

Joint Swedish EPA -UNDP Global Programme – Strengthening Environmental Governance of the Mining Sector (EGP)

General

The Swedish Environmental Protection Agency (EPA) and UNDP is co-implementing a Sida-financed Global Programme on Strengthening Environmental Governance of the Mining Sector (EGP) in support of Agenda 2030. The objective of the programme is to strengthen national capacities for mainstreaming and integrating gender, human rights, rule of law, biodiversity and ecosystem services in law and policy making and service delivery in transition and development countries for a net positive contribution to sustainable development in support of the SDGs. See the attached handout, annex1.

A Guide for Governments and Partners to Integrate Environment and Human Rights into the Governance of the Mining Sector

As part of the programme's global toolbox, is a global guidance on mainstreaming human rights into the Governance of the Large-Scale Mining Sector, which includes an annex on mainstreaming biodiversity and ecosystem services (see attached annex 2).

This practical guidance offers a step-by step approach to manage mining for more sustainable development outcomes that is adaptable to various country contexts. It will be available online and in hard copies in English, Spanish and French in mid-May this year. A shorter summary version will be available in Portuguese and Mongolian as well.

Annex to the Guide on the ecosystem services, human rights and biodiversity nexus

One finding in the EGP is that Mining concessions are often granted without sufficient information about their impact on ecosystem services, thus jeopardizing human rights and biodiversity. One part of the Global Guide is an annex- developed in collaboration with SwedBio/Stockholm Resilience Center, (see attached annex 3). In that tools are proposed based on ecosystem services, human rights law and economics, to construct more solid decision support. A framework is proposed for connecting Ecosystems and Wellbeing Framework with the elements of the human rights principles, as a support tool to assess the full environmental and human rights impacts of mining, and to support the development and implementation of sound laws and policies in the mining, human rights and biodiversity nexus. Notably, these tools help to clarify for duty bearers and rights holders the complex balance between short term benefits, and long term and often geographically distant negative impacts. Operationalizing human rights principles in mining decision making helps to achieve safeguarding people's wellbeing, biodiversity and healthy ecosystems.



SWEDISH ENVIRONMENTAL
PROTECTION AGENCY



Empowered lives.
Resilient nations.

STRENGTHENING HUMAN RIGHTS AND RULE OF LAW IN ENVIRONMENTAL PUBLIC ADMINISTRATION: FOCUSING ON THE MINING SECTOR

This four-year Sida-funded programme responds to the challenges many developing countries face in implementing environmental policies and integrating environmental and social concerns into broader sustainable development policy making.

The programme strengthens the environmental, gender, human rights and rule of law dimensions of public administration work in large-scale mining sectors. Working in collaboration with ministries of environment, mining, planning and finance, as well as other public and private stakeholders, the programme provides targeted support to four countries: Colombia, Kenya, Mongolia, and Mozambique.

The programme also works at the global and regional level to strengthen south-south knowledge sharing and innovative policy approaches. It draws on the combined governance, social, environmental and extractive sector expertise of the Swedish Environmental Protection Agency, SEPA, the United Nations Development Programme, UNDP, and partners.

A JOINT SWEDISH EPA AND UNDP PROGRAMME 2014 - 2018

Enhanced environmental governance can improve environmental outcomes

Sound environmental management is a core function of the state. The Sustainable Development Goals (SDGs) agenda reflects increased global awareness of the critical importance of environmental management and its link to social, economic and governance issues. Improved natural resource management – through enhanced environmental governance and strengthening of human rights and rule of law in environmental public administration – can provide multiple benefits across SDGs across countries and communities. This includes women and men living in poverty and other vulnerable groups who are highly dependent on natural resources and ecosystem services for their living, and affected directly by the management of natural resources.

Extractive industries focus

Growth of extractive industries can bring much-needed resources to finance social and economic development. The management of the environmental impact of these industries, however, is one of the most critical challenges many resource-dependent developing countries are facing. There is growing country demand for programmes that strengthen the environmental, human rights and rule of law dimensions of public administration work across the extractives industries sector. This includes protecting procedural rights for individuals, communities, and civil society that affect the environment and livelihoods, i.e. the right to information, participation and access to justice in line with Principle 10 and the UNEP Bali Guidelines.

Targeted support to four countries

This SEPA-UNDP programme provides technical and capacity development services to Colombia, Kenya, Mongolia and Mozambique, in coordination with environmental management projects already supporting the extractive industries sector in these countries. The programme strengthens the environmental, gender, human rights and rule of law dimensions of public administration work in large-scale mining sectors. By working with national environmental agencies and in close collaboration with ministries of environment, mining, planning and finance, as well as other public, private, and civil society stakeholders – the programme helps identify collective solutions to problems and challenges facing the sector.

Global and regional learning activities

The programme designs and implements a range of capacity building activities at the national, regional, and global level.

The programme ensures south-south and triangular learning, knowledge development and sharing, and strengthen communities of practitioners working on issues of environmental governance and natural resource management. Activities include:

- Public administration capacity needs assessments for integrating environmental, gender, human rights and rule of law in extractive industry policy and management;
- Webinars in human rights based environmental public administration of the mining sector, and related themes, such as biodiversity, and environmental data;
- GOXI.org, an online platform for south-south and triangular cooperation;
- Global and regional south-south knowledge sharing events; and
- Guidance notes and studies on cutting-edge issues of environmental governance of the mining sector.

The Swedish Environmental Protection Agency (SEPA)

SEPA's mission is to work for a better environment and sustainable development, in Sweden and around the world. Global environmental cooperation is important for Sweden, and since the early 1990s SEPA has been involved in various forms of development cooperation. SEPA's special area of expertise is capacity development for more efficient and effective environmental public administration, based on democracy, human rights and rule of law.

United Nations Development Programme (UNDP)

Partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in more than 170 countries and territories, UNDP offers global perspective and local insight to help empower lives and build resilient nations.

Contacts

For more information contact:

Sanna Due from UNDP/SEPA; E-mail: sanna.due@undp.org

Ann Cathrin Pedersen from UNDP; E-mail: ann.pedersen@undp.org; www.undp.org

*The joint Swedish EPA and UNDP programme
for 2014-2018 is funded by Sida*



Extracting Good Practices: A Guide for Governments and Partners to Integrate Environment and Human Rights into the Governance of the Mining Sector

Margaret Wachenfeld, Themis Research

With support from Kathryn Sturman, University of Queensland, Centre for Social Responsibility in Mining



Acknowledgements

Contents

Executive Summary1

1. Purpose of the Guide1

2. Core Concepts and Core Definitions Used in the Guide2

3. Key Messages and Takeaways3

4. Document Overview4

Step 1: Establish the Foundations for Resource Stewardship: Policy, Regulations, Institutions and the Rule of Law1

Step 2: Participatory Planning For Extractives from Exploration to Closure.....2

Step 3: Exploration3

Step 4: Feasibility and Licensing.....4

Step 5: Mine Development and Construction.....5

Step 6: Production.....6

Step 7: Closure.....7

Step 8: Post-Closure8

Executive Summary

1. Purpose of the Guide

- **What is the Challenge?** Mining provides vital commodities for a wide range of products and services and has done so through the centuries. The sector occupies the position at the start of the resource supply chain for many other industries. Managed well, mining creates jobs for lower and higher skilled workers and can “spur innovation and bring investment and infrastructure at a game-changing scale over long time horizons.”¹ Mining has historically often been viewed solely through the lens of the sector’s contribution to economic growth, without considering the broader environmental and social impacts and their associated costs, but that is changing. Large-scale mining has a large footprint that significantly changes the immediate and surrounding environment and community dynamics, with the potential for environmental degradation, exacerbating inequality, increased tensions and even conflict. Some types of mining are significant contributors to climate change, compromising the global community’s commitment to reducing carbon dioxide emissions and other greenhouse gases. As a result, governments and the industry have been under increasing scrutiny, driven by concerns around the environmental, social and human rights impacts of the sector as well as concerns about the impacts of the sector on broader governance and rule of law issues, including its contribution to conflict and corruption.
- **What is the Opportunity?** Society is calling for a net positive contribution from the mining sector over the long term. In the interim, the protection of the environment and human rights should be core minimum goals for the governance of the sector. The Sustainable Development Goals (SDGs) provide an opportunity to re-evaluate mining governance within its broader context. The mining industry can impact positively and negatively across the SDGs. It can make significant contributions to the SDGs by providing decent employment, spurring local business development, developing infrastructure links and providing revenues that governments can use to provide public services such health and education and thereby fulfil their human rights obligations. But mining also contributes to many of the challenges that the SDGs are trying to address – environmental degradation, water scarcity, negative impacts on human rights, displacement of populations, worsening economic and social inequality, armed conflicts, gender inequality and gender-based violence, tax evasion and corruption, and increased risk for many health problems.² The SDGs’ broader framework implies two important messages for the governance of the sector: (i) the importance of rebalancing – giving equal weight to the management of the environmental and social impacts of the sector as has been given to economic impacts in the past; and (ii) the importance of interlinkages – the inextricable links among all three dimensions points to the necessity, but also the effectiveness, of managing these impacts in a more integrated manner. Doing so will move the sector closer to the long-term vision of a net positive contribution.
- **How does the Guide Help Governments Respond?** This Guide helps governments and other stakeholders respond to this demand for net positive benefit from the sector. Committed governments, mining companies, mining initiatives and civil society organizations are moving in that direction. The Guide aims to help government authorities – particularly mining, environmental and human rights authorities – to continue moving in the direction of managing the mining sector to deliver sustainable outcomes by bringing together a wide range of materials in a step-by-step approach that follows the mining cycle. The government authorities responsible for governance of the mining sector increasingly need to have more than technical knowledge of mining regulations; they need a broad understanding of the economic, environmental, social and human rights issues at every stage of the mining cycle. They also need practical guidance on particular environmental, social and human rights risks at each step and particular tools and approaches to managing those risks and balancing competing interests. This Guide brings together promising tools and approaches that are building blocks of a more holistic approach to the environmental and human rights governance of the sector. It recognizes that there is often no ‘best answer’ as to how to integrate these tools and approaches to improve mining governance in each country – they must fit within each government’s overall strategy and its international obligations.

