



Chapter 2.1 Environmental and Social Impact Assessment and Management

 **[flag]** **Issue in brief:** While there is agreement among IRMA sectors that environmental and social impact assessment (ESIA) and management systems are essential for the responsible management of large-scale mining projects, there is not agreement on the particular methodology that must be followed. Most countries have their own ESIA processes, and there are also globally recognized environmental and social management standards such as the International Finance Corporation's Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts, and the ISO 14001 Standard for Environmental Management Systems, which some companies, especially larger corporations, follow.

The current version of the IRMA chapter has drawn upon national approaches and international standards to come up with criteria that reflect commonly applied best practices.

A suggestion has been made that IRMA consider adopting the IFC Performance Standard that covers this topic area, with the argument that this is a well-known and stringent standard. However, not all companies are familiar with IFC requirements, and it is unclear if all of the requirements in the IFC Performance Standard need to be included in the IRMA chapter, or if there may be certain practices that are not required by IFC that IRMA stakeholders would like to see included by IRMA.

During the Launch Phase, IRMA will encourage companies to self-assess and be scored against the current IRMA chapter requirements. We will also explore whether there are companies that would prefer to score against the IFC Performance Standard, and if so, we will carry out an alignment exercise in 2018 to determine if there are significant differences between the IRMA chapter and the requirements in the IFC Performance Standard, and based on our learnings revise this chapter if necessary prior to offering certification in late 2019.

BACKGROUND

In almost all jurisdictions, mining companies are required to conduct environmental impact assessments (EIA) or environmental and social impact assessments (ESIA) prior to mine development, and some also require assessments prior to exploration. ESIA enable regulators and other stakeholders to participate in the identification and review of predicted impacts and mitigation measures for a mining proposal before it is finalized or approved.

When developing mitigation strategies the use of a mitigation hierarchy to avoid, or where avoidance is not possible, minimize or compensate for impacts to workers, communities and the environment is widely considered a best practice approach to managing environmental and social risks and impacts.³⁶

³⁶ International Finance Corporation (IFC). 2012. *IFC Performance Standards on Environmental and Social Sustainability*. Guidance Note 1: Assessment and Management of Environmental and Social Risks and Impacts. GN62, pp. 20, 21. http://www.ifc.org/wps/wcm/connect/e280ef804a0256609709ffd1a5d13d27/GN_English_2012_Full-Document.pdf?MOD=AJPERES

Impact prevention and mitigation strategies developed during the ESIA process are typically integrated into a comprehensive, documented environmental and social management plan, and an environmental and social management system (ESMS) is developed and implemented to ensure that mine site personnel remain responsive to issues as they arise, and that they continue to effectively monitor and mitigate risks and reduce impacts on the environment, workers and neighboring communities throughout the mine life cycle.

The importance of stakeholder involvement in the identification and management of environmental and social issues is increasingly recognized, as it improves the quality of the impact assessments, and helps to build community support for a project by involving local stakeholders in decisions related to mitigation and management of risk and impacts.

OBJECTIVES/INTENT OF THIS CHAPTER

To proactively anticipate and assess environmental and social impacts; manage them in accordance with the mitigation hierarchy; and monitor and adapt environmental and social management systems in a manner that protects affected communities, workers and the environment throughout the entire mine life cycle.

SCOPE OF APPLICATION

NEW VERSUS EXISTING MINES: ESIA's are typically undertaken to predict potential impacts from a proposed mining project, and often are mandated by host country regulatory agencies. For IRMA's purposes, existing mines that did not carry out an ESIA prior to the mine development will not be expected to subsequently carry out such an assessment. But they will be expected to demonstrate that an environmental and social management plan (or its equivalent) and monitoring programs are in place to detect impacts.

Additionally, criterion 2.1.5 requires the collection of baseline data. At existing mines, if baseline data were not collected at the appropriate time, the applicant should still attempt to collate data to provide the best possible picture of baseline conditions in order to better understand the magnitude of impacts caused by the mining project. In some IRMA chapters, existing mines are required to estimate or approximate baseline conditions. For example, in Chapter 4.2 companies are expected to establish background water quality conditions even when project baseline water quality data were not collected (See Chapter 4.2, requirement 4.2.1.1).

