

RELATED INITIATIVES

CHAPTER XVII

UNITED NATIONS ENVIRONMENT ASSEMBLY RESOLUTION ON MINERAL RESOURCE GOVERNANCE

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1. INTRODUCTION

Minerals underpin global development and are critical to the achievement of the United Nations (UN) Sustainable Development Goals (SDGs), even while the production of mineral commodities continues to be characterised by significant environmental, social and economic challenges. The UN has a long history of involvement in the governance of mineral resources for sustainable development and has played a key role in a range of initiatives (see Text Box 1).

In 2017, UNEP and GRID-Arendal initiated a work programme on tailings aimed at suggesting policy actions which may accelerate the change required to ensure the safety of tailings dams. This was in response to the call for action from several Non-Governmental Organisations (NGOs) to the Executive Director of the United Nations Environment Programme (UNEP) first in 2015, and again in 2016, following the Mt Polley and Fundão tailings dam disasters. The work programme subsequently contributed to the foundations of the Global Tailings Review (GTR) which UNEP co-convened in close cooperation with the mining and investor community. Simultaneously the International Resource Panel (IRP), an initiative of UNEP, commenced a study on mineral resource governance, while UNEP and GRID-Geneva conducted research on sand governance.

These interlocking activities culminated in the adoption of the Resolution on Mineral Resource Governance ('the Resolution') at the fourth session of the United Nations Environment Assembly (UNEA) in 2019. The Resolution and its implementation are a point of focus for greater coordination of mineral

governance initiatives. In this chapter we summarise the background and content of the Resolution, detail the findings of recent reports on mineral governance that have contributed to its adoption, and outline future directions for its implementation.

2. CONTENTS OF THE UNEA-4 RESOLUTION

UNEA is the principal global decision-making body on the environment. Membership of the assembly includes all 193 UN Member States.

The fourth session of the UNEA, held in Nairobi, Kenya, from 11-15 March 2019 adopted the UNEA Resolution UNEP/EA.4/Res. 19 on Mineral Resource Governance (UNEA 2009). The Resolution recognises the important contribution of mining towards the achievement of the SDGs, the dependence of low-carbon clean technologies on metals and minerals, and the critical role that governance plays in ensuring positive outcomes from mineral development. The operative text of the Resolution is reproduced below.

Operative text from the UNEA-4 Resolution on Mineral Resource Governance¹

1. **Recognises** the findings of the International Resource Panel related to the sustainable management of metal and mineral resources and the need for further action, as well as the findings of the United Nations Environment Programme on mine tailings storage and those of the United Nations Environment Programme and its Global Resource Information Database (GRID)-Geneva on

1. The full Resolution including the preamble paragraphs can be found here: <https://bit.ly/3apGrcX>

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Box 1: UN involvement in the governance of mineral resources for sustainable development

- (a) The UN Global Compact (2000)
- (b) The Kimberley Process Certification Scheme (2001)
- (c) The International Cyanide Management Code (2002)
- (d) The Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (2002)
- (e) The Yaoundé Declaration on Artisanal and Small-scale Mining in Africa (2002)
- (f) The IFC Performance Standards on Environmental and Social Sustainability (2006)
- (g) The Africa Mining Vision (2009),
- (h) The UN Guiding Principles on Business and Human Rights (2011)
- (i) The Minamata Convention on Mercury (2013)
- (j) The Mosi-oo-Tunya Declaration on Artisanal and Small-scale Mining, Quarrying and Development (2018)
- (k) The Global Tailings Review (GTR) (2019-20)

sustainable sand management;

2. **Also recognises** that sustainable management of metal and mineral resources contributes significantly to the achievement of the Sustainable Development Goals;
3. **Underlines** the need to share knowledge and experience with regard to regulatory approaches, implementation practices, technologies and strategies for the sustainable management of metal and mineral resources, including over the whole life of the mine and the post-mining stage;
4. **Requests** the Executive Director of the United Nations Environment Programme, on the basis of reports such as those prepared by the International Resource Panel and United Nations Environment Programme-GRID, to collect information on sustainable practices, identify knowledge gaps and options for implementation strategies, and undertake an overview of existing assessments of different governance initiatives and approaches relating to sustainable management of metal and mineral resources, and

report thereon to the United Nations Environment Assembly at its fifth session;