¹ UNDP, World Economic Forum, Columbia Center on Sustainable Investment, the Sustainable Development Solutions Network, “Mapping Mining to the Sustainable Development Goals: An Atlas,” (2016), http://www3.weforum.org/docs/IP/2016/IU/Mapping_Mining_SDGs_An_Atlas.pdf

² Id.

The Guide in particular prompts government authorities to:

- Integrate the substance of **environmental and human rights standards into the regulatory fabric of the sector** (its **policies, laws and regulations**) to make these obligations part and parcel of the way the sector is governed, managed and operated
- **Actively engage the affected public** to participate in rulemaking, licensing and monitoring of the sector, acknowledging the value of communities' and civil society participation in improving the governance of the mining sector and strengthening enforcement
- Put in place **a range of processes and mechanisms** for holding **government and mining companies accountable** to the public, including mechanisms that can help resolve disputes and provide effective remedies

2. Core Concepts and Core Definitions Used in the Guide

- **Three Core 'Pillars' of the Guide**

The Guide builds on and integrates these three pillars (see Box 3 below for a further explanation of each pillar):



- **What Does the 'Environmental & Human Rights Governance of the Mining Sector' Mean?**

The 'governance of the mining sector' refers to the overall regulatory management of the sector – the institutions and their policies, laws and regulations that play a role in the oversight of the mining sector. The 'environmental and human rights governance' of the sector refers to those institutions, policies, laws and regulations that play a role in governing and managing *the impacts of the sector* – in particular on the local environment, on local communities and all the people in them, and on workers but also, where relevant, on the broader environment (considering issues such as climate change, for example) and broader society. As noted above, those impacts can be positive and negative. There is typically a range of ministries and related authorities or agencies that have jurisdiction over the mining sector, starting with a mining ministry, but also include notably environment, labour, social ministries and other government authorities with human rights responsibilities.




Environmental governance³ focuses on protecting the natural environment before, during and after mining operations. A human rights-based approach to governing seeks to ensure that the regulatory framework and its implementation serve the public interest, making the protection of human rights against harm from the sector an integral part of managing the sector. Governance is also about how the participants in the sector – local communities, civil society organizations (CSOs), trade unions, mining companies and other stakeholders – play a role in shaping the rules through formal and informal processes. The processes by which environmental and human

³ <http://staging.unep.org/delc/EnvironmentalGovernance/tabid/54638/Default.aspx>

rights rules emerge play an important role in establishing their legitimacy. Legitimacy leads to greater compliance and ultimately greater protection. Environmental procedural rights (referred to as ‘Principle 10 rights’ for shorthand) – participation, in a transparent and informed way, that reinforces government accountability and provides access to justice to seek redress where harms do occur – should underpin those processes. Together, these approaches reinforce the sustainable governance and management of the mining sector.

• **Why Does it Make Sense to Address these Environmental and Human Rights Protection Together?**

The Guide builds on the increasing recognition of the interlinkages between the environmental and human rights/social impacts of mining.⁴ These two dimensions of impacts are inextricably interlinked (see Box 1 below) and therefore managing them in a more integrated manner makes sense – it is more efficient and effective and provides greater legitimacy to efforts to improve mining governance.

Box 1: Brief Overview of Links Between the Environment & Human Rights		
Enjoyment of many human rights is linked to better protection of the environment; conversely, environmental violations can constitute a serious threat to numerous human rights		The protection of ecosystems and the services they provide – food, water, disease management, climate regulation – is a core part of the enjoyment of many human rights (rights to health, water and food)
Promoting environmental sustainability is more effective when it is done within supportive legal frameworks		Better legal frameworks are informed by the exercise of certain human rights – rights to information, public participation in decision-making, access to justice, freedom of speech and assembly
Conflicts fuel environmental degradations & impacts on human rights		Environmental degradation & impacts on human rights fuel conflict

• **What Dimensions of Mining Governance Are Not Covered in the Guide?**

There are other dimensions to mining (and broader extractive sector) governance that are very relevant to determining whether the sector ultimately contributes to a nation’s development or undermines it through the ‘resource curse’. The management of the substantial revenues that the sector can generate is a crucial part of the overall extractive sector value chain, but this is not the focus of this Guide. Although this important dimension is covered only briefly here, it is the subject of far more extensive guidance elsewhere.⁵

3. Key Messages and Takeaways

- The appropriate governance and management of the environmental, social and human rights impacts from mining **start from the initial decision to extract mineral resources, rather than leaving them in the ground, and continue through to post-closure.**
- Governments need to **make decisions at each point in the mining cycle about how the costs and benefits associated with those impacts are allocated** among the government, companies and society. Failing to make those decisions does not mean the costs of the impacts disappear. Instead, it means the costs are externalized, often falling on those least responsible for them and least able to manage – on society and the environment – rather than being allocated to the companies that generated the impacts or to the government. Appropriate governance of the sector requires allocating the costs and benefits associated with mining more equitably – across all parties, across the country and across generations, recognizing that mining deprives future generations of these non-renewable natural resources, who should be taken into account.

⁴ See, for example, the work of the UN Environment Agency on the links between environment and human rights: <http://89.31.103.110/explore-topics/environmental-governance/what-we-do/strengthening-institutions/human-rights-and>

⁵ See, for example, the Extractive Industries Transparency Initiative, www.eiti.org, and Cameron, P. and Stanley, M., “Oil, Gas and Mining – A Sourcebook for the Extractives Industries,” World Bank Group 2017, <https://openknowledge.worldbank.org/handle/10986/26130>

- These decisions should be guided by an approach that integrates environmental and human rights protection into the policy, legal and institutional frameworks that translate the government’s international human rights and environmental obligations into the context of the mining sector. Too often, human rights and environmental concerns are considered to be separate from the governance of the sectors that drive a country’s economy. This Guide focuses on demonstrating how these obligations can and should be **integrated into the governance** of the sector.
- The Guide also highlights that **environmental and human rights issues** can – and should – be **managed together**, in an integrated manner, because the impacts are so often **interlinked**.
- There are **numerous tools and approaches that governments can use to make these decisions and balance** the long-term contributions of mining to the national economy with **competing uses** for land and resources, localized preferences for development, a changing context of demography, climate change, etc. As important as some well-known regulatory tools, such as ESIAAs, are for mining, these are just one tool in the ‘toolbox’ set out in the Guide.
- The **purpose of taking a human rights-based approach** to the mining sector is to ensure that the **public interest is the primary consideration**, grounded in the state’s human rights obligations. This Guide highlights mechanisms for doing so throughout the mining cycle, from participatory land planning at the beginning of the cycle through to multi-functional advisory committees that oversee closure at the end of the cycle. Making sure that the voices and rights of all – women, children, indigenous peoples, minorities – are considered in these processes is a core part of a human rights approach. The other significant dimension of a rights-based approach is a focus on accountability, so the Guide highlights different mechanisms to reinforce accountability for delivering on the protection of rights.
- The **significance of taking an environmental approach** to the mining sector is to understand that the **long-term viability of the sector is inextricably linked to how well its environmental footprint is managed**. The environmental footprints of mines are increasingly seen not only in terms of their local effects, but also in terms of their impact on a country’s ability to meet its international environmental obligations regarding climate change, water and biodiversity in particular.
- The **significance of international obligations** and of an increasing range of **international standards and initiatives** on the mining sector is that there are increasingly **clear expectations about the way the mining sector should be governed and managed to deliver more sustainable outcomes**. This brings ever more clarity on what should be done, shifting the **focus to implementation by governments and by mining companies**. They also provide new tools for the affected public and civil society to hold governments and companies to account.

4. Document Overview

- **Target Audiences:**
 - **Primary audience:** Government authorities responsible for the regulation of the mining industry, including its environmental, social and human rights impacts (at national, regional and local level): mining, environmental, social⁶ and human rights⁷ authorities.
 - **Secondary audience:** Civil society representatives, indigenous peoples and their representatives, national human rights institutions (NHRIs), national gender machineries and other development partners and practitioners.
 - **Not private sector mining companies in particular**, although they may find the Guide useful. There is a wealth of other material that is specifically targeted to mining companies (some of which is referenced in the Guide and its annexes).
- **Types of Mining Covered:**
 - **Large-scale mining (LSM)**

⁶ In many countries, responsibility for ‘social’ issues is spread across a number of ministries with a wide range of names. The term ‘social authorities’, as used in this Guide, indicates two groups of ministries or authorities or agencies: (i) those responsible for social welfare and social protection; and (ii) those responsible for social segments of the population – women, children, indigenous peoples, minorities, disabled people.

⁷ The term ‘government authorities with human rights mandates’ is used in this Guide to indicate those ministries or authorities or agencies: (i) charged specifically with a human rights mandate – such as a Ministry of Justice, National Human Rights Institution (NHRI), Ombudsperson, etc.; (ii) responsible for the human rights of workers – i.e., labour ministries/authorities; and (iii) having a mandate to protect particular groups of the population – such as women, children or minorities. There may be an overlap among government authorities addressing ‘social’ issues, depending on how a given government is set up and organizes its internal regulation.

- **Artisanal and small-scale mining (ASM)** is only tangentially addressed, recognizing that all scales of mining may benefit from improvements in governance. In addition, ASM relationships with LSM are addressed.

- **Kinds of Issues Covered:**

Box 2 below lists the *typical* issues and rights impacted by the mining sector. There may be additional issues, depending on the specific mining operation. The table below gives an idea of the types of issues that the Guide means by ‘environmental, social and human rights (ESHR)’ issues. The Guide does not cover each of these issues individually or in depth and often refers to whole groups of issues.

