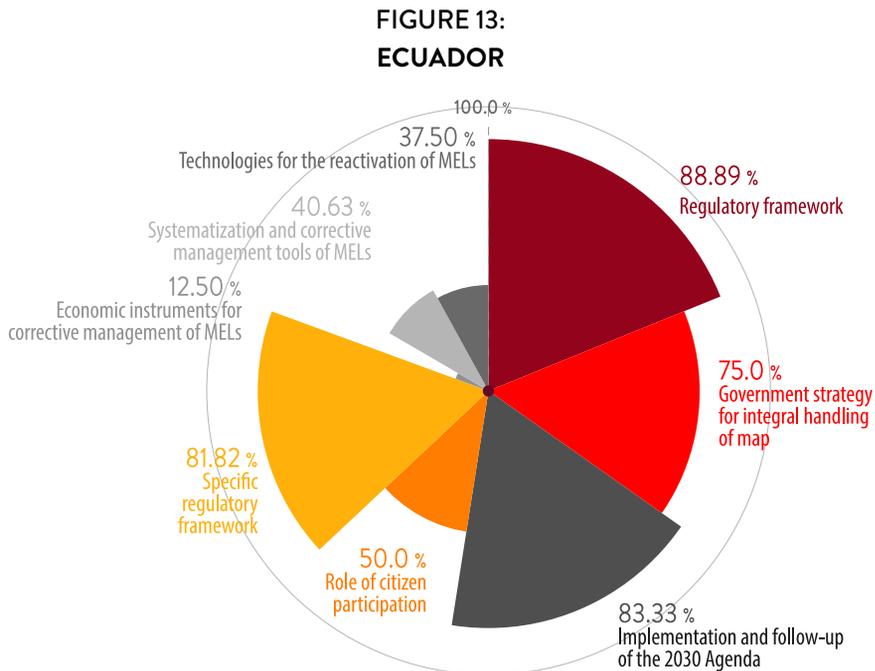
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The Ministry of Mines and Energy and the Ministry of Environment and Sustainable Development have developed initiatives regarding the identification of environmental liabilities. Although administrative procedures are not defined, the Office of Environmental and Social Affairs of the Ministry of Mines and Energy has identified, characterized and prioritized abandoned mining areas, prioritizing 14 regions, with 240 municipalities.

In this way, Colombia has developed actions and projects in favor of building a regulatory framework for the management and administration of MELs. However, these efforts have not been sufficient, nor have they been materialized since the country does not have a specific regulatory framework yet, or even a definition of environmental liability. This, despite the diagnoses of the issue and knowing the problems generated by MELs.

5.6. ECUADOR

Ecuador has achieved a development of 54.4 % with a focus on prevention and restoration.



Source: own elaboration.

General Situation

There are no specific regulatory instruments for MEL management. However, these are contained in the regulatory tools designed for the management of environmental liabilities in general. Thus, it has a definition of the concept of “environmental liabilities” and has an inventory of these structures, although it does not cover the entire territory of the country.

In relation to environmental liabilities and those arising from mining activities –MELs– there is a formal governance structure, ranging from the Constitution, through laws and regulations, to regulatory instruments, which define the responsible entities, as well as their attributions to intervene in aspects of prevention and restoration.

Governance structures

In order to safeguard the conservation of nature, at the regulatory level, the State is obliged to intervene in a subsidiary and timely manner in the repair of environmental damage when the operator of an activity is not responsible for its integral repair or when it has not been possible to identify the party responsible for the damage. It is established as a general rule that whoever carries out or promotes an activity that pollutes or will pollute in the future must incorporate, in its production costs, all the necessary measures to prevent, avoid or reduce the damage.

There are environmental authorization procedures for new mining projects and others for the environmental regularization of existing projects that do not have authorizations. To this end, an environmental management plan and environmental guarantees must be prepared, defining activities to prevent the generation of new MELs, as well as intervention in the event of accidents.

In order to prevent and control contamination and guarantee full remediation of socio-environmental damages and liabilities, the National Development Plan for the Mining Sector, the National Development Plan 2017-2021, among others, state the need to prevent, control and mitigate environmental contamination in the extraction, production, consumption and post-consumption processes of mining resources. However, the absence of planning, coordination and implementation of activities for restitution and repair of losses of biotic and abiotic resources, in the face of the “contamination sources” derived from mining activities and which were identified in the documents and reports of the Ministry of Environment and in the environmental and social remediation projects, was found to be lacking.

On the other hand, the Technical Secretariat of Planning “Planifica Ecuador,” as the governing body of the National Decentralized System of Participatory Planning, must regulate and carry out the monitoring and evaluation process of the goals and indicators of the 2030 Agenda. In this context, the activities of the environmental and social remediation projects –of interest for the management of mining environmental liabilities– are linked to Sustainable Development Goals 12 and 15, through Goal 3 of the National Development Plan 2017-2021. It also has a follow-up and evaluation procedure for the sustainable development goals.

The environmental regularization processes for the execution of public, private and mixed projects, works and activities consider a citizen participation stage in which the population –which could be directly affected by such execution– must be informed of the possible socio-environmental impacts expected and the relevance of the actions to be taken.

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Corrective Management

The Ministry of Environment is responsible for controlling the environmental aspects related to mining activities. It is empowered to control compliance with the activities foreseen in the environmental management plans of mining projects, as well as those related to the restoration and repair of environmental damages. It must also approve the integral remediation measures presented by the party responsible for the environmental damage and their respective implementation.

