

Research Report:

Mitigation and Enhancement Measures for Health, Social & Economic Effects

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Asia Pacific Foundation for Climate and Health

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ACRONYMS

- **2SLGBTQIA+** Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Questioning, Intersex, Asexual, plus
- **ACH** Asia Pacific Foundation for Climate and Health
- **ADB** Asian Development Bank
- **CDRP** Communicable Disease Response Plan
- **CI** Conservation International
- **DBC** De Beers Canada
- **EA** Environmental Assessment
- **EAO** Environmental Assessment Office
- **EHS** Environmental, Health and Safety
- **EP** Equator Principles
- **EPR** Emergency Preparedness and Response
- **ESS** Environmental and Social Standards
- **EUPHA** European Public Health Association
- **FA** Federal Authorities
- **FGD** Focus Group Discussions
- **FNMCP** First Nations Major Project Coalition
- **FPIC** Free Prior and Informed Consent
- **GBA Plus** Gender-based Analysis Plus
- **GRM** Grievance Redress Mechanism
- **HIA** Health Impact Assessment
- **HSE** Health, Social, and Economic
- **IA** Impact Assessment
- **IAA** Impact Assessment Act
- **IAAC** Impact Assessment Agency of Canada
- **IBA** Impact Benefit Agreement
- **ICMM** International Council on Mining and Metals
- **IFC** International Finance Corporation



- **IPIECA** International Petroleum Industry Environmental Conservation Association
- **ITUC** International Trade Union Confederation
- **IP** Indigenous Peoples
- **IPIECA** International Petroleum Industry Environmental Conservation Association
- **IRMA** Initiative for Responsible Mining Assurance
- **ISC** Indigenous Services Canada
- **KAP** Knowledge, Attitudes, and Practices
- **KII** Key Informant Interviews
- **LRP** Livelihood Restoration Plan
- **MAC** Mining Association of Canada
- **MCFN** Moose Cree First Nation
- **NCD** Non-communicable Disease
- **PDCA** Plan-Do-Check-Act
- **PPE** Personal Protective Equipment
- **PR** Performance Requirements
- **PS** Performance Standard
- **OHS** Occupational Health and Safety
- **RAP** Resettlement Action Plan
- **SES** Social and Environmental Standards
- **SMP** Safety Management Plan
- **STI** Sexually Transmitted Infection
- **TAC** Technical Advisory Committee
- **TISG** Tailored Impact Statement Guidelines
- **TRC** Truth and Reconciliation Commission of Canada
- **TSM** Towards Sustainable Mining
- **UNDRIP** United Nations Declaration on the Rights of Indigenous Peoples
- **VC** Valued Component



1.0 INTRODUCTION

Health, social, and economic (HSE) effects of development and resource projects are interconnected topics formally addressed in the field of Impact Assessment (IA). These topics directly relate to the human environment, which is sensitive and ever-changing. Adverse HSE effects are some of the most unwanted, whereby mitigation efforts focus on safeguarding individuals, families, and communities from harm. Efforts are also encouraged by different proponents to support and enhance positive HSE effects. While there is a broad consensus that development projects should be built to bring benefit to societies, experience across sectors has demonstrated that there are always sensitive times and challenging issues within the social context of a project that emerge unexpectedly. Therefore, mitigation planning, design, and implementation for HSE effects requires the merging of disciplines, concepts, data sets, and ideas. A different approach is required as compared to steps and processes taken by environmental practitioners and colleagues.

The Asia Pacific Foundation for Climate and Health (ACH) was commissioned by the Impact Assessment Agency of Canada (IAAC) to conduct research focused on mitigation and enhancement good practices, recommendations, and options for common HSE effects. This research was driven by an increased focus on HSE effects under the updated Impact Assessment Act (IAA) along with a desire by IAAC to support improved performance in this area.¹ This research report is tightly scoped and targets practitioners who provide impact assessment services and proponents who have projects in Canada, or Canadian funded projects in other countries. The overarching objective of this research is to provide a synthesis of essential resources drawing from international standards as it relates to mitigation and enhancement measures for HSE effects. Findings from research do not explicitly tell practitioners or proponents how to mitigate specific HSE effects as it is ACH's position that each project and community hold a distinct and unique interaction. A core message that flows throughout this report is that effective HSE mitigations need to be specific and adapted to the context in which a project is situated and to the people who are affected. The goal of this work is to address recommendations made by IAAC's Technical Advisory Committee (TAC) on HSE effects to enhance practitioner resources in this area.

This research report is organized into four sections aside from the introduction. Section 2 describes research activities conducted by the ACH team. Section 3 provides a brief summary of the IAA in Canada; a high-level overview of the Impact Assessment process for designated projects under IAA; and existing guidance from IAAC for assessing HSE effects and designing mitigation/enhancement measures. Section 4 describes the findings from the research activities and provides a synthesis of mitigation/enhancement measures for different sectors for common HSE effects. Section 5, the final section of the report, provides recommendations based on research report findings. In summary, this research report provides a synthesis of leading standards and resources that have been found to **directly guide and inform** the development and implementation of successful HSE mitigation and enhancement measures for projects in Canada and around the globe.

¹ Government of Canada. (2022). Impact Assessment Process Overview. Retrieved from <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/impact-assessment-process-overview.html>



2.0 RESEARCH APPROACH

Research activities conducted as part of this work employed a multi-method research approach and consisted of two phases. The first phase involved a narrative literature review² of publicly available information and resources on managing HSE risks and enhancing positive HSE effects produced by international finance organizations (who, as part of lender requirements, require enhanced HSE focus); major development sectors; and professional associations. The literature review also focused on the linkage between all three categories, as social and economic effects can translate into health effects. The literature review supported and informed the next phase of research.