A note on terminology: These issues can be and sometimes are named or grouped differently, particularly in the ‘human rights’ column. These issues may often be grouped under the heading ‘social’ or ‘social’ and ‘labour’, but many, if not all, of these issues are international human rights that may be covered by a country’s international obligations (see Box 3 below), national constitutions or national laws.

Box 2: Typical Areas of Environmental, Social & Human Rights Issues in the Mining Sector – referred to as ‘ESHR’ issues in the Guide

<p><u>Environmental Issues</u></p> <ul style="list-style-type: none"> • Water contamination & limiting water availability • Dam bursts and flooding • Waste production • Air pollution • Soil erosion and contamination • Stream sedimentation • Ecosystem destruction • Biodiversity impacts • Radioactive radiation • Submarine/riverine tailings disposal • Acid Mine Drainage (AMD) • Long-term impact on environmental capital • Increased noise, light and dust levels • Opening new areas to illegal logging and poaching 	<p><u>Human Rights Issues</u></p> <p><i>Procedural rights</i></p> <ul style="list-style-type: none"> • Access to information, public participation, access to justice & access to remedy <p><i>Substantive rights</i></p> <ul style="list-style-type: none"> • Right to life • Right to an adequate standard of living, livelihoods and related land rights to pursue land-based livelihoods • Right to food • Right to water • Right to health • Right to housing & resettlement • Right to social security/social protection • Rights to freedom of expression, association & assembly • Women’s rights • Children’s rights • Indigenous peoples’ rights, minority rights • Disability rights • Cultural rights and the protection of cultural property <p><i>Human Rights Principles</i></p> <ul style="list-style-type: none"> • Accountability and the rule of law • Participation and inclusion
	<p><u>Broader Social Issues with Links to Mining & Human Rights</u></p> <ul style="list-style-type: none"> • Community development • Impacts of in-migration on social cohesion and social services • Other impacts on social capital • Social conflict
	<p><u>Labour Issues (Human Rights Issues of Workers)</u></p> <ul style="list-style-type: none"> • Health & safety • Forced labour/unfair working conditions • Vulnerable migrant and temporary workers • Child labour • Non-discrimination • Unequal pay for unequal work, unpaid care work

Box 3: Brief Explanation of the International Frameworks behind the Three Core Pillars of the Guide

Pillar 1: International Environmental Law Framework

International environmental law has evolved into a large body of binding treaties, key concepts and principles of environmental law and non-binding instruments covering a wide range of issues, including:

- **Multilateral Environmental Agreements**⁸ covering a wide range of environmental topics from biodiversity to chemicals to climate change at the global level.
- **Region-Specific Environmental Agreements**⁹ covering regional-specific issues such as the protection of species found in particular areas, the protection of particular habitats or specific pollution in regional areas.
- **Key concepts and principles of international environmental law**, such as sustainable development, intergenerational and intragenerational equity, the precautionary principle, the 'polluter pays' principle, access and benefit-sharing regarding natural resources, common heritage and common concern of humankind. They provide guidance in interpreting legal norms, constitute fundamental norms, fill in gaps in the law and underpin international and national approaches to environmental protection.¹⁰

Pillar 2: The International Human Rights Framework

International human rights law has evolved into a large body of binding treaties and non-binding instruments covering a wide range of issues. They include:

- The **International Bill of Human Rights**, consisting of the Universal Declaration of Human Rights (UDHR), and the two binding international conventions based on the UDHR: the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR).¹¹
- **Seven further core conventions**¹² cover the following areas and are supported by monitoring bodies: (i) the elimination of all forms of racial discrimination; (ii) the elimination of all forms of discrimination against women; (iii) the prohibition of torture and other cruel and inhuman or degrading treatment and punishment; (iv) the rights of the child; (v) the protection of the rights of migrant workers and their families; (vi) the protection from enforced disappearance; and (vii) the rights of persons with disabilities.
- **Other universal human rights instruments** cover a wide range of topics, such as business and human rights, that also apply to mining companies. Some are binding and others are non-binding guidance.¹³
- **Regional human rights instruments** such as the European Convention on Human Rights, the Inter-American Convention on Human Rights, the African Charter on Human and Peoples' Rights and other instruments that have been adopted at the regional level, all reflect the particular human rights concerns of the region and provide for specific mechanisms of protection.¹⁴
- **Human rights principles underpinning a human rights-based approach to development:** The following principles have been defined in the jurisprudence of international human rights: (i) universality and inalienability; (ii) indivisibility; (iii) interdependence and interrelatedness; (iii) equality and non-discrimination; (iv) participation and inclusion; and (v) accountability and rule of law.

Human Rights Law:

Includes:

- **Procedural rights** in relation to the environment decision-making, including those covered in Principle 10 (see below)

⁸ See <https://www.informea.org/en/treaties>

⁹ Id. See also <https://www.ecolex.org/>

¹⁰ <http://web.unep.org/divisions/delc/our-work/environmental-law/international-environmental-law>

¹¹ <http://www.ohchr.org/Documents/Publications/FactSheet2Rev.1en.pdf>

¹² <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CoreInstruments.aspx>

¹³ <http://www.ohchr.org/EN/ProfessionalInterest/Pages/UniversalHumanRightsInstruments.aspx>

¹⁴ <http://bangkok.ohchr.org/programme/other-regional-systems.aspx>

- **Substantive rights** that can be impacted by environmental damage, including the rights to life, health, food, water, culture and non-discrimination¹⁵

Sets out a three-tiered set of obligations:¹⁶

- The **obligation to respect** means that States must refrain from interfering with or curtailing the enjoyment of human rights.
- The **obligation to protect** requires States to protect individuals and groups against human rights abuses, including abuses by businesses.
- The **obligation to fulfil** means that States must take positive action to facilitate the enjoyment of basic human rights; this can be disaggregated into the obligations to facilitate, promote and provide.¹⁷

Pillar 3: Principle 10 of the 1992 Rio Declaration on Environment and Development¹⁸

Principle 10 of the Rio Declaration on Environment and Development was adopted as part of the 1992 United Nations 'Conference on Environment and Development' (UNCED), informally known as the '[Earth Summit](#)'. The Principle has become a globally recognized framework for the development of national standards and laws on three core procedural rights important to improving environmental governance; these are the most visible expression of the interlinkage between one area of human rights (procedural rights) and environmental protection.¹⁹ They have been translated into regional conventions that turn Principle 10 into binding obligations.²⁰ In many countries, these goals are enshrined as constitutional protections of the rights to a healthy environment, life, health and an adequate standard of living as well as the rights of freedom of expression and association.

- **Access to Information** about the environment ensures that members of the public are able to know and understand what is happening in the environment around them and can participate meaningfully in public affairs and make informed decisions about their lives. It is therefore important in its own right as well as in the role it plays in enabling meaningful public participation. Rights to information are increasingly recognized more broadly in constitutions, national legislation – often under the heading 'freedom of information' – and initiatives such as the Open Government Partnership.²¹
- **Public Participation** is a human right that benefits citizens and governments alike. Citizens have the opportunity to voice their concerns and have their views taken into account in policymaking, contributing information, analysis and considerations to better decision-making.
- The **Access to Justice** component promotes accountability and the rule of law through the use of fair and impartial administrative and judicial mechanisms. It backs up these rights with access to justice provisions that go some way towards putting 'teeth' into these principles.

A Quick Note on Implementation of the Three Pillars of the Guide:

Each of these three pillars is in turn comprised of policies, laws and standards that set out the content of *what* governments should do and often *how* they should implement them to improve governance in the mining sector.

¹⁵ Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, A/HRC/34/49, (2017), http://ap.ohchr.org/documents/dpage_e.aspx?si=A/HRC/34/49

¹⁶ <http://www.ohchr.org/EN/ProfessionalInterest/Pages/InternationalLaw.aspx>

¹⁷ See, for example, CESCR, "General Comment No. 15 (2002): The right to water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)," E/C.12/2002/11,

http://tbinternet.ohchr.org/_layouts/treatybodyexternal/Download.aspx?symbolno=E%2fC.12%2f2002%2f11&Lang=en

¹⁸ U.N.G.A., A/CONF.151/26 (Vol. I), 12 August 1992, Annex I.

¹⁹ Summarized from: UNEP, "Putting Principle 10 Into Action: Implementation Guide for the UNEP Bali Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters," pp. 9-10, (2015), <http://wedocs.unep.org/handle/20.500.11822/11201> and from the Aarhus Implementation Guide (2nd Edition) (2014), https://www.unece.org/env/pp/implementation_guide.html

²⁰ See the Aarhus Convention, which, as of early 2018, is the only legally binding international instrument on environmental democracy that put Principle 10 of the Rio Declaration on Environment and Development into practice; see

<https://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf>. Latin American and Caribbean countries are negotiating a regional instrument on access to information, participation and justice in environmental matters; see <https://www.cepal.org/en/subsidiary-bodies/reunion-comite-negociacion-principio-10-america-latina-caribe>

²¹ The OGP also has a natural resources working group; see <https://www.opengovpartnership.org>

- Governments take on **international legal obligations** when they sign international treaties in the environmental and human rights field. They are expected to honour the requirements of those treaties.
- **International standards and principles** provide more guidance on protection in particular circumstances. Examples in the environmental area include Principle 10 of the Rio Declaration and well-known principles and concepts of environmental law such as the ‘polluter pays’ principle. As another example, the UN Guiding Principles on Business and Human Rights provides guidance to governments and companies, including mining companies, on how to protect and respect human rights in the context of business operations, such as mining. Some are binding and some are not.
- Governments adopt **constitutions and national policies, laws and regulations** that incorporate their international obligations and provide more detailed requirements.
- Governments and mining companies may also participate in and agree to apply **voluntary standards regarding environmental and human rights issues in the mining sector**.
- **An important note on human rights** – A fundamental attribute of human rights is that they belong to every human being, – wherever they are in the world, whatever country, political grouping, race, social network, gender, etc. they belong to. They apply to every member of the human family, everywhere. This is the case regardless of whether a given government has formally accepted the principles of or ratified either or both of the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights. So, while many governments have accepted legally binding obligations on human rights that provide more formal avenues to hold governments accountable, people affected by mining operations also have human rights regardless of whether they are specifically covered by national laws or not. Governments and businesses are expected at a minimum to respect human rights.