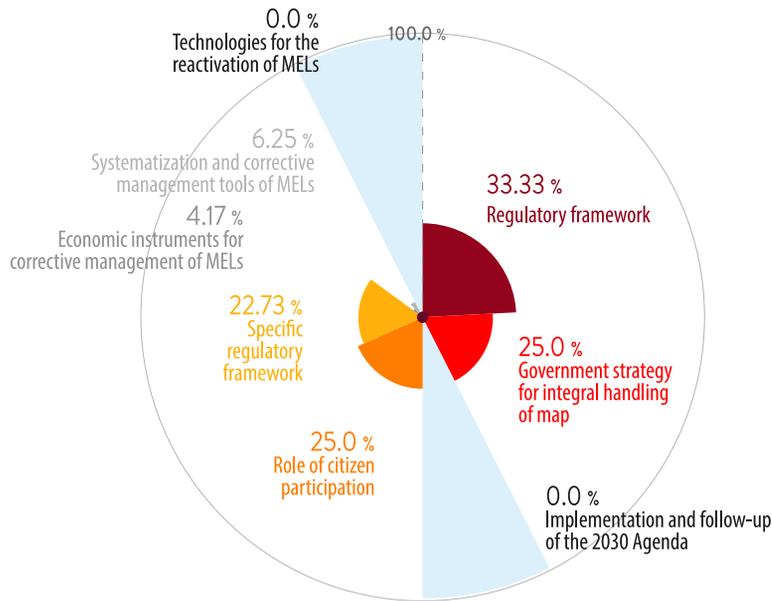
It should be noted that the objectives of the Environmental and Social Remediation Project Management Team Unit of the Ministry of Environment are to restore, repair, prevent and compensate the loss of biotic and abiotic resources, in accordance with the “Methodological Guide for the construction of integral remediation plans.” However, these plans have technical weaknesses that hinder their implementation.

Ecuador has the document “Final Registry Report,” from 2015, which did not cover the entire territory. On the other hand, the Environmental and Social Reparation Program has a list of mining contamination sources as of 2018, linked to the “National registry of environmental liabilities from hydrocarbon and mining activity.” The 2015 report and the 2018 registry do not meet the conditions that allow considering such information as a national planning tool in terms of environmental/social restoration or remediation of MELs.

5.7. EL SALVADOR

El Salvador has achieved a development of 14.7 % with a focus on the prevention and restoration of MELs.

**FIGURE 14:
EL SALVADOR**



Source: own elaboration.

General Situation

There is legislation for the management of mining environmental liabilities, however, it is developed in a general manner. Consequently, there is no formal concept available; but there is, however, an inventory of the MELs present in its territory.

In this scenario, in 2017, in order to end the deterioration of ecosystems, the Law of Prohibition of Metallic Mining was enacted, preventing it in the soil and subsoil of the territory of the republic, both from existing and future operations, ordering the restoration of the sites and the reconversion of the activity and the employment sources.

Governance structures

The aforementioned law establishes that the Ministry of Economy, in conjunction with the Ministry of Environment and Natural Resources, will coordinate the environmental remediation of the damage caused by mines in the affected regions, in order to revert the conditions towards a healthy environment, in favor of the local population.

In the absence of administrative procedures for MEL management, only the implementing regulations of the Law of Prohibition of Metallic Mining defines environmental remediation. According to the preliminary investigations, this has not translated into the design and implementation of strategies for the intervention of MELs.

The management of contingencies, emergencies or disasters is carried out by the General Directorate of Protection, Prevention and Mitigation of Disasters, attached to the Ministry of the Interior. However, a specific strategy for the management of contingencies related to the structural or physicochemical conditions of the MELs was not identified.

No mechanisms were identified that relate the 2030 Agenda with actions on MELs. On the other hand, in citizen participation, the Law of Access to Public Information stands out, which establishes this right. However, no MEL management initiatives were identified.

Corrective management

Regarding MEL inventories, in 2015 the project “Management of mining environmental liabilities” was developed, the result of which was the document: “Inventory and diagnosis of 15 former mining works,” identifying that there were negative impacts in 9 of them; while in the other 6, possible risks. Despite this, these evaluations did not promote their management.

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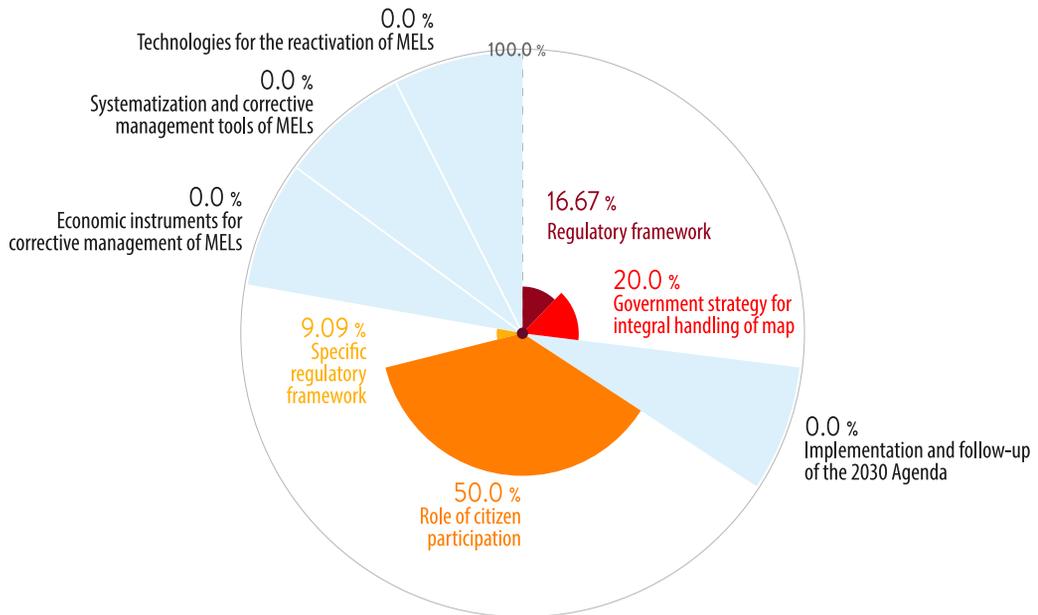
In April 2019, the project “Remediation and prevention of risks to a total of 7 wells located in three mining liabilities: El Divisadero/Carolina Protectora Mine, San Pedro Mine and Los Encuentros Mine and development of environmental education through a training and awareness plan for the population of the municipality of El Divisadero, department of Morazán,” to the Initiative for the Americas Fund of El Salvador, FIAES, but it was rejected.