TERMS USED IN THIS CHAPTER

Accessible ■ Affected Community ■ Artisanal and Small-Scale Mining (ASM) ■ Background Water Quality ■ Baseline ■ Biodiversity ■ Competent Professionals ■ Consultation ■ Corporate Owner ■ Cumulative Impacts ■ Direct/Indirect Impacts ■ Ecosystem Services ■ Existing Mine ■ Human Rights Risks ■ Indigenous Peoples ■ Inform ■ Mining Project ■ Mitigation ■ Mitigation Hierarchy ■ New Mine ■ Operating Company ■ Post-Closure ■ Protected Areas ■ Resettlement ■ Rights Holder ■ Stakeholder ■ Threatened Species ■ Worker ■

These terms appear in the text with a dashed underline. For definitions see the Glossary of Terms at the end of the document.

Environmental and Social Impact Assessment and Management Requirements

2.1.1. General Requirements

2.1.1.1. An Environmental and Social Impact Assessment (ESIA), appropriate to the nature and scale of the proposed mining project and commensurate with the level of its environmental and social risks and impacts, shall be completed prior to the commencement of any site-disturbing operations associated with the project.

2.1.1.2. To enable a reasonable estimation of potential impacts related to the mining project, the ESIA process shall commence only after the project design has been sufficiently developed. Should the proposal be significantly revised a new assessment process shall be undertaken.

2.1.1.3. The ESIA shall be carried out in accordance with publicly available, documented procedures.

2.1.2. Provision of Preliminary Information

2.1.2.1. Prior to the implementation of the ESIA process the operating company shall ensure that there has been wide, public announcement of the project proposal and the associated ESIA process, and that reasonable and culturally appropriate efforts have been made to inform potentially affected and interested stakeholders in potentially affected communities about the proposed project.

2.1.2.2. Prior to the implementation of the ESIA process the operating company shall prepare a report and publish it on the operating company's external website, in the official national language(s) of the country in which the mining project is proposed to take place. The report shall provide:

- a. A general description of the proposed project, including details on the proposed location, and nature and duration of the project and related activities;
- b. The preliminary identification of potential significant environmental and social impacts, and proposed actions to mitigate any negative impacts;
- c. A description of the main steps of the ESIA process that will be carried out, the estimated timeline and the range of opportunities for stakeholder participation in the process; and
- d. Contact details for the person or team responsible for management of the ESIA.

2.1.3. Scoping

2.1.3.1. The operating company shall carry out a scoping process to identify all potentially significant social and environmental impacts of the mining project to be assessed in the ESIA.³⁷

2.1.3.2. During scoping, the operating company shall identify stakeholders and rights holders (hereafter, collectively referred to as “stakeholders”) who may be interested in and/or affected by the proposed project.

2.1.3.3. Scoping shall include the consideration of:

- a. Social impacts (including potential impacts on communities and workers) and environmental impacts (including potential impacts on wildlife, air, water, vegetation and soils) during all stages of the project life cycle, from pre-construction through post-closure;³⁸
- b. Direct, indirect and cumulative impacts; and
- c. Potential impacts of extreme events.

2.1.3.4. Scoping shall result in the identification of:

- a. Potentially significant environmental and social impacts of the proposed project;
- b. Alternative project designs to avoid significant adverse impacts;
- c. Other actions to mitigate identified adverse impacts; and
- d. Additional information and data needed to understand and assess the potential impacts.

2.1.4. ESIA Data Collection

2.1.4.1. Baseline data describing the prevailing environmental, social, economic and political environment shall be collected at an appropriate level of detail to allow the assessment of the potential impacts of the proposed mining project.

³⁷ Scoping refers to the early, open and interactive process of determining the major issues and impacts that will be important in decision-making on the proposal, and need to be addressed in an ESIA.

³⁸ See the Notes section at the end of the chapter for a more detailed list of the types of issues that should be included in the scoping process.

2.1.4.2. Additional studies shall be carried out as necessary to fulfill the information needs of the ESIA.

2.1.5. ESIA Impact Analysis

2.1.5.1. The operating company shall:

- a. Predict in greater detail the characteristics of the potentially significant environmental and social impacts identified during scoping;³⁹
- b. Determine the significance of the predicted impacts;
- c. Evaluate options to mitigate predicted significant adverse impacts in line with the mitigation hierarchy, prioritizing the avoidance of impacts through consideration of alternative project designs; and
- d. Determine the relative importance of residual impacts (i.e., impacts that cannot be mitigated) and whether significant residual adverse impacts can be addressed to the satisfaction of affected or relevant stakeholders.

2.1.6. ESIA Report

2.1.6.1. The operating company shall prepare an ESIA report that includes, at minimum:

- a. A description of the proposed mining project;
- b. Detailed description of the direct, indirect and cumulative impacts likely to result from the project, and identification of significant adverse impacts;
- c. Description of the alternatives considered to avoid and mitigate significant adverse impacts in line with the mitigation hierarchy, and the recommended measures to avoid or mitigate those impacts;
- d. A review of the public consultation process, the views and concerns expressed by stakeholders and how the concerns were taken into account; and
- e. Names and affiliations of ESIA authors and others involved in technical studies.