- **Organization of the Document**



- **Step 1: Regulations, Institutions and Rule of Law:** Highlights the pre-conditions for sound governance of the mining sector for sustainable development, including a sound policy and regulatory framework, strong institutions and rule of law that can deliver enforcement of the rules and access to justice.
- **Step 2: Planning:** Highlights the importance of early integrated and participatory land use planning that seeks to balance existing and future uses of land from this early phase of planning mining developments.
- **Step 3: Exploration:** Highlights the importance of addressing environmental, social and human rights issues already at exploration, as this can set the tone for long-term relationships around mining sites.
- **Step 4: Feasibility & Licensing:** Highlights the importance of integrating environmental, social and human rights considerations into each step within the approvals process.
- **Step 5: Development & Construction:** Highlights the significant environmental, social and human rights impacts of this phase, which requires regular monitoring and a systematic approach to engaging with the local community.
- **Step 6: Production:** Highlights the importance of regularly monitoring and managing change that can have significant environmental, social and human rights impacts during the production process and of consulting with stakeholders when changes are significant.
- **Step 7: Closure:** Highlights the need to start planning for closure from the beginning of the mining cycle and involving local communities and environmental groups in the process.
- **Step 8: Post-closure:** Highlights the need for clear environmental and social targets for relinquishment that meet community expectations so that authorities and the mining company can close the mine site and turn it to new uses.
- **Annex I Backgrounder on Principle 10 of the Rio Declaration on Environment and Development** issued during the 1992 United Nations Conference on Environment and Development (UNCED), informally known as the ‘Earth Summit’ (see Box 2).
- **Annex II on Using the Ecosystem Services Approach For Assessing the Mining, Ecosystems and Human Rights Nexus**

- **Annex III on International Standards and Good Practice Guidance for the Mining Sector**



Step 1: Establish the Foundations for Resource Stewardship: Policy, Regulations, Institutions and the Rule of Law

In this first step, the government builds the foundations for good governance and stewardship of mineral resources. It is making strategic choices about managing its mining resources, translating those strategic choices into policy and legal frameworks and strengthening institutions to deliver on the mining strategy. It is entering into trade and investment agreements to attract investment to the mining sector. While sustainable development used to be an afterthought, it is now increasingly at the centre of creating mining strategies at this critical stage.

- **Primary Target Audience:** Mining Authorities, Government team setting national strategies, Government team negotiating trade and investment agreements
- **Additional Targets:** Environmental, Social and Human Rights Authorities, Gender Machineries, Justice Authorities

Key Actions in This Step	Key Messages
1. Develop an Overarching Resource Vision or Strategy – Considering the Full Costs and Benefits	The government should develop, together with its stakeholders, an overall vision for managing the country’s national resources that transforms its resource wealth into inclusive, sustainable development. This starts with the question of whether to access resources or leave them in the ground in light of the wider environmental, social and human rights costs and benefits to the country, including for future generations.
2. Establish Mineral Resources Ownership and Endowment	In order to manage the country’s mineral resources, the government must first establish what mineral endowments it has and then provide clarity in law and in practice (such as through clear mining cadasters) about who owns the country’s mineral resources. It should also clarify how ownership of mineral rights interacts with other rights, particularly surface rights to land.
3. Update Mining Policy and Legal Framework	Governments should consider undertaking a benchmarking exercise to assess whether their mining policy and legal frameworks are updated and aligned with international standards and commitments and fit for purpose in light of their mineral resource endowments.
4. Develop an Investment Strategy to Attract Responsible Mining Investments	The country’s approach to attracting investment can constrain – or promote – more responsible foreign mining investment in the country. Governments should ensure that their investment policies and agreements are updated and aligned with their sustainable development approaches to lay the groundwork for appropriately regulating incoming foreign investment in the mining sector.
5. Strengthen the Coherence and Coordination among Institutions	There are likely to be various national, regional and local authorities responsible for governing and managing some dimension of mining operations. Clear mandates to avoid overlapping responsibilities and coordinating across relevant government institutions responsible for environmental, social and human rights regulation of mining operations can improve the efficiency and effectiveness of enforcement, even in low-capacity environments.
6. Strengthen Enforcement by Authorities	Governments will typically have or should create a range of options to provide the right incentives and disincentives so that mining companies comply with the law and licensing obligations. Where government capacity for enforcement is limited, authorities can look for additional options to reinforce capacity, including working with environmental, human rights, trade union and community organizations that take an active interest in monitoring mining operations.
7. Reinforce Access	This foundation stage sets the overall direction for mineral development and is therefore a

<p><u>to Information, Public Participation and Access to Justice</u></p>	<p>core stage for government to reinforce Principle 10 procedural rights. There should be a legal and institutional framework that ensures transparent and available information on the management and impacts of natural resource exploitation, provides opportunities for an informed public to participate in decision-making on natural resource management, and provides mechanisms to hold decision makers and mining companies accountable to an informed public.²²</p>
---	---



Step 2: Participatory Planning For Extractives from Exploration to Closure

In this second step, relevant departments and levels of government and affected populations should come together to plan where mining should and should not be carried out in the country. Integrated land use planning is a political and administrative process to guide the orderly and sustainable use of land that avoids decision-making in isolation by considering different present and future uses of land together and addressing trade-offs explicitly and early.²³ By making this a participatory that includes the wide range of stakeholders using or potentially using the land – women farmers, local communities, local businesses, environmental groups – governments are not only giving people a voice in determining the kind of social and natural environment they want to see develop, but are also providing for a potentially deeper and longer-lasting legitimacy to dealing with a challenge often at the heart of conflicts around mining operations.

- *Primary Target Audience: Land Use Authorities (at different levels of government – national, regional, local), Mining Authorities, Environmental Authorities*
- *Additional Targets: Social Authorities, Human Rights Authorities, Local Government*

<p><u>1. Use Participatory & Integrating Land Use Planning Approaches to Help Identify Appropriate Areas for Mining</u></p>	<p>Integrated and participatory land use planning seeks to balance out the different uses of land from the earliest stages of planning mining developments, including after mine closure, so that land is used sustainably. By being explicit about the need to manage competing interests, and explicitly including ESHR issues as relevant considerations, governments, together with stakeholders, can start to address relevant trade-offs openly and early and build in appropriate design considerations from the start of mine planning.</p>
<p><u>2. Integrate Indigenous Peoples’ Rights When Planning Mining in Indigenous Peoples’ Territories</u></p>	<p>As a result of mining operations in many areas of the world, indigenous peoples (IPs) have experienced widespread negative impacts, including environmental degradation and limitations of their social and cultural life and of their possibilities for economic survival. Protecting and respecting IP rights starts from the land use planning stage in considering IPs’ rights to land and natural resources that engages IP communities in a process of meaningful, free, prior and informed consent (FPIC) that lays the groundwork for more sustainable relationships with the government and eventually any mining companies.²⁴</p>
<p><u>3. Integrate Women’s Rights When Planning Land Use</u></p>	<p>Women may be more adversely affected by land use changes and may have fewer options to defend their often weak or non-existent land tenure or access rights. An inclusive land use planning process first consults with women about their views on potential land use planning changes and considers the differentiated control, access and use of land by women and the potential differentiated impacts on women.</p>

²² This is reinforced through Principle 10 as well as international standards on resource governance. See the Natural Resource Charter, Precept 2, <http://www.resourcegovernance.org/approach/natural-resource-charter>

²³ J. Southalan, Mining Law and Policy – International Perspectives, p. 73 (2011).

²⁴ UN General Assembly, “Report of the Special Rapporteur on the rights of indigenous peoples, James Anaya”, Summary of activities: Progress report on study on extractive industries, A/HRC/21/47 (6 July 2012)

<p>4. Use Strategic Assessment Tools to Understand the Bigger Picture</p>	<p>A Strategic Environmental Assessment (SEA) or Strategic Environmental and Social Assessment (SESA) is a tool to assess the potential ESHR impacts of potential programmes and plans (such as plans to develop or reform the mining sector) already at the planning stage. Given the often extensive and well-documented ESHR impacts of mining and the conflicts this can create with local communities, a SESA for the mining sector, if done well, provides early opportunities to understand stakeholders' concerns and to respond to them in planning and permitting subsequent mining operations, paving the way for more sustainable solutions from the design stage.</p>
<p>5. Address Misalignments between Sectoral and Territorial Planning</p>	<p>Where sectoral mine planning and licensing do not involve coordination with the territorial/regional development plans and regional/local authorities where mining will take place, a clash of objectives for territorial/regional land use can arise. Governments should establish mechanisms to ensure vertical coherence in overall land use planning for mining between central – regional and local governments.</p>
<p>6. Include Planning for Closure as Part of the Land Use Planning Process</p>	<p>Land use planning should already consider whether the long-term land uses of the surrounding areas are capable of replacing the mine's contributions once the planned mine is closed. This is the first step in planning for mine closure from the beginning of the mining cycle.</p>



Step 3: Exploration

In

this third step exploration companies gather information and discover deposits suitable for mining. Early prospecting typically involves large areas of land using very small field teams made up primarily of geologists. It is often carried out by junior (small) exploration companies operating with limited resources that usually hope to sell their discoveries to larger companies that will develop and administer a producing mine. This is not only the first, but also an important step for addressing ESHR issues.