In August 2020, the Ministry of Environment and Natural Resources issued executive agreement No. 117 to make official “The concentration limits of pollutants for soil protection and remediation of contaminated soils,” whose purpose is to comply with article 50, paragraph a), of the Environment Law, in order to ensure the quality of the soil resource, establishing the parameters and concentrations of contaminants that allow the conservation, use or remediation of the resource.

5.8. GUATEMALA

Guatemala has achieved a development of 8.1 %, with a focus on the prevention of environmental liabilities.

**FIGURE 15:
GUATEMALA**



Source: own elaboration.

General Situation

There is no specific legislation for MEL management. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory.

It exhibits a regulatory framework for the protection of the environment, consisting of instruments for environmental assessment, translating into the MEL prevention tool.

Governance structures

To prevent the generation of environmental liabilities, the regulations stipulate that a plan for technical closure or abandonment of the project must be submitted containing the measures that were adopted at the end of the useful life of the activity. This, in order to control or mitigate the factors that may give rise to unwanted environmental impacts during closure and abandonment.

The Ministry of Environment and Natural Resources formulates and executes the policies related to its field –to comply with and enforce the regime concerning the conservation, protection, sustainability and improvement of the environment and natural resources in the country and the human right to a healthy and ecologically balanced environment. To do this, it must prevent environmental pollution, reduce environmental

deterioration and the loss of natural heritage. Meanwhile, the Ministry of Energy and Mines takes care of matters relating to the legal regime applicable to the production, distribution and commercialization of energy and hydrocarbons, and to the exploitation of mining resources.

It was found that mining exploitation has been in decline due to its social conflict, due to the lack of consultation with the population regarding mining exploitation activities (1989). Likewise, there is no experience with closure or abandonment of mining activities because activities have been temporarily suspended or because the mines are still active. However, the first mine closure was in process at the end of 2020, showing high progress in scheduled operations. In addition to this, the technical closure plan contains the post-closure stage with mitigation activities, which will culminate in 2026.

In this scenario, the National Development Plan, “K’atun, Nuestra Guatemala 2032,” becomes relevant. This is a long-term instrument that coordinates policies, plans, programs, projects and investments and considers the protection and enhancement of natural resources in balance with social, cultural, economic and territorial development, in order to meet the current and future demands of the population in conditions of sustainability and resilience. However, within the priorities, the prevention or corrective management of MELs is not stated.

This plan was linked together with the sustainable development goals with respect to the priorities established at the country level, but the actions carried out within the framework of the integral management of the MELs were not considered. Despite this, its generation or existence is not considered a priority issue in the country.

Corrective management

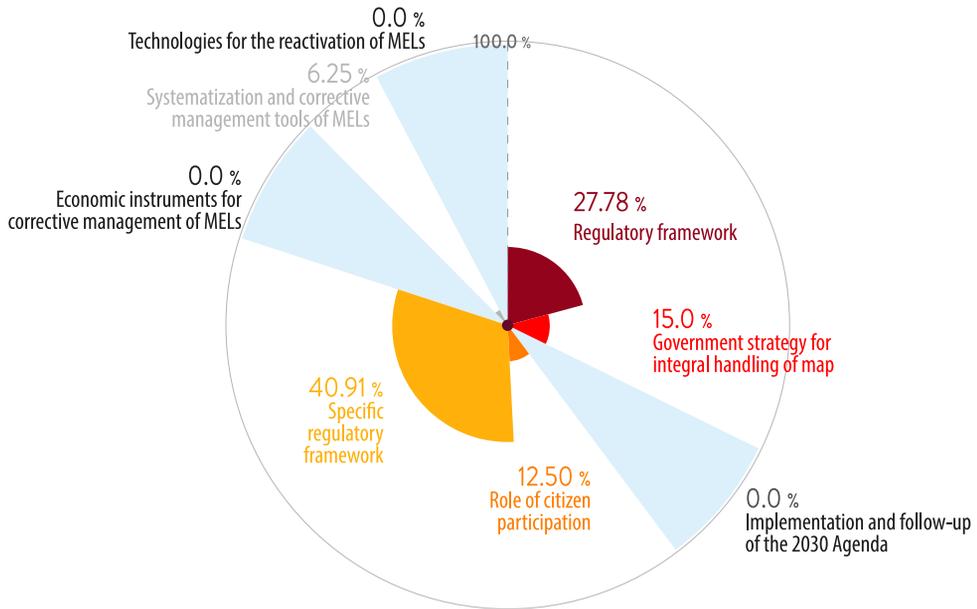
Among the functions and attributions of the General Directorate of Mining is to collect and analyze statistical data regarding the mining industry. However, it was verified that the country does not have an inventory system at the national level to consolidate them.

The strategies identified are aimed at protecting people during the exploitation process and are not subsequent to MEL regeneration works.

5.9. HONDURAS

Honduras has achieved a development of 12.5 %, oriented to the prevention of liabilities.

**FIGURE 16:
HONDURAS**



Source: own elaboration.

Situation general

There is no specific legislation for MEL management. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory.

In this context, the Honduran Environmental Agenda presented initiatives related to MEL management in 2017, through objectives and results in the sectors and themes of climate and environmental risk management, environmental management, integral management of solid waste, treatment of contaminants and environmental degradants.

Governance structures

Program II of the Environmental Agenda includes actions in:

- i) contamination and annual remediation of sites affected by environmental emergencies or identified as environmental liabilities and
- ii) area and volume of soil remediated in sites contaminated by hazardous waste due to environmental emergencies.

From the above, it can be deduced that the initiatives in the management of MELs must arise from the management of environmental liabilities.

Within the framework of preventive management, Honduras has a Mine Closure Plan established in the Mine Closure Regulations, the objective of which is:

- a) the prevention, reduction and control of risks and negative effects on health; and
- b) the safety of people, the environment, the surrounding ecosystem and property, which could result from the cessation of operations of a mining unit.