5. **Encourages** governments, businesses, non-governmental organisations, academia and international institutions, within their different areas of competence, to promote:
 - a. Awareness of how the extractive industries can contribute to the sustainable development of countries and the well-being of their populations, as well as of the possible negative impacts on human health and the environment when these activities are not properly managed;
 - b. Due diligence best practice along the supply chain, addressing broad-based environmental, human-rights-, labour- and conflict-related risks in mining, including the continuing increase in transparency and the fight against corruption, with the support of the Extractive Industries Transparency Initiative, implementation and monitoring of existing environmental standards, and accountability;
 - c. Capacity-building mechanisms for the sustainable management of metal and mineral resources, including the management of major hazards, as well as to address mine closure requirements and the remediation of contaminated sites, including abandoned mines;
 - d. Public-private partnerships to promote sustainable management of metal and mineral resources;
 - e. Research, development and technological innovations to sustainably manage metal and mineral resources;
 - f. Sustainable mining and sourcing of raw materials in order to move towards decoupling economic growth from environmental degradation through approaches including but not limited to resource efficiency and the circular economy;
 - g. A reduction of the impacts associated with the materials needed for the transition to an innovative and environmentally friendly economy.

3. BACKGROUND TO THE UNEA-4 RESOLUTION

The UNEA-4 Resolution on Mineral Resource Governance is the culmination of a series of interlocking initiatives.

3.1 TAILINGS

Following the disasters at Mt Polley and Fundão,

UNEP established a work programme on tailings management. The disasters demonstrated that tailings management remained unfinished business, despite being core to the Mining, Minerals and Sustainable Development Project's call to action nearly 20 years ago (International Institute of Environment and Development [IIED] 2002; Franks et al. 2011).

In 2017, UNEP and GRID-Arendal published a rapid assessment report *Mine tailings storage: Safety is no accident* (Roche et al. 2017), which was launched at the third session of UNEA in December 2017. The report examines the human and environmental costs of continued tailings dam disasters, assesses why tailings dam failures occur, and suggests policy actions aimed at catalysing the change needed to ensure tailings dam safety.

The report proposes the establishment of a stakeholder forum to facilitate international strengthening of tailings dam regulation and recommends three priority actions:

Action 1. Facilitate international cooperation on mining regulation and the safe storage of mine tailings through a knowledge hub.

- a. Create and fund an accessible public-interest, global database of mine sites, tailings storage facilities and research.
- b. Fund research into mine tailings storage failures and management of active, inactive and abandoned mine sites.
- c. Compile and review existing regulations and best practice guidance.

Action 2. Failure prevention.

- d. Expand mining regulations, including tailings storage, independent monitoring and the enforcement of financial and criminal sanctions for non-compliance.
- e. Regularly publish disaster management plans that relate to local and regional circumstances and planning.
- f. Increase gender diversity on company boards and include local representatives and skill sets focusing on community engagement, ethics, and social and environmental impact.
- g. Establish independent waste-review boards to conduct and publish independent technical reviews prior to, during construction or modification and throughout tailings storage-facility lifespan.

- h. Avoid dam construction methods known to be high risk.
- i. Ensure any project assessment or expansion publishes all externalised costs, with an independent life-of-mine sustainability cost-benefit analysis.
- j. Require detailed and ongoing evaluations of potential failure modes, residual risks and perpetual management costs of tailings storage facilities.
- k. Enforce mandatory financial securities for life of the mine (includes post-closure).
- l. Ban or commit to not use riverine tailings disposal. Adopt a presumption against the use of submarine tailings disposal, water covers on tailings dams and the use of upstream and cascading tailings dams unless justified by independent review.

Action 3. Crisis response.