2.1.7. Environmental and Social Management System (ESMS)

2.1.7.1. The operating company shall develop and maintain a system to manage environmental and social risks and impacts throughout the life of the mine.

2.1.7.2. An environmental and social management plan (or its equivalent) shall be developed that, at minimum:

- a. Outlines the specific mitigation actions that will be carried out to address significant environmental and social impacts identified during and subsequent to the ESIA process;
- b. Assigns personnel responsible for implementation of various elements of the plan; and
- c. Includes estimates for the resources needed to implement the plan.

2.1.7.3. The environmental and social management plan shall be implemented, and revised or updated as necessary based on monitoring results or other information.

³⁹ Characteristics of impacts will vary, but may include: nature (positive, negative, direct, indirect, cumulative); magnitude (severe, moderate, low); extent/location (area/volume covered, distribution); timing (during construction, operation, closure and reclamation; immediate, delayed, rate of change); duration (short or long term; intermittent or continuous); reversibility/irreversibility; likelihood (probability, uncertainty or confidence in the prediction); and extent (local, regional, global).

2.1.8. Environmental and Social Impact Monitoring

2.1.8.1. As part of the ESMS, the operating company shall establish a program to monitor:

- a. The significant environmental and social impacts identified during or after the ESIA process; and
- b. The effectiveness of mitigation measures implemented to address environmental and social impacts.

2.1.8.2. The monitoring program shall be designed and carried out by competent professionals.

2.1.8.3. If requested by relevant stakeholders, the operating company shall facilitate the independent monitoring of key impact indicators where this would not interfere with the safe operation of the project.⁴⁰

2.1.9. Stakeholder Consultation and Participation in ESIA and Environmental and Social Monitoring

2.1.9.1. As part of the ESIA process, the operating company shall provide for timely and effective stakeholder and rights holder (hereafter collectively referred to as stakeholder) consultation, review and comment on:

- a. The issues and impacts to be considered in the proposed scope of the ESIA (see 2.1.3);
- b. Methodologies for the collection of environmental and social baseline data (see 2.1.4);
- c. The findings of environmental and social studies relevant to the conclusions and recommendations of the ESIA (see 2.1.5.1.a and b);
- d. Options and proposals to mitigate the potential impacts of the project (see 2.1.5.1.c);
- e. Provisional conclusions and recommendations of the ESIA, prior to finalization (see 2.1.6.1); and
- f. The final conclusions and recommendations of the ESIA (see 2.1.6.1).

2.1.9.2. The operating company shall encourage and facilitate stakeholder participation, where possible, in the collection of data for the ESIA, and in the development of options to mitigate the potential impacts of the project during and subsequent to the ESIA process.⁴¹

2.1.9.3. The operating company shall provide for timely and effective stakeholder consultation, review and comment on the scope and design of the environmental and social monitoring program.

2.1.9.4. The operating company shall encourage and facilitate stakeholder participation, where possible, in the implementation of the environmental and social monitoring program.⁴²

2.1.9.5. The operating company shall record all stakeholder comments received in relation to ESIA scoping; implementation; ESIA findings, conclusions and recommendations; and the environmental and social monitoring program. The company shall record how it responded to stakeholder comments.

⁴⁰ For example, by allowing independent experts to have access to sites for monitoring social or environmental indicators, and by allowing access to relevant company records, reports or documentation. If requested by relevant stakeholders (e.g., in particular those who may be directly affected), companies may also facilitate independent monitoring by providing funding to stakeholders to hire experts.

⁴¹ Facilitation of participation may include, e.g., provision of information and explanations in local languages, using materials and approaches designed to be accessible to local communities, and providing capacity building or training on methods. See also Chapter 2.8, Criteria 2.8.3.

⁴² Facilitation of participation may include, e.g., provision of: capacity building or training on monitoring methods, community access to the mine site to participate in company monitoring activities or community-based independent monitoring activities; funding to enable community participation, etc. Also, it should be noted that stakeholders may not be interested in participating in monitoring activities. In such cases, the operating company should be able to produce evidence that good faith efforts that were made to provide stakeholders with opportunities to fully participate.

2.1.10. Environmental and Social Disclosures and Reporting⁴³

2.1.10.1. The ESIA report and any supporting data and analyses shall be made publicly available. Detailed assessments of some issues and impacts may be reported as stand-alone documents, but the ESIA report shall review and present the results of the full analysis in an integrated manner.