Likewise, the General Environmental Law provides that projects, industrial facilities or any other public or private activity, likely to contaminate or degrade the environment, natural resources or the historical cultural heritage of the nation must be preceded by an environmental impact assessment. Likewise, there are other instruments related to the preventive management of MELs, among them, the National Policy for Environmentally Sound Management of Chemical Products, the Regulation of the National System for Environmental Impact Assessment, the Regulation for the Closure of Mines and the environmental measures contract.

However, the planning instruments do not include the MELs among their priorities.

In addition, the country lacks actions related to the 2030 Agenda and there are no tools that promote citizen participation, within the framework of MEL management.

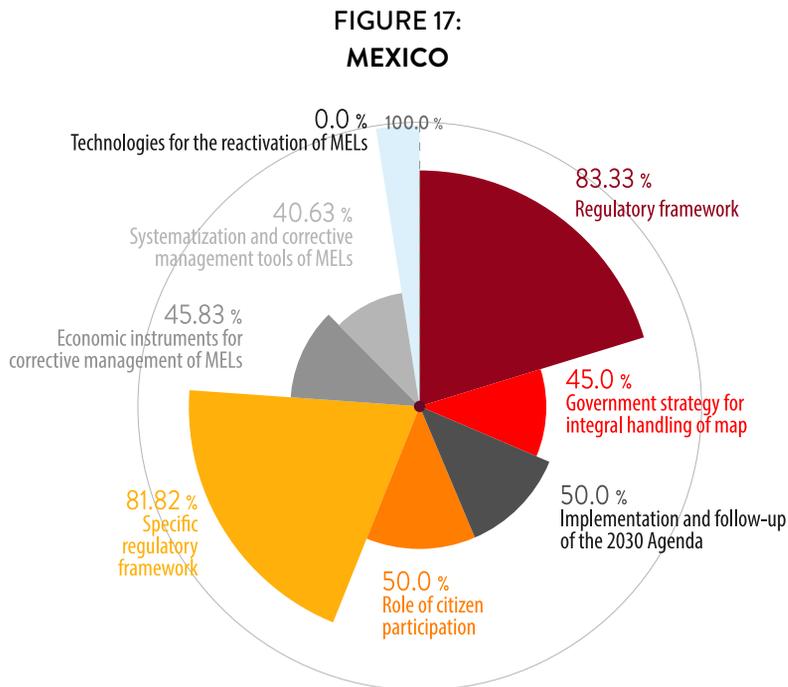
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Corrective management

It has the document “Current situation of mining environmental liabilities in Honduras,” which only shows certain information on the situation of the MELs –as of 2016– but it is not at a regulatory level. It does not have categories or registry numbers, but it does have basic information about the –mine– site. No information was observed regarding the adoption of measures or action strategies, according to the risk to which the community is exposed.

5.10. MEXICO

Mexico has achieved a development of 52.2 % with progress in the prevention and restoration of environmental liabilities.



Source: own elaboration.

General Situation

It lacks specific legislation for MEL management. However, it has a formal concept for the management of environmental liabilities, in addition to partial inventories that signify progress in the identification of the MELs present in its territory.

It stands out for a robust regulatory framework, oriented both to preventive and corrective management of MELs. Among them, the General Law for the Prevention and Integral Management of Waste and the General Law of Ecological Balance and Environmental Protection, aimed at recovering environmental conditions.

Governance structures

Meanwhile, the aforementioned General Law for the Prevention and Integral Management of Waste sets the powers of the three levels of government –federal, state and municipal– as well as coordination between agencies. It attributes clear responsibility to the Ministry of Environment and Natural Resources, SEMARNAT, with respect to formulating and conducting the national policy on waste, as well as preparing national programs on the matter. This ministry is also in charge of issuing official environmental regulations related to mining, with the participation that corresponds to other agencies and state and municipal authorities. The foregoing, within the framework of the management of environmental liabilities, which contemplate the MELs. Likewise, the purpose of SEMARNAT is to measure and monitor the mechanisms of citizen

participation and access to information promoted in the environmental sector, designing and implementing the “environmental sector citizen participation index.”

It has the National Program for the Prevention and Integral Management of Waste 2017-2018 and the National Program for Remediation of Contaminated Sites 2017-2018. However, there are opportunities for improvement in the reporting and support of the progress and results of these programs, which are of interest to the management of the MELs.

Regarding the prevention of MELs, there are various standards and procedures to carry out the evaluation and authorization of management plans and accident prevention programs related to the management of environmental liabilities and MELs, by companies that carry out extractive or contaminating activities in the mining industry.

It has coordination mechanisms for the competent entities to implement the 2030 Agenda, which are framed in the management of environmental liabilities. In this regard, the competent body has mapped, in the sustainable development goals, the actions developed within the framework of the integral management of the MELs –specifically, their implementation and follow-up. Indirectly, it is carried out through sustainable development goals 12 and 15, through axes of analysis aimed at promoting management, regulation and oversight, in order to prevent and control contamination and environmental degradation. However, there was an opportunity for improvement in terms of ensuring direct alignment with the MELs in the medium-term planning documents.

Corrective management

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The regulatory framework in Mexico establishes the imputability and exemptions from liability, and must include specific information and documentation in its remediation programs, characterization studies, waste disposal plans and follow-up plans.

The Federal Environmental Protection Agency is responsible for inspecting and overseeing the integrated management of MELs. Likewise, it has the power to impose the measures and sanctions that derive from its actions. Regarding water discharges and discharges to bodies of water, these powers are exercised by the National Water Commission.

Likewise, procedures aimed at the remediation of MEL and its periodic sampling were evidenced.