The second phase of research involved 15 Key Informant Interviews (KIIs) with impact assessment practitioners with more than 15+ years of international HSE experience, as well as proponents who are responsible from managing HSE effects in the Canadian context. Participants were purposefully selected and represented global professionals who are directly involved in developing and implementing HSE mitigation efforts for international organizations, global projects, and operations in Canada. Interviews were conducted through an online platform or by telephone, and lasted approximately one hour. Questions focused on professional experience and expertise as it related to the development and implementation of HSE mitigation and enhancement measures. The aim of the KIIs was to better understand how professionals are developing and implementing HSE mitigation efforts. Qualitative data was collected with informed consent. Detailed notes were taken and key themes identified. Data sets were triangulated to identify and describe HSE mitigation and enhancement measures and to inform recommendations.

Finally, this research report underwent peer review by four leading social/community health performance practitioners to ensure that the validity and quality of information contained within it reflected global approaches to the mitigation and enhancement of HSE effects.

A note on terminology: IAAC's acronym for HSE differs from the more commonly used (universal) HSE acronym which defines HSE as health, social and environment. Similarly, IAAC terminology uses the term HSE "effect." This differs from language used more broadly within the international context. International standards and associated guidance use the terms "risk and adverse impact." For example, the International Finance Corporation (IFC) defines social risk as "*adversely impacting people or the environment through inadequate or failed internal processes, people, and systems or through external events.*"³ In Canada, HSE effects, mitigation" and enhancement measures are related to a "valued component" (VC), a term used by IAAC to describe something that may have scientific, social, cultural, spiritual, economic, historical, archaeological or aesthetic importance.⁴ Once VCs are identified through the IA process, they "become the focus of the impact assessment, and an analysis of impacts to these components is carried throughout the assessment process."⁵ Across international guidance, "risks and adverse impacts" are often identified for pre-determined "social and health areas" rather than "VCs," which is a Canadian-specific term.

² Paré G, Kitsiou S. (2017). Chapter 9 Methods for Literature Reviews. In: Lau F, Kuziemyk C, editors. Handbook of eHealth Evaluation: An Evidence-based Approach. Victoria (BC): University of Victoria; Available from: <https://www.ncbi.nlm.nih.gov/books/NBK481583/>

³ IFC. N.d. n.p. Retrieved from: https://www.ifc.org/wps/wcm/connect/bdd26375-7f00-4ca3-a4b6-106f7c893ca0/Risk_Management_Committee_Model_Charter_for_FIs.pdf?MOD=AJPERES&CVID=my-vNC.

⁴ Government of Canada (2022). Analyzing Health, Social and Economic Effects under the *Impact Assessment Act*. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/analyzing-health-social-economic-effects-impact-assessment-act.html>

⁵ IAAC. 2022. Analyzing Health, Social and Economic Effects under the *Impact Assessment Act*. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/analyzing-health-social-economic-effects-impact-assessment-act.html>



3.0 IMPACT ASSESSMENT IN CANADA

The *Impact Assessment Act* (IAA) outlines a process for assessing the impacts of major projects as well as projects carried out on Federal lands or outside of Canada.⁶ Further, the IAA encourages the assessment of cumulative effects for existing or future project activities, and the assessment of federal policies, plans or programs.⁷ The IAA was enacted in 2019, repealing the *Canadian Environmental Assessment Act*, and establishing the Impact Assessment Agency of Canada (IAAC). The IAA expanded the scope of Impact Assessments (IA) to include full consideration of the positive and negative effects on HSE conditions, in addition to environmental considerations.⁸ The purposes of the IAA are as follows:⁹

1. to foster sustainability and ensure commitments with respect to the rights of Indigenous Peoples (IP) are upheld;
2. to include environmental, social, health, and economic factors within the scope of assessments;
3. to establish a fair, predictable, and efficient process that promotes innovation;
4. to ensure that impact assessments of designated projects take into account all effects, both positive and adverse;
5. to include early, inclusive, and meaningful public engagement;
6. to promote Nation to Nation, Inuit-Crown, and government to government partnerships with Indigenous Peoples;
7. to ensure decisions with regards to projects are based on scientific evidence, Indigenous knowledge, and other respected sources of evidence;
8. to assess cumulative effects within a region;
9. to encourage improvements to impact assessments through the use of follow-up programs.

Projects subject to the IAA are referred to as “designated projects” and are listed in *the Physical Activities Regulations*.¹⁰ Designated projects are typically major projects carried out in Canada or on Federal lands within

⁶ Canadian Environmental Assessment Agency (2019). Overview of the Impact Assessment Act Level 1 Training. Retrieved from: <https://www.canada.ca/content/dam/iaac-acei/documents/mandate/president-transition-book-2019/overview-impact-assessment-act.pdf>

⁷ Government of Canada (2019). Impact Assessment Act. Retrieved from: <https://laws.justice.gc.ca/eng/acts/i-2.75/page-1.html>

⁸ Brown, J. A., & C. I. J. Nykiforuk. National Collaborating Centre for Environmental Health (2021). Scoping Population Health in Impact Assessment (ScopHIA): Canada’s new Impact Assessment Act. Retrieved from: <https://ncceh.ca/content/blog/scoping-population-health-impact-assessment-scophia-canadas-new-impact-assessment-act>

⁹ Government of Canada (2022). Impact Agency of Canada. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency.html>

¹⁰ Government of Canada (2019). Physical Activities Regulations. Retrieved from: <https://laws.justice.gc.ca/eng/regulations/SOR-2019-285/page-1.html>



the following sectors or groups: renewable energy, oil and gas, linear and transportation, marine and freshwater, mining, nuclear, hazardous waste, and projects in Federal lands or protected areas.¹¹ Not all projects carried out on Federal Lands meet the criteria in the *Physical Activities Regulations* to be considered a “designated project.” The Minister of Environment and Climate Change may designate a project that is not described in the regulations to be reviewed during the planning phase, and allow IAAC to decide if an IA is required.¹² It should be noted that some projects may be referred by the Minister for assessment through a review panel (e.g., a joint review involving both Provincial and Federal regulators). When appropriate, IAAC may delegate other jurisdictions to lead or carry out sections of the assessment¹³ The role of Indigenous governments and communities is also paramount in the IA process, and differs across the Canadian landscape. Projects outside of Canada that are funded or undertaken by Federal Authorities (FA) are also subject to the IAA and must not proceed until FA make determinations surrounding their potential adverse effects.¹⁴