- Primary target audience: Mining Authorities
- Additional targets: Environmental Authorities, Social Authorities, Human Rights Authorities

Key Actions	Key Messages
<p>1. Address ESHR Issues at the Exploration Stage</p>	<p>Exploration activities (including drilling, excavation and material handling and transport) can adversely impact the environment and communities, depending on how invasive the techniques are,²⁵ and can affect relations well into the life of the mine. While the extent of ESHR conditions attached to exploration permits varies greatly across countries, the trend is towards including basic requirements for the management of ESHR issues.</p>
<p>2. Engage with Communities and Other Stakeholders</p>	<p>Exploration companies should be required to provide basic information to local communities and other interested stakeholders about their activities. Mining authorities and local authorities also have a role to play in providing balanced information that people can trust, presenting realistic information about potential negative and positive impacts.</p>



²⁵ Mineral exploration and evaluation techniques range from the most environmentally benign, such as remote sensing from satellites, to more invasive, such as close-spaced intensive drilling.

Step 4: Feasibility and Licensing

At this fourth step, all major studies for mining operations are conducted, including the ESIA and the feasibility study, both of which will help shape the management of ESHR impacts for the life of the mine. Permitting is underway and any agreements with governments and communities are being negotiated. It is also at this stage that the government may be selecting and contracting mining companies competitively – providing an important opportunity to emphasize the government’s expectation that it is looking for responsible mining partners. This is a key point in the mining cycle, as it provides clear and accessible information to stakeholders about the mining operations and involves them through robust public participation processes aligned with Principle 10 and in fulfilment of their procedural rights.

- Primary target audience: Mining Authorities, Environmental Authorities, Social Authorities & Human Rights Authorities

Key Steps At This Stage	Key Messages
1. <u>Know and Understand What is in the Law (and What is Not)</u>	Officials in the mining, environment and relevant labour/social authorities should have a basic understanding of what is in their laws on controlling the ESHR impacts of mining and what is not, compared to good international regulatory practice. This can be facilitated by regularly sharing information and approaches across authorities.
2. <u>Know and Understand the Companies Seeking to Invest</u>	When governments get to the point of licensing for long-term mineral development, they are looking at mining companies that may be operating in their country for decades. Mining authorities are often rightfully focused on technical competence in extracting minerals, but they should also be asking questions that help them judge the companies’ approach to and capacity for responsible ESHR management of mining operations.
3. <u>Know and Understand What is in Company Proposals (and What is Not)</u>	This is a key moment for understanding the specific details of a company’s approach to developing and operating the mine. The country’s legal framework and the specific regulations or TORs for ESIA and feasibility studies will to a large extent determine the scope and coverage of the studies presented for consideration – and hence the need to ensure they remain up-to-date and aligned with the country’s vision on sustainable mining. This is also a key moment for inclusive and meaningful public participation in the important ESIA process.
4. <u>Know and Understand What is in the License/Contract (and What is Not)</u>	While the trend is to move towards standard-form licensing for mining, some countries use negotiated contracts to fill gaps in legal frameworks, but they need the necessary capacity and resources to negotiate and implement the deals to ensure that they benefit wider society. Disclosing mining contracts is an important step in improving transparency and accountability in the sector and provides an important way of putting relevant information on the governance of the sector into the public domain.
5. <u>Know and Understand the Local Context Where Mining Will Take Place</u>	Where central mining authorities are permitting mining operations in areas where they have little information about the local context or local governance, this can lead to conflicts between central and local governments. While land use planning in Step 2 should help to reduce such conflicts, there should be coordination between local and central levels.



Step 5: Mine Development and Construction

At this fifth step, the development and construction phase of a mine can often determine how sustainable the subsequent operational phase will be. This is also the step at which infrastructure, ancillary facilities and access works are constructed (for transport, power and water supply, storage and waste handling). Construction creates significant and visible changes and impacts on the environment and communities and is therefore likely to be the phase with the most intense ESHR impacts. This phase therefore requires clear requirements around ESHR issues, active monitoring from the authorities and regular engagement with the local communities by the authorities and the company.

- Primary target audience: Mining Authorities, Environmental Authorities, Social Authorities & Human Rights Authorities

Key Actions At This Stage	Key Messages
1. Set ESHR Requirements for the Construction Phase	A well-scoped ESIA should cover the potential ESHR impacts at each phase, starting with the construction phase, including impacts associated with the construction of ancillary facilities and infrastructure. Authorities should remain alert to impacts that are more difficult to anticipate, including in-migration and cumulative impacts. Given the range of authorities involved, a coordination mechanism to facilitate coordinated decision-making and monitoring can be useful.
2. Conduct Regular Monitoring of ESHR Impacts of Construction	Given the wide range of impacts at the construction phase, there should be proportionately scaled-up monitoring of the mining company and its subcontractors. Informing and involving local communities in monitoring can build trust in monitoring outcomes, can augment scarce governmental capacity and is a very direct approach to providing the right to access to information and public participation.
3. Regularize Community Engagement	The mining company and the government should be actively engaging with affected communities and other stakeholders to provide updated information on developments, to address impacts and to respond to concerns and grievances, setting up regular feedback loops to respond to the community and to manage expectations. If not already done, this is a time to develop systematic and sustainable approaches to community development.



Step 6: Production

At this sixth step, the operations phase of the mine can last decades or, in some cases, centuries. It is also the phase when the ESHR planning proves its value, as the mining company will have ESHR impacts to manage over the long term. Given the long-term nature of mining, a mine site will predictably be subject to changes over the life of the mine, so it is important that the authorities and the mining company have clear procedures to continually review and update mining management processes to manage changes and to consult with stakeholders when changes are significant.

- Primary target audience: Mining Authorities, Environmental Authorities, Social Authorities & Human Rights Authorities

Key Steps At This Stage	Key Messages
1. Update ESHR Requirements Throughout the Production Phase	Given the high level of uncertainty inherent in mining, strengthening capacities and processes for managing change and the potential ESHR impacts that may accompany change should be given a high priority.

2. <u>Conduct Regular Monitoring of ESHR Impacts Throughout the Production Phase</u>	The longer-term monitoring required during the production phase provides the opportunity to set up coordinated and integrated approaches to monitoring and to build longer-term approaches to stakeholder involvement in monitoring.
3. <u>Manage ESHR Impact Events</u>	Mining is a high-risk sector and needs to be managed accordingly. In addition to managing ongoing impacts of production, authorities and the mining companies should be prepared to manage sporadic events that can have significant ESHR impacts – including emergency and security events.
4. <u>Address Relationships with ASM</u>	There is often a significant artisanal and small-scale mining (ASM) sector in many mining countries, often neighbouring or even interwoven with large-scale mining (LSM) enterprises. While, in the past, ASM mining has been discouraged or even criminalized, governments and larger mining companies are beginning to recognize that ASM is often a significant source of livelihood that should be supported to improve rather than being further marginalized.



Step 7: Closure

At this seventh step mines are wound down, operations are closed and rehabilitation is accelerated. All mines close and many close prematurely, so it is important that mine closure planning start from the beginning of the mining cycle. Progressive rehabilitation of areas no longer needed should start during operations rather than during final closure. An integrated approach to mine closure planning integrates environmental, social and economic planning and involves local communities and other stakeholders throughout the process.

- *Primary target audience: Mining Authorities, Environmental Authorities, Social Authorities & Human Rights Authorities & Local Government*

<u>Key Steps At This Stage</u>	<u>Key Messages</u>
1. <u>Plan for Closure and Post-Closure in an Integrated Manner</u>	Integrating ESHR management decisions into strategic closure planning from the start can achieve more effective mine closure and completion. The objective of closure should be to prevent or minimize adverse long-term environmental, physical, social and economic impacts, to create a stable land form suitable for some agreed subsequent land use and to maximize social benefits.
2. <u>Involve Stakeholders as a Core Part of the Closure Process</u>	Community engagement from the earliest possible time and throughout the closure planning process is both an important expression of the right of the public to participation, but is also essential to effective closure planning. The goal should be community ownership of the closure plan, as the community will eventually inherit the project area.
3. <u>Carry Out Progressive Closure throughout Mine Operation</u>	Actions that are part of closure will start in the production phase (Step 6) as progressive rehabilitation of areas no longer needed gets underway. Monitoring these actions to understand their effectiveness and using the results to refine future rehabilitation efforts will be important and should continue through post-closures (Step 8).



Step 8: Post-Closure

At this eighth and final step in the final phase of mining operations, monitoring confirms that all relinquishment targets are met and liabilities are discharged. After they have been, the mining site is turned over to the government and can be put to its planned re-use. For mines that were not closed properly – abandoned or orphaned mines – the government will need to devise a strategy to close them, potentially in partnership with other actors.

- Primary target audience: Mining Authorities, Environmental Authorities, Social Authorities & Human Rights Authorities & Local Government

Key Actions	Key Messages
1. Monitor the ESHR Impacts of Closure	Monitoring remains a key activity throughout the post-closure period to ensure that the closure and post-closure activities meet their ESHR goals. Involving local communities, environmental organizations and trade unions in monitoring of closure plan completion is one way to build buy-in and trust in the outcomes and is a model of public participation in closure.
2. Incorporate ESHR Targets into Relinquishment Conditions	Putting in place clear criteria for relinquishment that meet regulatory and community expectations and include appropriate ESHR conditions is important not only to give mining companies certainty about the targets that they must meet, but also to ensure that the national and local governments are not left with unfulfilled environmental and social liabilities. There should be appropriate safeguards to ensure accountability for closure and post-closure planning. Community participation is an important part of the relinquishment process.
3. Take a Leadership Role for Orphaned or Abandoned Mines	The government should lead in addressing orphaned and abandoned mines, building partnerships with other actors – including the sector, other governments and international organizations – to develop technological solutions (including the reprocessing of mining wastes) or to contribute expertise or other resources to resolve the legacy issue of orphaned or abandoned mines.

Annex II: Using the Ecosystem Services Approach for Assessing the Mining, Ecosystems and Human Rights Nexus¹

This Annex focuses on the linkages between ecosystems services, human well-being and human rights. Human well-being and thus human rights hinge on ecosystem services. Globally, there is a growing demand for ecosystem services and the associated challenges are compounded by increasingly serious degradation in the capability of ecosystems to provide these services. One challenge for decision makers is that mining often poses an increasing demand for ecosystem services such as water and at the same time; it also seriously degrades biodiversity and ecosystems. This Annex highlights tools that can help decision makers assess the connections between ecosystems services and human rights for safeguarding biodiversity, healthy ecosystems and human well-being in the context of the mining sector.