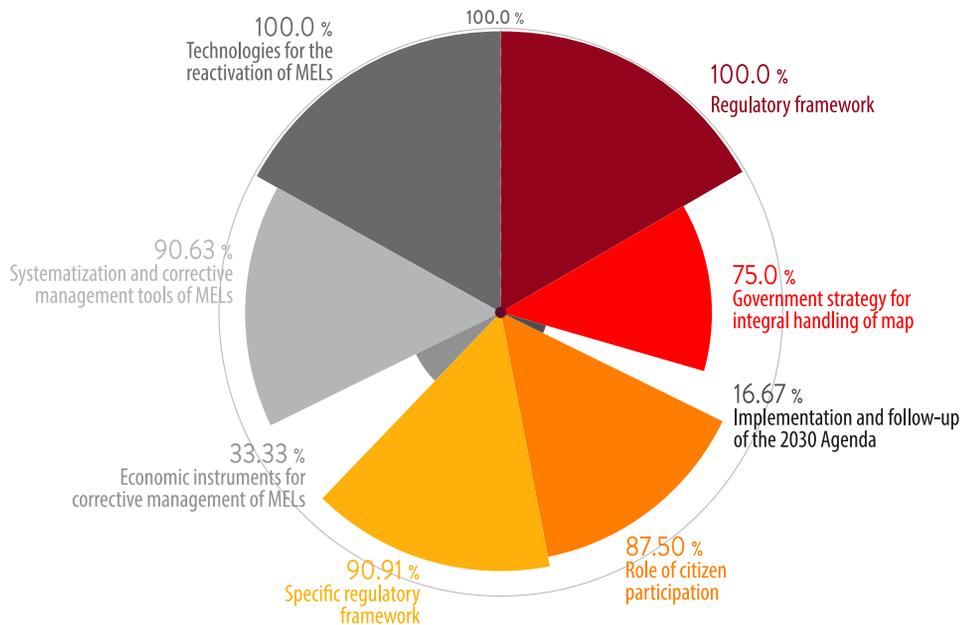
Regarding the availability of inventories, it was noted that the General Directorate of Statistics and Environmental Information of SEMARNAT manages, organizes, updates and disseminates the information of the National System of Environmental Information and Natural Resources. In this sense, on environmental liabilities in general, there is information produced, integrated and sent by the General Directorate of Integral Management of Risky Materials and Activities of SEMARNAT, in accordance with its technical guidelines. This makes it possible to have a National Information System of the MELs, from which the data corresponding to the year of identification, responsible for the contamination, state, municipality, pollutant, area of contaminated soil, as well as the volume of contaminated soil are obtained.

In this registry, 11 contaminated sites of mining origin were identified, which were categorized according to environmental risk; However, no progress has been made in its prioritization, considering the opportunity in its treatment. Consequently, it was verified that SEMARNAT does not have specific action plans regarding the corrective management of MELs, which does not allow the identification of the objectives, strategies, actions, indicators and goals for the prioritization and treatment of the MELs identified, nor to those responsible for its management, so that it is not possible to communicate the situation of the populations affected by the presence of MELs.

5.11. PERU

Peru stands out for having a defined governance structure regarding the preventive and corrective management of MELs, which is expressed in a development level of 76.5 % of the aspects evaluated.

**FIGURE 18:
PERU**



Source: own elaboration.

General Situation

It has a specific regulation for MEL management, with a formal concept and an inventory of the MELs present in its territory.

The aforementioned legal framework is made up of Law No. 28,271 and amendments: “Law regulating the environmental liabilities from mining activity” and Supreme Decree No. 059-2005-EM, which approves the Regulation of Environmental Liabilities of Mining Activity, modified by Supreme Decree No. 003-2009-EM. Through these tools, activities and parties responsible for the implementation of the “integral management of MELs” are described, contemplating an action strategy with a focus on risk to people’s health.

Governance structures

It should be noted that, in parallel to the legislation applicable to environmental liabilities in general –Law No. 28,611, General Environmental Law; and Supreme Decree No. 012-2009-MINAM, National Environmental Policy– emergency decree No. 022-2020 was issued, to strengthen the identification and management of environmental liabilities.

Likewise, Law No. 28,611 establishes the principle of environmental responsibility. This provides that the one causing the degradation of the environment and its components is obliged to inexcusably adopt the measures for its restoration, rehabilitation or repair, as appropriate.

In this sense, the legislation on MELs is complemented by Supreme Decree No. 059-2005-EM and with legislative decree No. 1,100, of 2012.⁶

In terms of planning, the existence of the 2020-2022 Management Plan for Mining Environmental Liability Management, prepared by the Ministry of Energy and Mines, was confirmed. However, an opportunity for improvement would be to develop a multisectoral national strategy that addresses preventive and corrective management of MELs.

In addition, Peru has policies and regulatory instruments that promote the prevention of the generation of new MELs. Among them, the tools of:

- a) Law No. 28,611, General Law of the Environment;
- b) Supreme Decree No. 012-2009-MINAM, National Environmental Policy;
- c) Law No. 28,090, Law that Regulates the Closure of Mines; Supreme Decree No. 033-2005-EM, Regulation for the Closure of Mines;
- d) the Regulation of protection and environmental management for exploitation, beneficiation, general labor, transport and mining storage activities; approved by Supreme Decree No. 040-2014-EM;
- e) Law No. 27,446, Law of the National System for Environmental Impact Assessment and its regulations – Supreme Decree No. 019-2009-MINAM–; and
- f) Board of Directors Resolution No. 006-2019-OEFA/CD, Supervision Regulations.

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Within the framework of the integral management of MELs, it is worth highlighting the citizen participation established in the Regulation of Environmental Liabilities of the Mining Activity. It orders that those responsible for the environmental remediation of the areas with MELs will promote the participation of the population of the affected area in these tasks and in those of follow-up and control, through agreements with the communities or with the authorities and representative social leaders, according to the case. However, the audit verified that citizen participation mechanisms are only present in 21 % of MEL remediation projects underway. Likewise, the Ministry of Energy and Mines does not implement, in its oversight, the aforementioned mechanisms as part of the follow-up and control of projects, which translates into weaknesses in the MEL management model.

The targets of the sustainable development goals linked to the remediation of MELs have not been adapted to the national context. Likewise, the interconnections of these goals have not been identified and formal mechanisms of horizontal and vertical coordination have not been established between the actors involved in MEL management.