3.1 GENERAL OVERVIEW OF IMPACT ASSESSMENT PROCESS IN CANADA

There are five phases associated with IAs performed under the IAA: planning; impact statement phase; decision-making phase; and post decision phase. IAAC provides detailed guidance for practitioners at each phase of the IA process, summarized in Figure 1 below.¹⁵ As demonstrated in Figure 1, *HSE mitigation and enhancement measures represent a consistent theme across the IA process in Canada.*

¹¹ Canadian Environmental Assessment Agency (2019). Overview of the Impact Assessment Act Level 1 Training. Retrieved from: <https://www.canada.ca/content/dam/iaac-acei/documents/mandate/president-transition-book-2019/overview-impact-assessment-act.pdf>

¹² Government of Canada (2020). Footnote 1. Guide to Preparing an Initial Project Description and a Detailed Project Description. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/guide-preparing-project-description-detailed-project-description.html>

¹³ Government of Canada (2020). Overview of the Impact Assessment Act: Roles and Responsibilities. Retrieved from: https://elearning.iaac-aeic.gc.ca/mod01/mod01_08_01-en.html

¹⁴ Government of Canada (2019). Impact Assessment Act-Section 83. Retrieved from: <https://laws.justice.gc.ca/eng/acts/I-2.75/page-7.html#h-1160814>

¹⁵ Government of Canada (2022). Impact Assessment Process Overview. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/impact-assessment-process-overview.html>



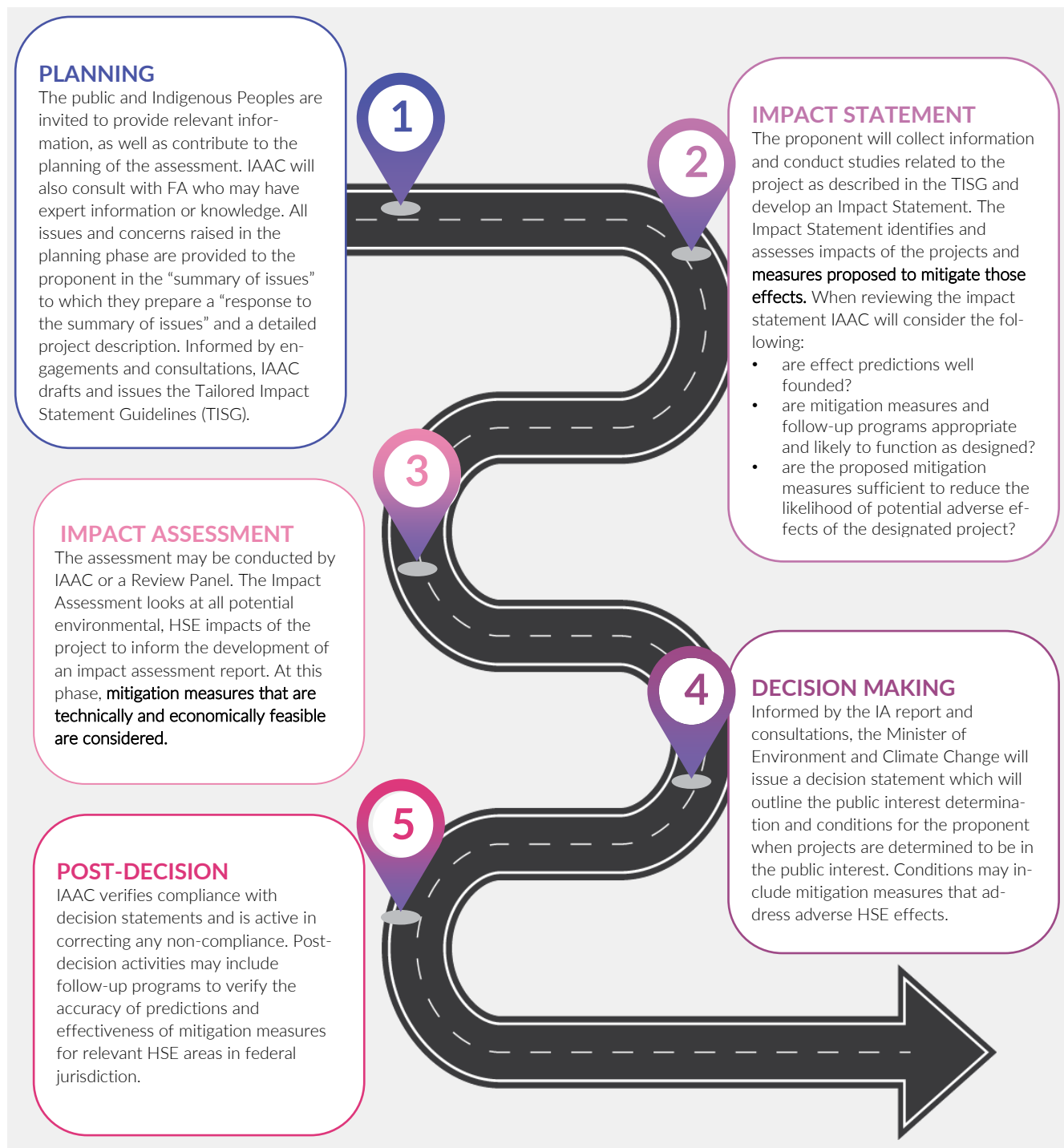


Figure 1. Overview of Impact Assessment process in Canada.