Biodiversity refers to the diversity of life on Earth. It is essential for the functioning of ecosystems that underpin ecosystem services that, in turn, ultimately affect human well-being. Ecosystem services are the benefits people obtain from ecosystems.

Box 1: Further Explanations of Terminology

Biodiversity is defined more specifically in the Convention on Biological Diversity – the international convention established to conserve biodiversity, manage sustainable use and ensure the fair and equitable sharing of the benefits – as “the variability among living organisms from all sources, including terrestrial, marine, and other aquatic eco-systems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems.”²

The importance of the definition is that it:

- Draws attention to the **many dimensions of biodiversity** – diversity at multiple scales of biological organization (genes, populations, species and ecosystems) that can be considered at any geographic scale (local, regional or global)
- Includes all ecosystems – managed or unmanaged, so this includes plantations, farms, croplands, aquaculture sites, rangelands or even urban parks and urban ecosystems, as they have their own biodiversity
- Highlights that species diversity in and of itself, for example, is valuable because the presence of a variety of species helps to increase the capability of an ecosystem to be resilient in the face of a changing environment and, at the same time, an individual component of that diversity, such as a particular food plant species, may be valuable as a biological resource. It also recognizes intrinsic values of biodiversity i.e., beyond their use value, they have a value in themselves as part of nature.

Ecosystem services are the benefits people obtain from ecosystems, categorized as:

- **Provisioning services** such as medicines, timber for construction and fuel, food and water
- **Regulating services** such as climate regulation, floods, disease, wastes and water quality
- **Cultural services** such as the spiritual enrichment, cultural heritage, recreation and tourism and aesthetic benefits
- **Supporting services** such as nutrient cycling, water cycling soil formation and photosynthesis. For example, aside from regulating carbon dioxide levels in the atmosphere, forests play an important role in retaining sediment and maintaining clean water for downstream populations that rely on rivers and streams for their drinking water. They are also important in helping maintain dry-season base flows.

¹ Per Stromberg, Swedish Environmental Protection Agency, Claudia Ituarte-Lima, SwedBio/Stockholm Resilience Centre. This Annex is based on Ituarte-Lima, C. and Stromberg P., 2018 Mainstreaming Biodiversity and Human Rights into the Mining Sector, Stockholm Resilience Centre, Stockholm. The authors would like to thank Margaret Wachenfeld (Themis Research), Tim Scott (UNDP) and Marianne Kjellen (UNDP), Sanna Due (UNDP), Ann Pedersen (UNDP) and Maria Bang (SEPA) for valuable comments to earlier drafts of this article. The article has also greatly benefited from feedback in the SEPA-UNDP webinars Environmental Governance of the Mining Sector (http://api.ning.com/files/zBuXAPiY2N4U6M1DRDGKtUSaxFYWmGoeDM7U*ku6UqQ8ZXNLW2jslHaQ5I1AQupPLs4Jr3NPEuYYOcDI-VNudShPdOpe*5g/KnowledgeProductBiodiversityandHRDecember17.pdf) and a joint side-event co-convoked by SwedBio/SRC, UNDP, SEPA, IDLO and Natural Justice at the Convention on Biological Diversity Subsidiary body on scientific, technical and technological advice in Montreal, Canada (Dec. 2017).

² <https://www.cbd.int/convention/text/>

Mangroves and other coastal habitats play an important role in protecting people who live along the coast from storms, which may be exacerbated by climate change.

Resilience

- Refers to the capacity of a socio-ecological system to support human well-being in complex and dynamic changes to the system, including in a context of sudden and unexpected events.³ More diverse ecosystems are more resilient to unexpected and sudden events such as disasters events of natural or/and man-made sort as well as to the long-term and progressive threats posed by climate change.⁴

1. The Ecosystem and Well-being Framework and Its Application to Mining

The Ecosystems and Well-being (ES) Framework (see Figure 1) was developed as part of the Millennium Ecosystem Assessment (MEA) that assessed the consequences of ecosystem change for human well-being. From 2001 to 2005, the MEA involved the work of more than 1,360 experts worldwide to produce a state-of-the-art scientific appraisal of the condition and trends in the world's ecosystems and the services they provide, as well as the scientific basis for action to conserve and use them sustainably.⁵ By examining the environment through the framework of ecosystem services, it becomes much easier to identify how changes in ecosystems influence human well-being and to provide information in a form that decision-makers can weigh alongside other social and economic information. The ES Framework:

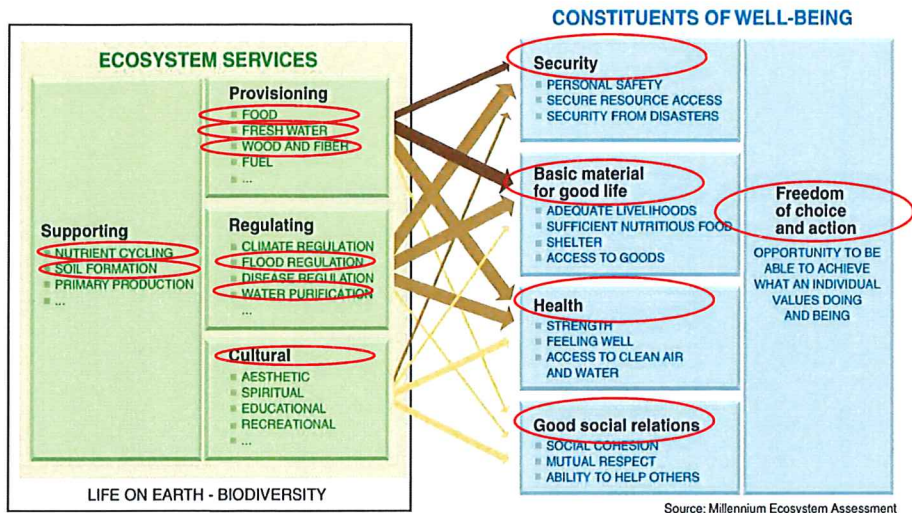
- Places human well-being as the central focus for assessment while recognizing that biodiversity and ecosystems also have intrinsic value and that people take decisions concerning ecosystems based on considerations of well-being and intrinsic value.
- Highlights that **biodiversity contributes directly** (through provisioning, regulating and cultural ecosystem services) and **indirectly** (through supporting ecosystem services) to many constituents of human well-being, including security, basic material for a good life, health, good social relations, and freedom of choice and action.
- Focuses on the **interconnections** between ecosystem services and different dimensions of human well-being, as they are **affected by changes in environmental quality and quantity**.

Figure 1: The ES Framework as applied to extractive industries (red rings exemplify effects from mining on ecosystem services to human well-being, while the breadth and colour of arrows are kept intact from the general MEA framework and hence are not adopted to the case of extractive industries)

³ Biggs, R., Schlüter M., and Schoon, M. L. (2015) Principles for Building Resilience: Sustaining Ecosystem Services in Social-Ecological Systems. Cambridge University Press

⁴ World Health Organization and Secretariat of the Convention on Biological Diversity (2015), Connecting Global Priorities: Biodiversity and Human Health — a State of Knowledge Review, Geneva

⁵ See: <https://www.millenniumassessment.org/en/index.html>



ARROW'S COLOR Potential for mediation by socioeconomic factors

ARROW'S WIDTH Intensity of linkages between ecosystem services and human well-being

Low Weak

Medium Medium

High Strong

Source: Millennium Ecosystem Assessment Framework adapted by the authors

Box 2: Further Explanations of the ES Framework from the Millennium Ecosystem Assessment

Ecosystem changes affect human well-being in the following ways:

- **Security** is affected by changes in provisioning services, which affect supplies of food and other goods and the likelihood of conflict over declining resources, and by changes in regulating services, which could influence the frequency and magnitude of floods, droughts, landslides or other catastrophes. It can also be affected by changes in cultural services such as when the loss of important ceremonial or spiritual attributes of ecosystems weakens social relations in a community. These changes, in turn, affect material well-being, health, freedom and choice, security and good social relations.
- **Access to basic material for a good life** is strongly linked to provisioning services such as food and fibre production and regulating services, including water purification.
- **Health** is strongly linked to provisioning services such as food production and regulating services, including those that influence the distribution of disease-transmitting insects and of irritants and pathogens in water and air. Health can also be linked to cultural services through recreational and spiritual benefits.
- **Social relations** are affected by changes to cultural services, which affect the quality of human experience.
- **Freedom and choice** are largely predicated on the existence of the other components of well-being and are thus influenced by changes in provisioning, regulating or cultural services from ecosystems.⁶

This framework's visual tools are relatively pedagogical and easily understood as compared to other extensions of the ES Framework. Yet they include the main social-ecological dynamics and complexities. These are crucial for sound analysis and multi-actor dialogue between rights-

⁶ MEA (2005), Ecosystems and Human Well-being – A Framework for Assessment, p. 13, <https://www.millenniumassessment.org/en/Framework.html>

holders and duty bearers such as governments in distinct sectors, the mining industry and institutions that finance mining and related infrastructure such as dams for water provision.

2. Going a Step Further – Applying the ES Framework to Understand and Act upon the Impacts on Human Rights

The Millennium Ecosystem Assessment helped to build bridges highlighting the links between ecosystem services and human well-being. In parallel, the Rio Declaration and subsequent developments sparked development of the links between human rights and environmental protection more generally (see Annex x on Principle 10).