6 It allows the participation of the state company Activos Mineros SAC, for the remediation of mining environmental liabilities, as established by the Regulation of Mining Environmental Liabilities, Supreme Decree No. 012-2017 and Legislative Decree No. 1,361, of 2018, which authorize National government entities to execute investment projects within the framework of the Multi-year Programming and Investment Management System, in terms of mining environmental liabilities through the works-for-taxes mechanism.

Corrective management

The identified responsibility regime is aimed at the remediation of the MELs, since: “Any person or entity that has generated mining environmental liabilities is responsible for the corresponding environmental remediation, under penalty,” within the framework of the provisions of that law (Supreme Decree No. 059-2005-EM, article 3).

The Environmental Assessment and Audit Agency audits compliance with the obligations arising from the remediation instruments in charge of the generators and voluntary remediators. Meanwhile, the procedure for sanctioning those responsible for non-compliance with environmental management instruments –such as the MEL closure plan– is regulated in the Regulation of the Administrative Sanctioning Procedure of the Environmental Assessment and Enforcement Agency.

According to Law No. 28,271, those responsible for the remediation of environmental liabilities must carry out the corresponding studies, actions and works to control, mitigate and eliminate –to the extent possible– the risks and harmful effects on the population and the ecosystem in general. Said studies will have the maximum permissible limits or quality standards declared by the competent environmental authorities as reference, for which they will present their plan for the closure of environmental liabilities, in accordance with the respective guidelines. Likewise, the monitoring program –approved as part of the closure plan for mining environmental liabilities– must be executed until the physical and chemical stability of the mining components subject to the closure plan is demonstrated (Supreme Decree No. 059-2005-EM, Article 43).

Within the framework of the Budget Program 120 called “Remediation of mining environmental liabilities,” a variable budget has been assigned to the Ministry of Energy and Mines, between the years 2015-2020. In addition, the Law of Financial Balance of the Public Sector Budget has allowed the transfer of maximum amounts between 2015 and 2020, to the company Activos Mineros SAC, to remedy MELs.

The purpose of Law No. 28,271 is to regulate the identification of the environmental liabilities of the mining activity, the responsibility and the financing of the remediation of the affected areas. For this, there are different standardized methodologies, which regulate the identification of MELs and the preparation of inventories and their updating –it was verified that, as of May 2020, it has not been carried out. However, in August 2020, Ministerial Resolution No. 238-2020-MINEM/DM was issued, updating the initial inventory of mining environmental liabilities. In this way, the General Directorate of Mining is responsible for keeping the inventory of environmental liabilities updated. Based on the latest update, that management identified 7,956 MELs, of which 60.7% are not managed, despite the fact that 8.1% of them have a high and very high risk rating.

Resolution No. 979-2018-MINSA approved the technical document “Sectoral policy guidelines for integral health care for people exposed to heavy metals, metalloids, and other chemical substances,” in order to contribute to the strengthening of integral care in health. Among its purposes is intersectoral and intergovernmental coordination to facilitate interventions to promote health and reduce risks and damage to the health of those who were exposed to MELs, promoting a timely, effective and organized response by the State. It should be noted that the degree or level of contamination is analytically determined in the process of preparing the MEL closure plan. From this phase, the most appropriate contamination control measures are established, with implementation horizons in the short, medium and long term.

The Regulation of Mining Environmental Liabilities contemplates 4 modalities of voluntary remediation of a MEL:

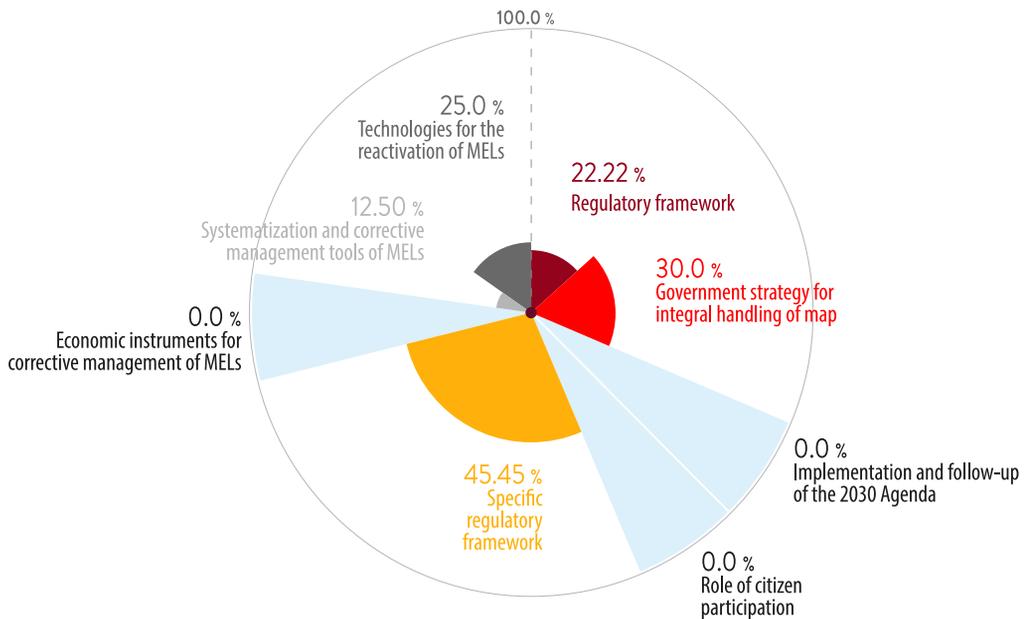
- 1) plan for the closure of mining environmental liabilities;
- 2) the inclusion of mining environmental liabilities in the mine closure plan;
- 3) recycling; and
- 4) reuse.