3.2 ANALYZING HSE EFFECTS UNDER THE IMPACT ASSESSMENT ACT

Understanding how a project may lead to changes in the HSE conditions and the positive or negative consequences of those changes is an essential step in informing mitigation and enhancement measures and a requirement under the IAA.¹⁶ When analyzing effects, consideration must be paid to VCs, effect pathways, and the baseline HSE conditions of affected populations. VCs are identified through engagement with the public, Indigenous groups, life cycle regulators, jurisdictions, FA, and other interested parties during the planning phase.¹⁷ The valued components for focused assessment are context-specific, and their identification may be informed by scientific evidence or cultural knowledge. [Section 7.3 of the Tailored Impact Statement Guidelines](#)¹⁸ includes a detailed checklist for practitioners to consider when selecting VCs, and [Annex 2](#) includes examples of potential VCs. Changes in VCs can result in downstream HSE effects. Effects may be short-term, intermediate, or long-term, and experienced differently by various population sub-groups depending on their proximity to the project site, use of land, and baseline health status.¹⁹ Particular attention must also be paid to any impacts of the project or associated activities on the rights of Indigenous Peoples. Further guidance on this area is provided by IAAC in [Guidance: Assessment of Potential Impacts on the Rights of Indigenous Peoples](#). Effect pathways outline the expected link between the project and VCs. Mapping out these pathways will help practitioners better understand the route by which HSE effects and their interactions occur.²⁰ IAAC offers guidance and tools for assessing HSE effects, including the [Tailored Impact Statement Guidelines](#), [guidance for working with Indigenous Peoples](#), [guidance tools for public and Indigenous participation](#), and [Gender-Based Analysis Plus \(GBA Plus\)](#).

3.3. MITIGATION AND ENHANCEMENT MEASURES FOR PROJECT-RELATED HSE EFFECTS

Every IA conducted under the IAA must identify measures to mitigate adverse HSE effects and enhance positive effects associated with the project.²¹ Measures are initially proposed by the proponent in the Impact Statement, and are required to be specific, achievable, measurable, and verifiable. Proposed measures may be modified during the review of the Impact Statement and included as conditions in the decision statement.

¹⁶ Government of Canada (2022). Analyzing Health, Social and Economic Effects under the *Impact Assessment Act*. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/analyzing-health-social-economic-effects-impact-assessment-act.html>

¹⁷ Government of Canada (2020). Tailored Impact Statement Guidelines Template for Designated Projects Subject to the Impact Assessment Act. Retrieved from: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/tailored-impact-statement-guidelines-projects-impact-assessment-act.html#_Toc15652140

¹⁸ Ibid.

¹⁹ Government of Canada (2022). Analyzing Health, Social and Economic Effects under the *Impact Assessment Act*. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/analyzing-health-social-economic-effects-impact-assessment-act.html>

²⁰ Ibid.

²¹ Government of Canada (2020). Tailored Impact Statement Guidelines Template for Designated Projects Subject to the Impact Assessment Act. Retrieved from: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/tailored-impact-statement-guidelines-projects-impact-assessment-act.html#_Toc15652140



International IA practice²² and IAAC's Tailored Impact Statement Guidelines²³ highlight using a mitigation hierarchy when developing strategies for HSE effects.

The mitigation hierarchy²⁴ (see [Figure 2](#)) is a tool that underpins best practice and international guidance for impact assessments and is implemented globally in practice across a diverse set of sectors. During IA, mitigation measures and actions are taken to avoid, minimize, or offset/compensate the adverse effects of a project. A range of mitigation strategies may need to be applied depending on the context; there is not a one size fits all approach. Enhancement measures are activities focused on maximizing positive effects. KIIs and best practice guidance highlighted the importance of using the mitigation hierarchy,²⁵ which prioritizes mitigation measures in the following order of preference (with avoidance being the target):

1. **avoid** identified adverse HSE effects through project design;
2. mitigate to **minimize** identified adverse HSE effects;
3. **offset** any residual or unavoidable adverse HSE effects;
4. **compensate** impacted communities for any residual or unavoidable adverse HSE effects.

Guidance in the Tailored Impact Statement Guidelines indicates mitigation measures should aim to avoid, minimize, restore, or offset adverse effects, and provide restitution (in the form of replacement, restoration, or compensation) for any damages caused by effects.²⁶

It is well understood that designated projects in Canada impact women, Indigenous Peoples, and other vulnerable and marginalized groups differently, and mitigation and enhancement measures should be designed with this in mind.²⁷ Tools like GBA Plus prompt practitioners to consider structural and systemic barriers in their proposed mitigation and enhancement measures, and can support practitioners to engage with communities to collaboratively develop mitigation and enhancement measures for HSE effects that are unique to these vulnerable communities.²⁸

²² International Finance Corporation (2012). Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. Retrieved from: https://www.ifc.org/wps/wcm/connect/8804e6fb-bd51-4822-92cf-3dfd8221be28/PS1_English_2012.pdf?MOD=AJPERES&CVID=jiVQlfe

²³ Ibid, 22

²⁴ Ibid.

²⁵ Ibid.

²⁶ Government of Canada (2020). Tailored Impact Statement Guidelines Template for Designated Projects Subject to the Impact Assessment Act. Retrieved from: https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/tailored-impact-statement-guidelines-projects-impact-assessment-act.html#_Toc15652140

²⁷ Government of Canada (2019). Gender-based Analysis Plus in Impact Assessment (Interim Guidance). Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/gender-based-analysis-plus.html>

²⁸ Ibid.