In 2017, the UN Special Rapporteur on Human Rights and the Environment, Professor John Knox,⁷ made a further step in linking biodiversity and related ecosystem services to the full enjoyment of substantive and procedural human rights.⁸

a) Substantive obligations: Using the example the right to water and impacts of mining

Biodiversity underpins healthy ecosystems and continued provision of ecosystem services, in turn affecting substantive human rights such as the right to water and the right to health, e.g., growing evidence shows that contact with diverse habitats and many distinct species has important positive impacts for human health, a constituent of well-being.

Among the many distinct connections between ecosystem services and substantive human rights, here we will focus on highlighting the nexus of mining impacts on ecosystem services and the right to water. The mining industry typically has significant impacts on water, but is also strongly reliant on water for processing and for hydroelectric plants supporting its high demand for energy. But water also provides vital ecosystem services as highlighted above in Figure 1. Given its importance to many dimensions of human well-being, the UN in 2010 specifically recognized the human right to safe drinking water and sanitation as a separate right; it is also an important component of the right to an adequate standard of living. Regional human rights mechanisms such as the African Commission on Human and People's Rights, the European Court of Human Rights and the Inter-American Court of Human Rights have also contributed to interpreting the content of the water-related obligations, as have various courts under national law.⁹

But what does 'the right to water' mean? The right to water is a right for personal use. It does not apply to companies or operations like the mining sector. Instead, decision makers must consider the mining sector's demand for water use in light of the rights of individuals and the communities to water. The UN Committee on Economic, Social and Cultural Rights, in its General Comment No. 15 (2002), emphasizes that, as with other human rights, the right to water includes obligations to respect, protect and fulfil human rights:¹⁰

- **Respect** human rights that require States from refrain from interfering directly or indirectly with the enjoyment of the right to water such as by arbitrarily interfering with customary or traditional arrangements for water allocation or unlawfully diminishing or polluting watersheds and water-related ecosystems through waste from State-owned mining companies
- **Protect** human rights that require States to prevent third parties such as non-state owned (i.e., private) mining companies from interfering with the enjoyment of the right to water
- **Fulfil** human rights that require States to adopt the necessary measures such as sufficient recognition of this right within the national political and legal systems, preferably by way of legislative implementation; adopt a national water strategy and plan of action to realize this right; ensure that water is affordable for everyone; and facilitate improved and sustainable access to water, particularly in rural and deprived urban areas

⁷ For biographical details and information on the work of the Special Rapporteur, see <http://www.ohchr.org/EN/Issues/Environment/SREnvironment/Pages/JohnKnox.aspx>

⁸ Knox, J. (2017), Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, A/HRC/34/49. <http://srenvironment.org/2017/01/19/report-on-biodiversity-and-human-rights/>

⁹ WaterLex and WASH United 2014, The human rights to water and sanitation in courts worldwide. A selection of national, regional and international case law, <http://www.waterlex.org/new/wp-content/uploads/2015/01/Case-Law-Compilation.pdf>

¹⁰ See the General Comment on water, UN Doc, E/C.12/2002/11 (2003), http://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf

In order to help governments and others set parameters around the right to water, the UN Committee on Economic, Social and Cultural Rights also sets out the different aspects of the right to water:

- **Availability** – whether there is a sufficient amount of water available within a given geographical area (e.g., a country, a district or a village) and whether there is a regular supply of water over time. It is an objective criterion that can be measured through quantitative data (e.g., amounts of water and duration of water cuts).
- **Accessibility** – has at least four dimensions – (i) *physical accessibility* means that water must be within physical reach and that it can be accessed without physical threats; (ii) *economic accessibility* is often referred to as ‘affordability’; (iii) *information accessibility* of information on water; and (iv) *non-discrimination*, which cuts across all dimensions of accessibility.
- **Acceptability** – refers to consumer acceptability of water in terms of colour, odour, taste and cultural acceptability.
- **Quality** – water must be safe; the state must prevent, control and treat water-related diseases; and water facilities and services must be of sufficient quality. This can be defined by reference to water quality standards issued by technically competent, internationally recognized authorities – WHO or UNICEF.¹¹

b) Procedural obligations

Substantive rights such as right to water and right to health often depend on procedural rights. The procedural human rights obligations of States in relation to the environment include the three rights covered by Principle 10 (access to information, public participation and access to justice, including remedy) (see Annex I). For example, States have specific procedural obligations before granting a mining concession or authorizing a dam that would cause the degradation or loss of biodiversity. These obligations include assessing the environmental and social impacts of the proposal, including through the ESIA processes, and facilitating people’s exercise of their rights to freedom of expression and association and public participation in the decision-making processes. Operationalizing the rights to public participation can contribute to better-informed decision-making about ecosystem services (see d) below). Procedural rights also include the right to access effective legal remedies for those who claim that their rights have been violated.¹² Hence, from a human-rights perspective, a key focus is how distinct and interdependent rights are affected by mining and how to manage ecosystem services in a way that secure equality, dignity and well-being for all.

c) Obligations concerning people in vulnerable situations

Adverse impacts to ecosystems by mining activities may have disproportionately severe effects on the enjoyment of human rights of members of minorities or indigenous peoples who rely directly on the ecosystems through traditional activities such as fishing. In these cases, States have heightened procedural obligations such as positive legal measures to ensure the effective participation of members of minority communities in

¹¹ See also Holst Jensen, M., Villumsen, M. Døcker Petersen, The AAAQ Framework and the Right to Water, (2014), <https://www.humanrights.dk/publications/aaaq-framework-right-water-international-indicators>

¹² Knox, J., (2013) Report of the Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, Compilation of good practices, A/HRC/28/61; Ituarte-Lima, C., (2017) Transformative biodiversity law and Agenda 2030: mainstreaming biodiversity and justice through human rights in Butter, B. Risk, Resilience, Inequality and Environmental Law, Edward Elgar Publishing, pp. 84-107.

decisions that adversely affect their relationship with the ecosystems they depend on as well as obligations concerning substantive rights such as the protection of the ecosystems themselves. Sometimes, whole groups, such as indigenous peoples or ethnic minorities, can be in a vulnerable situation, but so can be sub-populations, such as women and children and the landless. In communities who depend directly on the ecosystems for their livelihoods, women and children often must fetch water. Restrictions on the physical accessibility of clean water can affect the possibilities particularly of girls to attend school and hence affect the conditions of a specific group to exercise their rights to education.¹³

Ecosystem degradation often has its most direct and severe impact on people under poverty conditions in rural settings. Wealthier segments of the population control access to a greater share of ecosystem services and can often purchase alternative access to services or offset local losses of ecosystem services by shifting production and harvest to other regions. For rural people in poverty situations, who are often the most affected by mining, substitutes for access to biodiversity and ecosystem services and alternative choices are often very limited. This has led to many conflicts between competing social groups or individuals over access to and use of biological products and ecosystem services. For these reasons, disaggregating the ecosystem services used by different sections of society and understanding and addressing how they will be impacted by mining operations can support the operationalization of the human rights principle of equality and non-discrimination.¹⁴

d) Drawing attention to inclusive building of knowledge of ecosystem services

In many countries, knowledge of ecosystems services is intimately interlinked with populations who use the ecosystem services every day. They often possess an indigenous knowledge of the biodiversity and ecosystem services that is not otherwise accessible to decision makers.

¹³ For more discussion on water, environment and justice nexus, see Hey, E. (2009) 'Distributive justice and procedural fairness in global water law', in J. Ebbesson & P. Okawa (eds.), *Environmental Law and Justice in Context*, Cambridge University Press.

¹⁴ See Daw, T., Brown, K., Rosendo, S. and Pomeroy, R., (2011) Applying the ecosystem services concept to poverty alleviation: the need to disaggregate human well-being, *Environmental Conservation* 38 (4), 370–379 and Ituarte-Lima, C., Schultz, M., Hahn, T., McDermott, C., and Cornell, S. (2014) Biodiversity financing and safeguards: lessons learned and proposed guidelines, Stockholm: SwedBio/Stockholm Resilience Centre at Stockholm University, Information Document UNEP/CBD/COP/12/INF/27 for the 12th Conference of the Parties of the Convention on Biological Diversity in Pyeongchang, Korea

- e) Using the ES Framework to understand and act upon the impacts of mining on ecosystem services and impacts on human rights – Using the right to water as an example

Using the right to water as an example and referring to Figure 1, Table 1 gives an example of how the ES Framework can also be used to understand and act upon the impacts of mining on ecosystem services and impacts on human rights. The ES Framework can help identifying different ecosystem services such as protection against erosion and purification of water as well as how mining affects the human rights of different groups.

Table 1: Using the ES Framework to Consider the Right to Water in Mining (examples)			
Ecosystem Service	Direct or Indirect Impact of Mining	Using the ES Framework can highlight how mining affects human well-being through:	Associated links to human rights ¹⁵

¹⁵ As set out in the International Covenant on Economic, Social and Cultural Rights (1976) <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx>