- m. Establish a global financial assurance system for mine sites to ensure rehabilitation, tailings management and monitoring.
- n. Fund a global insurance pool to address any unmet liabilities from major tailings dam failures on local communities.

In December 2018, UNEP and GRID-Arendal held a stakeholder workshop to catalyse actions on tailings. Proceedings of the meeting were published as *A roadmap for improved mine waste management* (UNEP 2019a). The roadmap identifies three priorities for action on the mine tailings agenda:

1. enlarging the stakeholder forum and reinforcing communication and awareness raising
2. developing a global standard for mine waste management, beginning by reviewing existing standards, conventions and multi-stakeholder initiatives relevant to responsible mine waste management
3. developing a global data base of mine sites, tailings dams and mine waste volumes and characteristics.

3.2 SAND

Urbanisation and infrastructure are creating substantial demand to supply aggregate (sand, gravel and crushed stone) for the construction sectors. This is driving environmental change, particularly where sand and gravel are sourced from natural waterways. Tailings are one potential source of alternate construction material to replace the mining of aggregate.

In 2019 UNEP and GRID Geneva published *Sand and Sustainability: Finding New Solutions for Environmental Governance of Global Sand Resources*. The report builds on earlier work by Peduzzi (2014) and finds that the scale of the sand and gravel extraction makes it one of the major sustainability challenges of the 21st century. These materials are one of the largest resources extracted and traded by volume, with as much as 50 billion tonnes of aggregate produced from quarries, rivers, lakes and the ocean each year (Bendixon et al. 2019; Franks 2020).

The report recommends the following:

- Utilise existing solutions to prevent or reduce damage to river, beach and marine ecosystems and social risks to workers and communities in sand extraction sites:
 - avoiding consumption through reducing over-building and over-design
 - using recycled and alternative materials to sand in the construction sector
 - reducing impacts through implementing existing standards and best practices.
- Customise existing standards and best practices to national circumstances and extend where necessary to curb irresponsible and illegal extraction.
- Reconcile globally-relevant policies and standards with the local realities of domestic sand resource availability, local development imperatives and standards and enforcement realities.
- Invest in sand production and consumption measurement, monitoring and planning.
- Establish dialogue between key players and stakeholders in the sand value chain based on transparency and accountability.
- Build consensus through improved coordination and public awareness-raising at the global, regional and national levels on how much our current development trajectory is dependent on sand supply and the sustainability challenges this poses.

3.3 MINERAL RESOURCE GOVERNANCE

In February of 2020 the IRP and UNEP published the report *Mineral Resource Governance in the 21st Century: Gearing Extractive Industries Towards Sustainable Development* (Ayuk et al. 2020). The report proposes a new governance framework for the extractive sector, based on the concept of a Sustainable Development Licence to Operate. It

follows an earlier summary report for policy makers published in 2019 that was presented at UNEA-4 and discussed in the context of the UNEA-4 Resolution. The report was initially requested by the IRP Steering Committee at its 18th Meeting (Cape Town, 6-9 June 2016) and responds to a Recommendation adopted at the 21st Meeting of the Convention on Biological Diversity Subsidiary Body on Scientific, Technical and Technological Advice (Montreal, 11-14 December 2017).

The report concludes that, despite moves to decouple economies from resource use and promote greater recycling, extractive resources will continue to play a central role in driving the global economy. Emerging economies, expanding populations, global middle-class growth and increased urbanization, as well as the global transition to clean energy production, are some of the drivers highlighted in the report as contributing to an increase in demands for minerals and metals.

The report observes that there is now a plethora of domestic, regional and international legal and regulatory frameworks, as well as voluntary formal and informal initiatives and instruments, aimed at improving governance of the extractive industry in order to increase economic prosperity and strengthen environmental protection. However, collectively, these legal frameworks and initiatives have failed to bring about a transition away from the 'extractivist' and anthropocentric model that is prevalent in the developing world. In most resource-rich developing countries, the extractive sector has remained an enclave with inadequate linkages to the wider local economy, and the wealth generated from mineral resources has not translated into broader economic, human and social development. Furthermore, mining in these contexts continues to prioritise human needs and wants over the integrity of ecosystems.