MITIGATION HIERARCHY



Figure 2. The mitigation hierarchy from IFC Performance Standard 1.²⁹

²⁹ Ibid, 22



4.0 RESEARCH FINDINGS

Research findings associated with leading standards and resources that have been found to **directly guide and inform** the development and implementation of HSE mitigation and enhancement measures are presented in the following manner. First, Canadian National frameworks and guidance are discussed and summarized. This is followed by research findings on international standards, frameworks, and guidance as provided by international finance organizations and other institutions. Sector-specific HSE mitigation and enhancement guidance is then presented. This section concludes by presenting topic-specific HSE resources, including resources from national and international sources. General sector and topic-specific resources are summarized in table format in Appendix A for practitioner and proponent reference.

4.1 NATIONAL FRAMEWORKS AND GUIDANCE FOR HSE MITIGATION AND ENHANCEMENT

Canadian Provincial and Territorial guidance pertaining to mitigation and enhancement measures for HSE effects is limited and varies in terms of focus and content. Recommendations for HSE effects are often absent or incomplete in Provincial and Territorial Environmental Assessments (EAs). Provincial and Territorial guidance for EAs often do not contain or only partially contain recommendations for HSE effects. Specialized guidelines associated with HSE effects were identified from the British Columbia Environmental Assessment Office (EAO), the Mackenzie Valley Review Board (serving the Northwest Territories), Northern Health in British Columbia, and the Saskatchewan Ministry of Health. Consistent recommendations for the development and implementation of HSE mitigations from these sources include:

- Ensure HSE mitigation and enhancement measures are informed by the traditional knowledge of Indigenous Peoples.³⁰ For example, the Yukon River Inter-Tribal Watershed Council's water quality, safety, and security adaptations in the Yukon and Inuvialuit Settlement Region,³¹
- HSE mitigation and enhancement measures should aim to enhance the long-term beneficial socio-economic impacts, rather than simply reducing adverse effects.³² For example, the Impact Benefit Agreement (IBA) between Moose Cree First Nation (MCFN) and De Beers Canada Inc (DBC) signed for the Victor Mine project;³³

³⁰ Mackenzie Valley Review Board (2005). Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment. Retrieved from: https://reviewboard.ca/process_information/guidance_documentation/guidelines

³¹ Yukon River Inter-Tribal Watershed Council. (2017). Water Quality - Yukon River Inter-Tribal Watershed, Yukon project. *ClimateTelling*. Retrieved from: <http://www.climate-telling.info/yukon-river.html>

³² Mackenzie Valley Review Board (2007). Socio-economic impact assessment guidelines. Retrieved from: https://reviewboard.ca/process_information/guidance_documentation/guidelines

³³ Moose Cree First Nation (2019). De Beers Impact and Benefit Agreement. Retrieved from: <https://www.moosecree.com/departments/resourceprotection/debeersiba/>



- Options for HSE mitigation measures should be developed in collaboration with affected communities.³⁴ For example, the Gahcho Kué's aquatic effects monitoring program's fish tasting initiative;³⁵
- HSE mitigation measures should be responsive and specific to the impacts identified, technically feasible, enforceable, and within the purview of the organization or individual deemed responsible;³⁶
- Effectiveness of HSE mitigation and enhancement measures should be monitored and evaluated to determine whether they are being implemented as planned, and whether they are achieving their intended outcomes. Measures should then be modified based on the evaluation results.³⁷ For example, Coast GasLink's Construction Monitoring and Community Liaison Program;³⁸
- HSE enhancement measures should be developed through the consideration of the following questions:
 - How can the project use training, strategic hiring, or other strategies to help expand employment opportunities for those who are under or unemployed in communities? For example, the IBA between MCFN and DBC included specific programs to maximize business/contracting, education/training, and employment opportunities for MCFN.³⁹
 - How can new infrastructure built to support the project also be designed to benefit the community?
 - How can collaboration between the proponent and other companies or local authorities support future services that benefit the community and its region?⁴⁰

Indigenous organizations have also developed guidance regarding mitigation and enhancement measures. Sources specifically pertaining to the development of HSE mitigation and enhancement measures have been published by Indigenous organizations, including the First Nations Major Projects Coalition (FNMCP)⁴¹ and Tsimshian Environmental Stewardship Authority.⁴² Some consistent overarching recommendations from these two resources include:

³⁴ Mackenzie Valley Review Board (2007). Socio-economic impact assessment guidelines. Retrieved from: https://reviewboard.ca/process_information/guidance_documentation/guidelines

³⁵ De Beers Group (2022). Elders gather for first Gahcho Kué fish tasting since 2019. Retrieved from: <https://www.debeersgroup.com/media/company-news/2022/elders-gather-for-gahcho-kue-fish-tasting>

³⁶ Saskatchewan Ministry of Health (2014). Saskatchewan Guidelines for Reviewing Health Impacts in Environmental Assessments. Retrieved from: <https://www.saskatchewan.ca/business/environmental-protection-and-sustainability/environmental-assessment/does-my-project-need-an-environmental-assessment>

³⁷ Aalhus, M. Oak, B. & Fumerton, R. (2018). The social determinants of health impacts of resource extraction and development in rural and northern communities: A summary of impacts and promising practices for assessment and monitoring. Available from: https://www.northern-health.ca/sites/northern_health/files/services/office-health-resource-development/documents/impacts-promising-practices-assessment-monitoring.pdf

³⁸ Coastal GasLink (2019). Collaboration & Community move Coastal Gaslink forward. Retrieved from: <https://www.coastalgaslink.com/whats-new/news-stories/2019/2019-09-04collaboration-and-community-move-coastal-gaslink-forward/>

³⁹ Moose Cree First Nation (2019). De Beers Impact and Benefit Agreement. Retrieved from: <https://www.moosecree.com/departments/resourceprotection/debeersiba/>

⁴⁰ BC EAO (2020). Human and Community Well-Being Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C. Retrieved from: https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/hcwb_guidelines_v1_-_april_2020.pdf

⁴¹ First Nations Major Projects Coalition. (2020). Guidance Appendices to the Major Projects Assessment Standard. Retrieved from: <https://fnmpc.ca/wp-content/uploads/2021/04/FNMPCMPASGuidanceappendices-FINALJanuary2020.pdf>

⁴² Shandro, J. and Jokinen, L. A guideline for conducting health impact assessment for First Nations in British Columbia, Canada. Tsimshian Environmental Stewardship Authority, July 2018.