2.1.10.2. The operating company shall make publicly available an anonymized version of the ESIA record of stakeholder comments and its own responses, including how each comment was taken into account.

2.1.10.3. The environmental and social management plan shall be made available to stakeholders upon request.

2.1.10.4. Summary reports of the findings of the environmental and social monitoring program shall be made publicly available at least annually, and all data and methodologies related to the monitoring program shall be publicly available.

2.1.10.5. The existence of publicly available ESIA and ESMS information, and the means of accessing it, shall be publicized by appropriate means.⁴⁴

NOTES

Many jurisdictions have legal requirements for undertaking ESIA. Similarly, ESIA are often mandated by organizations that provide funding for projects (e.g., International Finance Corporation (IFC)/World Bank). The requirements of Chapter 2.1 are meant to align with the good practice requirements described by IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts.

The chapter does not list all of the issues and impacts that are likely to be significant, as these will vary greatly depending on the scale, nature, duration and location of the particular project. It is the responsibility of the operating company, in consultation with interested and affected stakeholders, to ensure that all the relevant issues and impacts are identified and considered. Issues/impacts to be considered may include (but are not limited to) the following:

- Social and socio-economic impacts (e.g., effects of mining activities such as construction, road building, traffic, noise, air and water pollution, waste and chemical management, land disturbance and use, security arrangements, and resettlement, if relevant, on housing, infrastructure, social services, poverty, community physical and mental health and safety, local economies, livelihoods, ecosystem services, employment, population movements, etc.);
- Differential and/or specific impacts on women, children, minority groups and vulnerable groups;
- Socio-political risks, including potential infringement of human rights, conflict and political instability;
- Potential impacts on indigenous peoples and/or other vulnerable individuals or groups (e.g., women, ethnic minorities, children, youth and elderly, etc.), including impacts on culture and cultural heritage;
- Impacts on artisanal and small-scale miners (ASM) and their communities;
- Labor and working conditions;
- Environmental impacts (e.g., effects of surface disturbance, traffic, noise, waste generation, air quality, water use and quality, spills) on wildlife and vegetation, including threatened species, and biodiversity, ecosystem services and protected areas such as World Heritage Sites); trans-boundary effects (e.g. air pollution, use of international waterways); and greenhouse gas emissions and contributions to climate change.

⁴³ See Chapter 2.8 for requirements related to Communications and Access to Information (2.8.4).

⁴⁴ “Appropriate means” refers to the need to publish information in formats and languages that are culturally appropriate, accessible and understandable to affected stakeholders as per Chapter 1.2. For example, appropriate means could include local radio announcements, leaflets, announcements at local meetings, etc.

An ESIA that meets the requirements of this chapter is a critical step in informing interested and affected stakeholders and rights holders including, where applicable, indigenous peoples about a proposed mining project and its potential impacts, prior to decision-making. The fact that an effective ESIA has been designed and implemented does not imply that a mining project should necessarily proceed. With effective engagement of stakeholders, however, it should provide a sound basis for consideration as to whether a project should or should not proceed.