In this regard, through vice-ministerial resolution No. 005-2020-MINEM/VMM, directive No. 001-2020-MINEM/VMM was approved, which regulates the evaluation of requests for reuse of mining environmental liabilities in the Ministry of Energy and Mines. This document contains the procedure for evaluating applications for reuse. With these tools, the Ministry of Energy and Mines, through the General Mining Directorate, approved 31 reuse rights, which include 113 MELs. After the follow-up carried out on them, 5 administrations have submitted their respective environmental studies, covering a total of 51 MELs. From the foregoing, the promotion of activities associated with the reuse of MELs is noted, which translates into a management measure of interest to investors.

5.12. DOMINICAN REPUBLIC

The Dominican Republic has achieved a development of 16.2 %, highlighting that its progress is oriented to the prevention of mining environmental liabilities.

FIGURE 19:
DOMINICAN REPUBLIC



Source: own elaboration.

General Situation

There is no specific legislation for MEL management. Consequently, it does not have a formal concept or an inventory of mining environmental liabilities present in its territory.

Governance Structures

The tools for the prevention of MEL, declared in Law No. 64-00 on the Environment and Natural Resources, provide that mining projects⁷ require the submission of an environmental impact assessment. On the other hand, the 2002 “environmental regulations for the operation of non-metallic mining” stand out, which prescribe that mined areas –including waste deposits– must be recovered and restored in order to incorporate them productively into the environment; also, that the maximum landscape integration with the natural environment should be achieved.

⁷ Such projects include oil and peat projects; explorations or prospects; removal of the topsoil and the earth's crust; exploitations, construction and operation of wells, tailing dams, processing plants, refineries; and waste disposal.

In this context, it was verified that there are no coordination mechanisms with other government agencies on the management of MAPs that are linked to the 2030 Agenda. Nor were any mechanisms found that promote citizen participation.

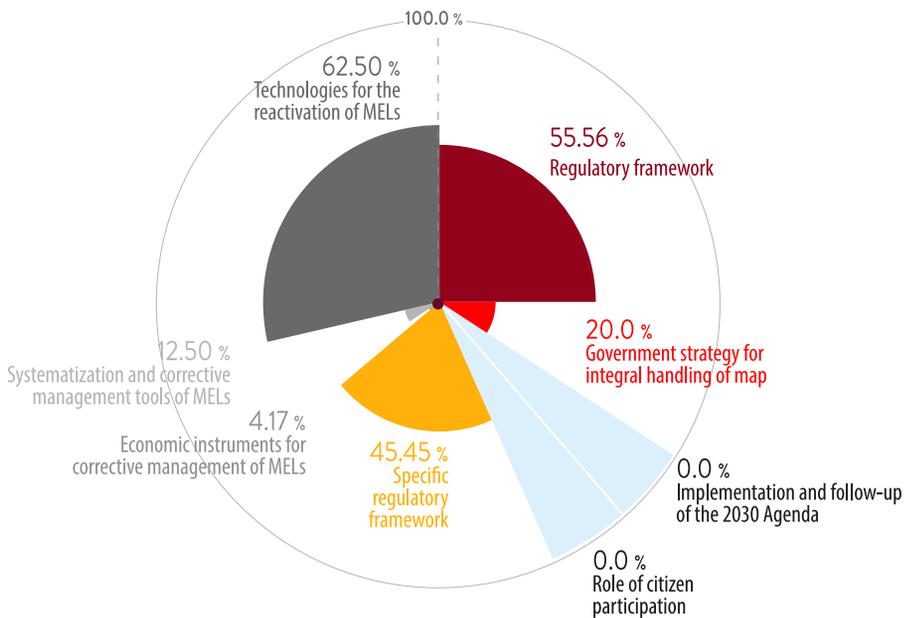
Corrective Management

In a regulatory environment lacking in tools for MEL management, it was learned that the elaboration of the MEL diagnosis in concessions and procedures related to three remediation projects is in the process of being developed, at the initiative of the Ministry of Energy and Mines.

5.13. PROVINCE OF BUENOS AIRES

It has achieved a development of 21.3 %, highlighting that its progress is oriented to the prevention of environmental liabilities.

**FIGURE 20:
PROVINCE OF BUENOS AIRES**



Source: own elaboration.

General Situation

The MELs present in the province of Buenos Aires are mainly related to the extraction of aggregates, resulting in the presence of abandoned quarries.

There is no specific legislation for MEL management. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory. However, principles, policies or norms “related” to these structures were identified, derived from environmental regulations and, specifically, provincial law No. 14,343, which regulates environmental liabilities.

Governance structures

It has regulatory frameworks that provide principles and basic guidelines for the management of environmental liabilities, in which this concept is strongly linked to “environmental damage.” In this sense, the Provincial Law on Environmental Liabilities establishes the responsibility to recompose environments degraded by the presence of environmental liabilities or contaminated sites, in a complementary way to the general provisions of environmental responsibility and recomposition provided for by the General Environmental Law, No. 25,675, and Law No. 11,723.

The local audit made it possible to verify that the regulations set forth do not include specific mechanisms for MEL management. In addition, the absence of a clear assignment of competencies over said structures and, therefore, of coordination instances between the responsible provincial entities—mining and environmental areas— was evidenced. In mining-environmental matters, although the regulation mainly provides for the competence of provincial bodies, municipal governments could play a more active role in MEL matters based on the current regulatory competencies and their territorial linkage, although this is not reflected in the evidence collected, given that only isolated records of effective intervention of local governments in the matter were verified, referring to the auditing, registration and even the execution of some remediation projects.

In terms of prevention and preventive management of MELs, it is noted that the province of Buenos Aires presents strong weaknesses in the regulatory framework, since, although the regulations provide for the environmental impact assessment of mining projects, the mine closure stage is insufficiently regulated in this procedure, and there are initiatives still under development and not formalized for the approval and control of mine closures, a key element in the prevention of MELs.

On the other hand, the absence of government actions developed within the framework of the integral management of MELs, which were mapped and directly related to the achievement of the sustainable development goals of the 2030 Agenda, was corroborated. Likewise, although mechanisms for citizen participation in environmental matters are recognized, the application of said instruments in the management of MELs or even in the closure stage of mining projects was not identified.