- Mitigation and enhancement measures should be developed in collaboration with the Indigenous communities and be culturally appropriate;
- When developing culturally appropriate measures, ensure that:
 - Practitioners engage with Indigenous communities throughout the IA process, incorporating their input and traditional knowledge and practices;
 - Mitigation measures suit the unique cultural context of the community, including factors such as language, traditions, and governance structures;
 - Collaboration with traditional practitioners to incorporate traditional healing practices into mitigation measures;
 - Mitigation measures themselves do not compromise a community's cultural values or ability to practice cultural activities;
- Measures should reduce exposure to health hazards and reduce or eliminate adverse impacts on populations via interventions such as modifying project designs; implementing engineering controls; providing personal protective equipment; and implementing monitoring and reporting systems;
- Mitigation and enhancement programs should include community health-based monitoring programs to monitor and manage impacts on social determinants of health, with an emphasis on mental health and wellbeing and cultural safety.

4.2 INTERNATIONAL STANDARDS FOR HSE MITIGATION AND ENHANCEMENT

International standards offer practitioners with widely used and evidence-based mitigation and enhancement strategies for HSE effects. While not broadly utilized within the Canadian context, the following resources are readily applicable and should be viewed as invaluable for projects being proposed anywhere in the world. Their development and availability have the best intentions to safeguard people and see projects succeed. The literature review identified several overarching guidance associated with the mitigation of HSE effects as developed by international organizations, including but not limited to, the World Bank Group's Environmental, Health and Safety Guidelines (EHS),⁴³ The International Finance Corporation's (IFC) Performance Standards (PS) for Environmental and Social Sustainability,⁴⁴ the United Nations Development Program's (UNDP) Social and Environmental Standards (SES),⁴⁵ and Conservation International's (CI) Environmental and Social Safeguards (ESS).⁴⁶

⁴³ International Finance Corporation (2007). Environmental, Health, and Safety General Guidelines. Retrieved from: <https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuide-lines.pdf?MOD=AJPERES&CVID=nPtguVM>

⁴⁴ International Finance Corporation (2012). Performance Standards on Environmental and Social Sustainability. Retrieved from: https://www.ifc.org/wps/wcm/connect/24e6bfc3-5de3-444d-be9b-226188c95454/PS_English_2012_Full-Documents.pdf?MOD=AJPERES&CVID=jkV-X6h

⁴⁵ United Nations Development Program (2021). Targeted Guidance - UNDP SES Standard 3 Community Health, Safety and Security. Retrieved from: https://info.undp.org/sites/bpps/SES_Toolkit/SES%20Document%20Library/Uploaded%20October%202016/UNDP%20S3%20CHSS_Targeted%20Guidance_17Oct2021.pdf

⁴⁶ Conservation International (2020). Environmental and Social Management Framework (ESMF). Retrieved from: https://www.conservation.org/docs/default-source/gcf/ci_gef_gcf-esmf-version-7.pdf?sfvrsn=a788de43_4



Overarching and topic-specific guidance related to HSE mitigation and enhancement has also been developed by most regional development banks. For instance, several topic and sector-specific resources have been developed by the Asian Development Bank (ADB), the Inter-American Development Bank (IDB), and the European Bank for Reconstruction and Development Performance Requirements (EBRD)⁴⁷ as they have their own sets of safeguard policies and standards relating to development projects they support. Often, these policies and standards align with and/or make reference to the IFC PS. International associations and organizations related to the impact assessment and social performance field are important sources of information.

The International Association for Impact Assessment (IAIA)^{48,49,50} has specific guidance and standards to inform IA from an HSE perspective, and the development of effective mitigations. These resources are presented in Appendix A and can be used by practitioners/proponents as a reference for *how to effectively design and implement appropriate HSE mitigation and enhancement measures*.

4.2.1 OVERARCHING INTERNATIONAL STANDARDS FOR HSE MITIGATION AND ENHANCEMENT

The IFC PSs are widely viewed as the leading global framework for managing Environmental, Health, and Social (EHS) risks, and are considered the international benchmark for HSE mitigation.⁵¹ Guidance from other organizations and associations generally conforms with IFC PSs. The IFC PSs are required under the Equator Principles (EP), a framework that has been voluntarily adopted by many of Canada's major banks.⁵² The following IFC PSs are particularly relevant for mitigation and enhancement measures for HSE effects in Canada:

- [IFC Performance Standard 1 \(PS1\): Assessment and Management of Environmental and Social Risks and Impacts;](#)
- [IFC Performance Standard 4 \(PS4\): Community Health, Safety, and Security;](#)
- [IFC Performance Standard 5 \(PS5\): Land Acquisition and Involuntary Resettlement;](#) and
- [IFC Performance Standard 7 \(PS7\): Indigenous Peoples.](#)

Similar to IAAC guidance, **IFC PS1** recommends that practitioners apply the **mitigation hierarchy** when HSE effects cannot be avoided. As aforementioned, the mitigation hierarchy prioritizes measures that **avoid** adverse effects, then measures that **minimize** effects, and if effects cannot be avoided or residual effects remain, providing measures for **compensation** or **offsetting** when technically or financially feasible.⁵³ In order to ensure measures are inclusive, IFC PS1 recommends consultations with affected communities that capture both men's and women's views, and then reflect their different concerns and priorities about potential effects and benefits in the proposed measures.⁵⁴ As mentioned previously, existing IAAC tools such as GBA Plus can aid