Provisioning	Depletion of groundwater/unsustainable extraction of surface water	<ul style="list-style-type: none"> • A strong link between the provisioning service provided by water → negative impact on basic material for good life as a dimension of human well-being, would be indicated by the broad arrow. • A low potential for mediation by socio-economic factors between the provisioning service water purification → basic material for good life as a dimension of human well-being, would be indicated by the light colour of the arrow. 	<p><i>Right to an adequate standard of living, Right to water, Right to food and Right to education</i></p> <p>Mining impacts can limit the physical accessibility of clean water e.g., by diverting rivers in order to provide for dammed water used in hydroelectric plants for mining operations</p> <ul style="list-style-type: none"> • Which limits use for productive purposes such as agriculture, affecting the right to food • Which can affect the time spent to collect water and hence the possibilities particularly of girls to attend school and to exercise their rights to education¹⁶
Regulating	Contamination of watersheds	<ul style="list-style-type: none"> • A strong link between the provisioning service provided by water → negative health impact as a dimension of human well-being, would be indicated by a broad arrow. • A weak potential for mediation by socio-economic factors between the provisioning service provided by water → health would be indicated by light colour of the arrow. This would mean that it is not possible to substitute the water with something else in order to keep the impact on human well-being unchanged. 	<p><i>Right to life, Right to health & Right to water</i></p> <p>Water pollution by mining may affect:</p> <ul style="list-style-type: none"> • Quality of water drinking polluted water may impact the health or life of people; pregnant women and children may be at a greater risk. • Colour, odour and taste of water used for personal or domestic use with impacts on acceptability of the water. This, in turn, may prompt people to resort to unsafe water alternatives.
Regulating	Deforestation in order to enable open-pit mining reduces the flood regulation ecosystem service	<ul style="list-style-type: none"> • A strong link between the regulating service flood regulation → security as a dimension of human well-being, would be indicated by a broad arrow. • A weak potential for mediation by socio-economic factors between the provisioning service provided by water purification → security from flooding would be indicated by light colour of the arrow. This would mean that it is not possible to substitute the flood control with something else in order to keep the impact on human well-being unchanged. 	<p><i>Right to an adequate standard of living & Right to Food & Right to adequate housing</i></p> <ul style="list-style-type: none"> • Mining impacts can prompt flooding such as by dam breaks – for example, when these dams are not strong enough to withstand torrential currents during the typhoon season, earthquakes or emergency releases, or through deforestation that reduces nature's own flood control. These impacts can, in turn, affect local cultivation grounds, causing food insecurity and also affecting residential areas.
Cultural	Contamination of watersheds and inundation of land for dams to provide water for mining	<ul style="list-style-type: none"> • A strong link between the cultural service spiritual aspects → possibly all aspects of human well-being, including health and good social relations as a dimension of human well-being, would be indicated by a broad arrow. • A weak potential for mediation by socio-economic factors between the cultural service provided by the spiritual aspects → possibly all 	<p><i>Indigenous peoples and local communities rights to ownership and control over their ancestral lands and resources</i></p> <ul style="list-style-type: none"> • Inundation and siltation by large-scale corporate mining and associated dams can cause the dislocation of indigenous peoples and local communities from their ancestral lands and traditional livelihoods such as

¹⁶ For more discussion on water, environment and justice nexus, see Hey, E. (2009) 'Distributive justice and procedural fairness in global water law', in J. Ebbesson & P. Okawa (eds.), *Environmental Law and Justice in Context*, Cambridge University Press

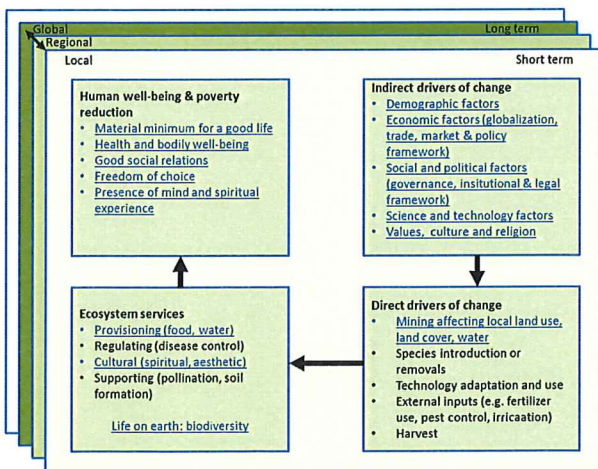
		<p>aspects of human well-being would be indicated by light colour of the arrow. This would mean that it is not possible to substitute the spiritual aspects from the ecosystem service with something else in order to keep the impact on human well-being unchanged.</p>	<p>swiddens, hunting, grazing livestock, household gardens with vegetables and traditional medicinal plants.</p>
--	--	---	--

3. Going another Step Further – Adding Other Dimensions to the Analysis

The additional conceptual framework from the Millennium Ecosystem Assessment (see Figure 2) adds to the ES Framework above by nesting the considerations of impacts on ecosystem services within an even broader framework that introduces consideration of:

- Time horizons (short-term, medium-term and long-term)
- Spatial dynamics/scales (local, regional, global) (for example, a global market may lead to regional loss of forest that increases flood magnitude along a local stretch of a river)
- Factors that indirectly affect ecosystems, such as population, technology and lifestyle (*upper right corner*) that can lead to changes in factors directly affecting ecosystems, such as the catch of fisheries or the application of fertilizers to increase food production (*lower right corner*).
- The resulting changes in the ecosystem (*lower left corner*) cause the ecosystem services to change
- Thereby affect human well-being (*top left-hand corner*)

Figure 2: Millennium Ecosystem Assessment Conceptual Framework of Interactions among Biodiversity, Ecosystem Services, Human Well-being and Drivers of Change



Source: Adaption from MEA (2005) by the authors

The Framework emphasizes that, in order to implement the ecosystem approach, decision makers need to understand the multiple effects on an ecosystem of any management or policy change and to consider the consequences of changes for multiple sectors. For example, providing a subsidy for fertilizers may increase food production, but sound decision-making also requires information on whether the potential reduction in

the harvests of downstream fisheries as a result of water quality degradation from the might outweighs those benefits.¹⁷ Applied to the mining sector, the broader Framework can help decision makers structure an assessment and decision-making process that takes account of this broader systems analysis when considering whether to permit mining, to use the areas for other uses or to protect the area's nature. When society has multiple goals, many of which depend on biodiversity, ecosystem services and the many constituents of well-being, difficult decisions involving trade-offs among competing goals have to be made.

Mining impacts on, for example, water have wide spatial distribution and often wide-ranging and irreversible effects over time (see Box 3). Therefore, what may appear as a sound use of water today needs to be assessed through the lens of the full user chain of water today and in the future, locally and beyond. Hence, mining needs to be carefully considered in the broader context of how it may affect such important matters of national security as the current and future ability of the country to supply its population with sufficient water and food, and the long term-prospects of local and regional economies. Such effects on water can be of substantial importance for local livelihoods, but may also have regional, national or even international relevance.

Box 3: Examples of Spatial and Temporal (Time) Impacts of Mining – the Case of Water

Spatial impacts	<p>Mining can influence the local and regional hydrology by altering ground water and river regimes:</p> <ul style="list-style-type: none"> • Through the construction of dams, and then from seepage, above-normal release of water from dams e.g., due to heavy precipitation, collapse of dams • Through road construction and other infrastructure that themselves affect water • Due to excavations that cause seepage into the groundwater • Drying up nearby streams or wells through extraction • Earth displacement may also cut across and thereby connect underground aquifers • Through increased use of water by the influx of migrant workers and support services to the mining operations and to the families of these mining workers.¹⁸ • Indirectly by other land use changes such as deforestation which eliminates the forest's water buffering and water purifying ecosystem services <p>Mining affects the surface water quality that then has extended spatial impacts throughout river basins and through:</p> <ul style="list-style-type: none"> • Pollution such as acid mine drainage, metal contamination, etc. • Increased sediment levels and increased contaminated sediments in streams from its processes¹⁹ <p>These challenges increases when mining operations occur in difficult geographical settings and in challenging climate zones, containing fragile ecosystems and exposed human settlements.²⁰</p>
Impacts over time	<p>Decision makers also need to consider the temporal impacts of mining on water, considering the rights and interests of future generations to such a vital resource.²¹ In doing so, they must consider factors such as:</p> <ul style="list-style-type: none"> • Future supply and demand for water in a mining context • There are already evident efforts of the mining industry to secure access to future water sources for their mining operations in a context of anticipated increased competition for this resource, especially in a context of climate change. Authorities have the obligation to prevent State- and non-state-owned mining companies from interfering in any way with the enjoyment of the right to water in short and long terms.

4. Using the ES Framework – Further Explanations, Tools and References

¹⁷ UNEP (2010), Ecosystems And Human Well-Being, <http://www.unep.org/publications/>

¹⁸ If managed with sustainability in mind, mining can indeed contribute positively to water issues by building appropriate water supply infrastructure to local populations.

¹⁹ UNEP (2010) Ecosystems and Human Well-Being, El Maghara, Northern Sinai, Egypt, <http://wedocs.unep.org/handle/20.500.11822/7604>

²⁰ ICMM (2013) Adapting to a changing climate: implications for the mining and metals industry. International Council on Mining & Metals. <http://www.icmm.com/document/5173>

²¹ UN CESCR General Comment 15, General Comment No. 15 (2002) The right to water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights), http://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf

The ES Framework has several advantages:

- The ES Framework is intrinsically multidisciplinary, making explicit how the environment contributes to human well-being.
- Its systemic approach allows to first join an economic activity such as mining to the framework, and subsequently to assess the full range of possible effects that such activity has on the environment and on human well-being, through time and across space.
- The ES Framework is well-known and has a large buy-in amongst practitioners (e.g., ES is already stipulated in Colombian national mining regulation and in international law such as the CBD).
- As is argued here, because the ES Framework explicitly has human well-being in contrast to environmental quality as an end point in the analysis, the framework provides a direct entry to assessing human rights impacts.

The ES Conceptual Framework is typically applied to help design assessments of projects to understand their impacts on biodiversity and ecosystem services and, in turn, the effects that they may have on human well-being.

Applying the Framework to mining can help decision makers:

- The ES Framework can serve as a tool to operationalize fundamental human rights principles. It can support the identification of how the ecosystem alterations caused by mining affect the constituencies of human well-being that are linked to human rights.
- The Framework helps to assess the impact and trade-offs that different economic activities have on human welfare. This is done for each ecosystem service, asking whether it is affected by the mining venture and, if so, in what way, to which degree and how it affects other economic activity or households. This provides a transparent common ground for multistakeholder dialogue and further detailing of the nexus between mining, human well-being and human rights, through different localities and over time. A trade-off occurs when the extraction and use of one service has an impact on the benefits that can be realized from another service or another economic use.
- Finally, the Framework can help make explicit and therefore transparent the trade-offs across different locations and time.
- An example applying the ES framework to mining: UNEP (2010) Ecosystems and Human Well-Being, El Maghara, Northern Sinai, Egypt.²²

²² <http://wedocs.unep.org/handle/20.500.11822/7604>