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Corrective management

Regarding the liability regime, the provincial law mentioned above, No. 14,343, establishes that the owners of the activity that generated the damage or the owners of the properties, in the event that the owner of the activity cannot be located, will be obliged to repair the environmental liabilities or contaminated sites.

Although the audit determined the existence of attributions and parties responsible for the audit of MEL related matters, these are dispersed across different entities, with an incipient coordination. Regarding regeneration standards, those existing in the regulations are not applicable to the MEL typology that predominates in the province of Buenos Aires, while the lack of regulation of Law No. 14,343 has made it impossible to develop specific standards.

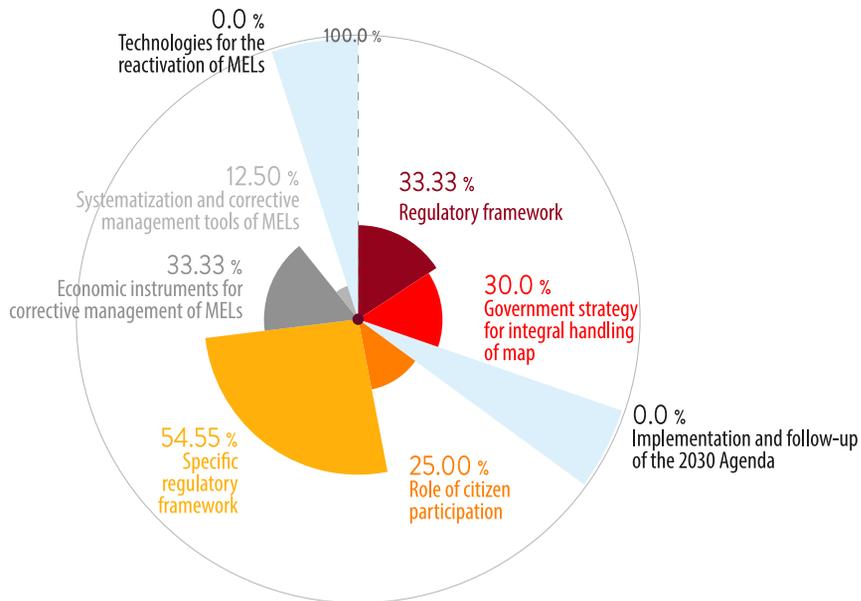
Although the preparation of inventories is contemplated in the regulations, it was verified that these have not been carried out in the province, being the main element that hinders obtaining an accurate diagnosis of the scope of the problem. However, there are MEL identification initiatives at the municipal and regional level, which partially cover the province's territory. Likewise, the absence of evaluation and prioritization for the respective recomposition was corroborated.

Finally, some incipient initiatives for reuse of MEL were identified, regulated by OPDS Resolution No. 353/10, referring to the "filling of quarries that are in operation or those that are abandoned, with materials and waste called inert, pruning waste and all other assimilable waste in their characteristics." This allows the reuse of MELs as final disposal sites for certain non-hazardous waste, requiring the presentation of an environmental impact study. This action translates into promoting the reuse of MELs, being necessary to further encourage it.

5.14. STATE OF BAHIA

The state of Bahia has achieved a development of 21.3 %, highlighting that its progress is oriented towards strengthening prevention.

**FIGURE 21:
STATE OF BAHIA**



Source: own elaboration.

General Situation

There is no specific legislation for the management of mining environmental liabilities. Consequently, it does not have a formal concept or an inventory of the MELs present in its territory.

However, in relation to environmental protection –a competence attributed to the state– it was verified that although the state legal system does not consider environmental liabilities, these are contained in other management instruments, for example, Decree No. 14,024, of 2012, which regulates the State Policy for the Environment and the Protection of Biodiversity.

Governance structures

The State Environmental Policy prescribes that generators of solid waste, their successors or current owners will be responsible for the recovery of areas degraded or contaminated by waste, such as liabilities generated by the cessation of operations of the sources, in accordance with the requirements established by the environmental body.

The policy also provides that, in order to guarantee environmental conditions suitable for life in all its forms, the State Environmental Council will define environmental quality and contamination control standards, without prejudice to those established by the relevant federal legislation.

Although the state of Bahia has an environmental license for the regulation of mining activity, the absence of state planning for the prevention of MELs was verified. Likewise, the local audit found an uncoordinated action in matters of execution of the mine closure plans.

It should be noted that, at the state level, Decree No. 18,392, of 2018, which approves the Internal Regulations of the Institute of Environment and Water Resources, establishes that this body must audit compliance with environmental legislation and water resources.

The state considers the 2030 Agenda relevant, but the development of governance structures for the implementation of the 2030 Agenda has not been verified. However, the audit found that the institutional framework for this purpose is weak, as it was observed that there is no regulatory framework that imposes the adoption of specific measures for its implementation. In addition, there is a lack of formalization of the bodies and entities responsible for the execution, coordination, monitoring and evaluation of actions related to the implementation of the sustainable development goals.

There are mechanisms that establish, facilitate and guarantee citizen participation in the management of mining environmental liabilities –such as public hearings and the Commission for the Accompaniment of Entrepreneurs– but it was found that these are limited –public hearings only for large companies and activities with high contaminating potential– and have not been effectively implemented.

Corrective management

There is no inventory of MELs, but there may be evidence of them through observation of the procedures for obtaining environmental licenses or mining projects in the closure phase. Likewise, the lack of procedures that instruct investigative actions was detected, both in the risk assessment of potentially contaminated sites and in the framework of the environmental risk categorization of mining projects, both aspects described in the regulations. Therefore, the audit allowed to verify such absences, the presence and risk of MELs being unknown to the authorities.

The state environmental protection mechanisms applicable to the management of the MELs are aimed at ensuring that the companies are the ones to present the environmental quality control instruments. However, there is an opportunity to improve public performance, either in the establishment of specific guidelines or in the mechanisms for follow-up, auditing, citizen participation and transparency of information related to mining activities.

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CONSOLIDATED REPORT

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OVERSEEING THE RESPONSIBLE
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