CROSS REFERENCES TO OTHER CHAPTERS	
CHAPTER	ISSUES
1.1—Legal Compliance	As mentioned in Chapter 1.1, companies are required to abide by <u>host country law</u> . Consequently, if there is an ESIA process mandated by a regulatory agency within the host country, the company will be required to participate in that process. However, if that process does not include some of the elements of Chapter 2.1, the <u>operating company</u> will be expected to demonstrate that measures were taken to meet the IRMA requirements, as well.
1.2—Community and Stakeholder Engagement	Requirement 1.2.2.3 specifically relates to <u>stakeholder</u> oversight of the company’s environmental and social performance, and consequently, is relevant to this chapter. Capacity building or training may be needed to ensure effective participation by <u>stakeholders</u> in the ESIA process (see 2.1.9). The primary reference for that requirement is 1.2.3 Strengthening Capacity, in Chapter 1.2. Disclosure of information shall meet the requirements of Chapter 1.2. In particular, information mentioned in 2.1.9 shall be in formats and languages that are culturally appropriate, accessible and understandable to affected <u>stakeholders</u> . See criterion 1.2.4 for more details.
1.3—Human Rights Due Diligence	If the infringement of human rights is predicted during ESIA, or if human rights were infringed during exploration, a company will be expected to prevent, <u>mitigate</u> predicted impacts and <u>remediate</u> the human rights impacts as per Chapter 1.3.
2.2—Free, Prior and Informed Consent	Implementation of ESIA requirements can be integrated with the <u>free, prior and informed consent</u> process described in Chapter 2.2. However, it should be emphasized that <u>indigenous peoples’</u> participation in the ESIA process, including in the consideration of proposals to <u>mitigate</u> expected impacts does not, of itself, imply consent, even if the recommended actions to minimize impacts are fully implemented.
2.3—Obtaining Community Support and Delivering Benefits	It is possible that some initial planning of the company’s contributions to community development initiatives and benefits may have been done during the ESIA process. If so, it is important that monitoring of the effectiveness of the community investment decisions occurs, and if necessary, additional planning occurs as per chapter 2.3.
2.5—Emergency Preparedness and Response	Potential impacts related to community safety, and <u>mitigation</u> strategies identified in the ESIA should feed into the Emergency Response Plan and planning processes described in Chapter 2.5.
4.1—Waste and Materials Management	Potential risks and impacts posed by mine wastes and other materials should be scoped, at least in a general manner, during the ESIA process. Additionally, Chapter 4.1 requires a more in-depth assessment of potential chemical and physical risks related to mine wastes and other materials (see 4.1.2 and 4.1.3).
4.2—Water Management	Potential impacts of the <u>mining project</u> on water quality or quantity should be scoped during the ESIA process, or in a separate scoping process as per Chapter 4.2, requirement 4.2.2.2. Chapter 4.2 also requires a more in-depth assessment of potentially significant impacts on water quality and quantity if potential impacts are identified during a screening/scoping process.
4.3—Air Quality Management	Potential impacts of the <u>mining project</u> on air quality may be scoped during the ESIA process, or in a separate screening process as per Chapter 4.3, requirement 4.3.1.1. Chapter 4.3 also requires a more in-depth assessment of potentially significant impacts on air quality if potential impacts are identified during a screening/scoping process.

CROSS REFERENCES TO OTHER CHAPTERS	
4.4—Noise and Vibration	Chapter 4.4 includes screening of impacts of noise and vibrations on human receptors, and this may be screened as part of the Environmental and Social Impact Assessment process. Noise-related impacts on wildlife, however, are not addressed in Chapter 4.4, and should be screened in the ESIA process, and if significant impacts are identified then those impacts should be mitigated as per the ESIA process (including consultations with relevant stakeholders, such as government biologists, wildlife conservation organizations, academic experts and community members whose livelihoods or sustenance may be affected by impacts on wildlife). Any related monitoring should occur as per the Environmental and Social Monitoring program.
Multiple chapters that require risk or impact assessment	<p>There are numerous chapters in the IRMA Standard that require risk or impact assessments. These assessments may be integrated into the ESIA, if the timing works. Information produced for other assessments may also feed into the ESIA process (i.e., collection of some data may have already occurred, as well as an analysis of potential significance of some issues). Conversely, if other assessments occur later than the ESIA, the data and analysis carried out for the ESIA may feed into those assessments.</p> <p>The following chapters include references to risk or impact assessments: 1.3—Human Rights Due Diligence; 2.3—Obtaining Community Support and Delivering Benefits; 2.4—Resettlement; 2.6—Planning for and Financing Reclamation and Closure; 3.3—Community Health and Safety; 3.4—Mining and Conflict-Affected or High-Risk Areas; 3.5—Security Arrangements; 3.7—Cultural Heritage; 4.1—Waste and Materials Management; 4.2—Water Management; 4.3—Air Quality; 4.4—Noise and Vibration; and 4.6— Biodiversity, Ecosystem Services and Protected Areas.</p>
Multiple chapters that require monitoring	<p>Several IRMA chapters have their own monitoring specifications, some of which may not entirely align with all of the ESIA monitoring requirements in Chapter 2.1. Where they differ, the chapter requirements take precedence. If there are no particular requirements, then the expectation is that any significant impacts related to those chapters will be captured in the ESIA monitoring program (or a monitoring program that meets the requirements laid out in Chapter 2.1).</p> <p>The following chapters include references to monitoring: 1.3—Human Rights Due Diligence; 2.3—Obtaining Community Support and Delivering Benefits; 2.4—Resettlement; 2.6— Planning for and Financing Reclamation and Closure; 3.1—Fair Labor and Terms of Work; 3.2— Occupational Health and Safety; 3.3—Community Health and Safety; 3.4—Mining and Conflict Affected Areas; 3.5—Security Arrangements; 4.1—Waste and Materials Management; 4.2— Water Management; 4.3—Air Quality; 4.4—Noise and Vibration; 4.6—Biodiversity, Ecosystem Services and Protected Areas; 4.7—Cyanide Management; and 4.8—Mercury Management.</p>