The report calls for concerted global efforts to consolidate existing rules and regulations in the mining sector and to agree on international standards. This new global governance architecture needs to support ongoing economic development, structural transformation and economic diversification in resource-rich countries. It should address not only resource security, but also resource efficiency, the decoupling of resource use, and the environmental impacts from economic growth. In particular the report recommends:

- greater harmonisation and alignment across existing instruments and standards

- international dialogue to consider options for new agreements to strengthen transnational governance of mining
- creating, empowering and building capacity in national, sub-national and local institutions
- creation of an International Minerals Agency, or the signing of an international agreement, to, *inter alia*, coordinate and share data on economic geology, mineral demand needs, and promote transparency on impacts and benefits
- relevant international communities of experts to consider options for forming a ‘High-level Panel on Sustainable Development of Mining’, to develop recommendations for the design of transnational instruments to strengthen mining governance (Ayuk *et al.* 2020).

4. IMPLEMENTATION OF THE UNEA-4 RESOLUTION AND FUTURE DIRECTIONS

The above reports provide an important knowledge base for advancements in minerals resource governance. Their findings will be complemented with additional work carried out by UN agencies on this agenda, including work focusing on artisanal and small-scale miners, which led to the *Mosi-oa-Tunya Declaration on Artisanal and Small-scale Mining, Quarrying and Development* (Franks *et al.* 2020) as well as work focussing on so-called ‘Development Minerals’, that is, minerals and materials that are mined, processed, manufactured and used domestically (Franks 2020).

In order to move forward in the discussion on mineral resource governance, greater public engagement is needed. Regional stakeholder consultations will be convened as part of the implementation of the Resolution. The consultation process is supported by a discussion paper and will use three different strategies to maximise participation and reach:

1. expert workshops held either as stand-alone events or back-to-back with existing conferences and intergovernmental meetings

2. briefing sessions within existing conferences and intergovernmental meetings; and
3. virtual engagement through webinars, combined with a process to receive written submissions.

The consultations will obtain feedback on the governance of extractive industries, with the aim of understanding the political landscape as well as regional needs. More specifically, and as requested by the UNEA-4 Resolution, the consultations will also help identify best practices and knowledge gaps and assess governance options.

The overall objective of regional consultations is to progress the request to the UNEP Executive Director included in the operative text of the Resolution and feed the outcomes into UNEA-5. Actions required to achieve this are to:

- assess what works and what does not work in the various overlapping initiatives and national policies aimed at improving the sustainable management of minerals and metals
- report back on current governance frameworks of key issues, such as mine tailings, sand extraction, conflict minerals and critical metals
- identify the knowledge gaps on good governance observed in different parts of key mineral value chains
- explore how these gaps can be addressed given the knowledge, implementation capacity and awareness differentials in different mining geographies
- explore the kind of institutional and governance frameworks best suited to support sustainable development with regard to the sustainable management of minerals and metals across the whole life-cycle.

Findings from the regional consultations will feed into the report on the implementation of the Resolution. The report will be presented to the fifth session of UNEA in February 2021, for consideration on any next steps.

5. CONCLUSION

In this chapter, we have provided an overview of the background and content of UNEA Resolution 4/19 on Mineral Resource Governance. Section 1.3 of this Chapter has detailed the findings of recent reports on mineral governance that contributed to the adoption of the Resolution, and section 4 has outlined future directions for the implementation of the Resolution.

Amongst other things, the recent reports emphasise that minerals and metals contribute to the development of national economies and provide raw materials to several industries including almost every sector of the global economy. Moreover, a diverse range of stakeholders are part of the value chain of minerals and metals management – from informal artisanal miners to large-scale mining operations. These reports also highlight that, despite the urgent call in the 2030 Agenda for Sustainable Development to decouple resource extraction from economic development, the demand for minerals and metals is likely to continue growing. This will be driven by emerging economies with expanding populations, global middle-class consumption, the global transition towards low-carbon energy production technologies, urbanisation and infrastructure needs.