⁴⁷ European Bank for Reconstruction and Development (2019). Environmental and Social Policy. Retrieved from: <https://www.ebrd.com/news/publications/policies/environmental-and-social-policy-esp.html>

⁴⁸ International Association for Impact Assessment (2021). International Best Practice Principles: Health Impact Assessment. Retrieved from: https://www.iaia.org/uploads/pdf/SP5%20HIA_21_5.pdf

⁴⁹ International Association for Impact Assessment (n.d.). Social Impact Assessment. Retrieved from: <https://www.iaia.org/wiki-details.php?ID=23>

⁵⁰ International Association for Impact Assessment (n.d.). Economic and Fiscal Assessment. Retrieved from: <https://www.iaia.org/wiki-details.php?ID=11>

⁵¹ Smyth, E., & F. Vanclay. (2016). The Social Framework for Projects: a conceptual but practical model to assist in assessing, planning and managing the social impacts of projects. Retrieved from: <https://www.tandfonline.com/doi/full/10.1080/14615517.2016.1271539>

⁵² Equator Principles (2022). Members & Reporting. Retrieved from: <https://equator-principles.com/members-reporting/>

⁵³ International Finance Corporation (2012). Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. Retrieved from: https://www.ifc.org/wps/wcm/connect/8804e6fb-bd51-4822-92cf-3dfd8221be28/PS1_English_2012.pdf?MOD=AJPERES&CVID=jvQlfe

⁵⁴ Ibid.



practitioners in consulting affected communities to capture the perspectives of different sub-groups within these communities.

When developing mitigation measures, the IFC PS 1 emphasizes that early, meaningful, gender-sensitive, and systematic engagement with communities is critical to developing mitigation and enhancement programs that work. Proponents must engage with affected communities early in the project cycle, and engage with them continuously throughout the project. This allows for early identification of community concerns, and enables companies to design mitigation and enhancement measures that can be evaluated and adjusted over time. Consultation with affected communities should be informed and meaningful, meaning that communities should have access to clear and understandable information about the project and its potential impacts, and that their views and concerns are considered in the decision-making process. Proponents are encouraged to take a gender-sensitive approach to engagement, recognizing that men, women, and 2SLGBTQQA+ individuals may have different perspectives and may be impacted differently by the project.

Another defining feature of IFC PS1 relates to the establishment and implementation of community-based Grievance Redress Mechanisms (GRM) that are legitimate, accessible, predictable, equitable, transparent, and rights compatible. GRMs are essential for HSE mitigation as the reality is, not all effects can be predicted. Moreover, the social environment is very dynamic, especially during sensitive times like construction. GRMs that are functional allow for the capturing of unanticipated HSE effects and can also gauge the effectiveness of mitigation efforts. Guidance on how to develop and implement a GRM to international standards is available from IFC (Guidance Note 1, Stakeholder Engagement and other international organizations, such as the Asian Development Bank.⁵⁵

IFC PS4⁵⁶ outlines the proponent's responsibility to avoid or minimize the risks and impacts to community health, safety, and security that may arise from project-related activities, infrastructure, and equipment. These responsibilities require a proponent to:

- avoid/minimize health risks that may arise from project-related activities across each project phase;
- identify vulnerable populations (i.e., those who may disproportionately experience health risks/impacts when compared to the general population);
- implement a comprehensive and time-bound community health and safety monitoring program; and
- disclose management plans that measure project-related health impacts and the effectiveness of mitigation measures.

Mitigation and enhancement measures for the health, safety, and security of affected communities should include measures that aim to:

- avoid or minimize adverse HSE effects associated with project infrastructure (e.g., minimizing or avoiding HSE effects associated with the development of a winter road near affected communities), and enhance the positive effects of project infrastructure for affected communities;
- avoid or minimize exposure of workforce and affected communities to hazardous materials;

⁵⁵ Asian Development Bank. (2011). Grievance Mechanisms: A Critical Component of Project Management. Retrieved from <https://www.adb.org/publications/grievance-mechanisms-critical-component-project-management>

⁵⁶ International Finance Corporation (2012). Performance Standard 4: Community Health, Safety and Security. Retrieved from: https://www.ifc.org/wps/wcm/connect/cf8b4cfa-5437-4a8a-a966-f578cbce9628/PS4_English_2012.pdf?MOD=AJPERES&CVID=jqeBlnY



- avoid or minimize adverse HSE effects associated with disruption of land access or use for affected communities;
- avoid or minimize community's exposure to disease (e.g., communicable diseases, water and vector borne illnesses, etc.), and in communities where diseases are endemic, design measures aimed at reducing the prevalence;
- enhance affected communities' capacity for Emergency Preparedness and Response (EPR).

IFC PS5 recognizes that physical and economic displacement as a result of land acquisition and involuntary resettlement can have adverse HSE effects on communities.⁵⁷ With regards to mitigation and enhancement of HSE effects, PS5 and the accompanying PS5 Guidance Note⁵⁸ require that companies identify potential health and safety risks associated with land acquisition or resettlement activities, and develop measures to avoid or mitigate these risks. This may involve, for example, identifying and addressing risks related to the disruption of healthcare services or the exposure of communities to hazardous materials.

In addition, PS5 requires that proponents develop and implement a comprehensive Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) that acknowledge baseline conditions and set out a plan to ensure that physically and/or economically displaced people have an equal or better standard of living after resettlement. Plans typically acknowledge HSE risks associated with resettlement (as identified in the IA), and include measures to avoid or mitigate them. Proponents must also develop and implement measures to enhance the health and safety of affected communities, including providing access to safe and clean water, improving sanitation facilities, or providing improved healthcare services.

PS5 also requires that proponents undergo an audit of whether the RAP and LRP have been implemented as planned, and achieved their intended outcomes. Mitigation is not considered complete until affected communities have received compensation and other accommodation benefits as laid out in the plans. This is an important feature of PS5 as it builds a system for evaluating mitigation and enhancement measures, which can be applied broadly across other components of the project.