Ensuring that the management of minerals and metals contributes to the 2030 Agenda, including the 17 SDGs and 169 associated targets, requires governance reform of the sector. Such reform will need to assess the numerous existing governance frameworks and initiatives which address different dimensions of sustainable development. This includes frameworks and initiatives that contribute to the sound management of mine tailing facilities, but which currently do not operate in a sufficiently coordinated or integrated manner.

The UNEA-4 Resolution on Mineral Resource Governance provides an opportunity for any governance reforms related to tailings to be connected to wider initiatives across the spectrum of sustainability issues. The process for consultation on the UNEA-4 Resolution on Mineral Resource Governance has been designed so that all stakeholders in the extractive sector can contribute towards improved mineral resource governance at all scales. Following the consultation period, the findings and recommendations of the discussions will be presented for consideration by the UNEA at its fifth session in February 2021.

REFERENCES

Ayuk, E.T., Pedro, A.M., Ekins, P., Gatune, J., Milligan, B., Oberle, B., Christmann, P., Ali, S., Kumar, S.V., Bringezu, S., Acquatella, J., Bernaudat, L., Bodourogrou, C., Brooks, S., Burgii Bonanomi, E., Clement, J., Collins, N., Davis, K., Davy, A., Dawkins, K., Dom, A., Eslamishoar, F., Franks, D.M., Hamor, T., Jensen, D., Lahiri-Dutt, K., Petersen, I., Sanders, A.R.D., Nuss, P. and Mancini, L. (2020). *Mineral Resource Governance in the 21st Century: Gearing Extractive Industries towards Sustainable Development*. International Resources Panel. United Nations Environment Program. <https://bit.ly/32tN1fS>;

Bendixen, M, Best, J, Hackney, C, and Lønsmann Iversen, L. (2019). Time is running out for sand. *Nature* 571, 29-31.

Franks, D.M. (2020). Reclaiming the neglected minerals of development. *The Extractive Industries and Society*. In Press. <https://doi.org/10.1016/j.exis.2020.02.002>.

Franks, D.M., Ngonze, C., Pakoun, L. and Hailu, D. (2020). Voices of artisanal and small-scale mining, visions of the future: report from the International Conference on Artisanal and Small-scale Mining and Quarrying. *The Extractive Industries and Society*. In Press. <https://doi.org/10.1016/j.exis.2020.01.011>

Franks, D.M., Boger, David V., Côte, C. M. and Mulligan, D. R. (2011). Sustainable development principles for the disposal of mining and mineral processing wastes. *Resources Policy* 36(2),114-122.

IIED (2002). *Breaking New Ground; Mining Minerals and Sustainable Development. The Report of the MMSD Project*. International Institute of Environment and Development, London: Earthscan. <http://pubs.iied.org/9084IIED>

Peduzzi, P. (2014). Sand, rarer than one thinks. *P. Environ. Dev.* 11, 208–218.

Roche, C., Thygesen, K., Baker, E. (eds), (2017). *Mine Tailings Storage: Safety Is No Accident. A UNEP Rapid Response Assessment*. Nairobi and Arendal: United Nations Environment Programme and GRID-Arendal.

UNEA (2019). *Resolution adopted by the United Nations Environment Assembly on 15 March 2019. 4/19. Mineral resource governance. UNEP/EA.4/Res.19*. United Nations Environment Assembly.

UNEP (2019a). *A Roadmap for Improved Mine Waste Management: Summary Report of the Workshop on Mine Waste*. United Nations Environment Programme, Canadian International Resources and Development Institute, and GRID Arendal.

UNEP (2019b). *Sand and Sustainability: Finding New Solutions for Environmental Governance of Global Sand Resources*. Geneva: GRID-Geneva, United Nations Environment Programme. <https://bit.ly/2uxyu6g>