IFC PS7 provides guidance for mitigation and enhancement measures for HSE effects that affect Indigenous Peoples, with an emphasis on Free Prior and Informed Consent (FPIC) and benefit sharing (including compensation, economic opportunities, etc.). FPIC outlines that affected communities should be involved in decision-making about any project that will affect them, and the project should only proceed when the clear approval of the community has been granted.⁵⁹ Approval must be obtained prior to any project, must be free from any intimidation, and Indigenous communities must have a full understanding of the project and any associated benefits or adverse effects.⁶⁰ This guidance aligns with requirements under the IAA and the Government of Canada's commitment to implement the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).⁶¹ IAAC must offer to consult with any Indigenous group that may be affected by the designated

⁵⁷ International Finance Corporation (2012). Performance Standard 5: Land Acquisition and Involuntary Resettlement. Available at: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/performance-standards/ps5

⁵⁸ International Finance Corporation (2012). Performance Standard 5: Guidance Note: Land Acquisition and Involuntary Resettlement. Available at: https://www.ifc.org/wps/wcm/connect/61320ff7-0e9a-4908-bef5-5c9671c8ddfd/GN5_English_2012.pdf?MOD=AJPERES&CVID=nXqndvp

⁵⁹ International Finance Corporation (2012). Performance Standard 7: Indigenous Peoples. Retrieved from: https://www.ifc.org/wps/wcm/connect/3274df05-7597-4cd3-83d9-2aca293e69ab/PS7_English_2012.pdf?MOD=AJPERES&CVID=jvQI.D

⁶⁰ Ibid.

⁶¹ Government of Canada (2021). Policy Context: Indigenous Participation in Impact Assessment. Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/policy-indigenous-participation-ia.html#toc003>



project.⁶² Impact assessments and associated mitigation and enhancement measures must address impacts on Indigenous Peoples, Aboriginal and treaty rights, traditional use of lands and resources, and any considerations related to Indigenous culture.⁶³ Mitigation and enhancement measures recommended under IFC guidance include measures to ensure benefits of the project are shared with affected Indigenous communities, and should aim to address the goals and preferences of the Indigenous Peoples including improving their standard of living and livelihoods in a culturally appropriate manner, and to foster the long-term sustainability of the natural resources on which they depend.⁶⁴

In summary, common themes emerging from international resources identify that mitigation and enhancement measures should be considered from the project outset, before any key project decisions have been made by the proponent.⁶⁵ Doing so will ensure that practitioners/proponents can effectively apply the mitigation hierarchy, which prioritizes measures that avoid adverse effects. When avoidance is not possible, practitioners/proponents should apply multiple strategies to minimize, compensate, or offset adverse effects.

Good international practice indicates that mitigation and enhancement measures should have proven effectiveness. However, this is not always possible for all impacts.⁶⁶ Innovative measures may be required, but adequate monitoring programs to assess effectiveness is essential.⁶⁷ Mitigation and enhancement measures will be ineffective if they do not consider the different subsets and cohorts of people and communities impacted. For example, GBA Plus can be applied in IAs to help practitioners and proponents understand the potential positive and negative effects for vulnerable population groups.⁶⁸ Mitigation and enhancement measures also need to contain enough detail to ensure they are actionable, and should be presented as clearly defined commitments.⁶⁹ Measures that include vague language, such as “mitigation measures may be implemented where possible,” do not follow best practice, and will likely not be implemented effectively.⁷⁰

4.3 SECTOR-SPECIFIC GUIDANCE FOR HSE MITIGATION AND ENHANCEMENT

This chapter summarizes the sector-specific guidance for mitigation and enhancement of HSE effects available at national and international levels. Practitioners can refer to Appendix A for a reference list of guidance resources by sector.

Sector-specific guidance reviewed focused on projects anticipated or commonly developed within the Canadian context, including the mining sector, petrochemical sector and hydropower industry, linear corridor projects (rail and road), and port authority development. From an international perspective, many projects within these sectors can be classified as Category A or B projects, meaning they are likely to have significant adverse environmental, social, economic, or human health impacts that may apply to environments, populations, and

⁶² Ibid.

⁶³ Ibid.

⁶⁴ International Finance Corporation (2012). Performance Standard 7: Indigenous Peoples. Retrieved from: https://www.ifc.org/wps/wcm/connect/3274df05-7597-4cd3-83d9-2aca293e69ab/PS7_English_2012.pdf?MOD=AJPERES&CVID=jjVQLD

⁶⁵ IEMA (2013). Mitigation- applying best practice. Retrieved from: <https://www.iema.net/articles/mitigation-applying-best-practice>

⁶⁶ Ibid.

⁶⁷ IEMA (2013). Mitigation- applying best practice. Retrieved from: <https://www.iema.net/articles/mitigation-applying-best-practice>

⁶⁸ Government of Canada (2019). Gender-based Analysis Plus in Impact Assessment (Interim Guidance). Retrieved from: <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act/gender-based-analysis-plus.html>

⁶⁹ IEMA (2013). Mitigation- applying best practice. Retrieved from: <https://www.iema.net/articles/mitigation-applying-best-practice>

⁷⁰ Ibid.



economic systems beyond the project footprint.⁷¹ Practitioners in Canada can benefit from a wealth of resources that capture sector-specific best practices and lessons learned from major international projects. It is important to note that although the following resources are sector-specific, the guidance provided is often relevant for other industries and can be applied in various contexts.



4.3.1 MINING SECTOR

Guidance for the mining industry includes the World Bank's EHS Guidelines for Mining,⁷² the Initiative for Responsible Mining Assurance (IRMA) Standard for Responsible Mining,⁷³ Performance Expectations and Mining Principles from the International Council on Mining and Metals (ICMM),⁷⁴ the Mining Association of Canada's (MAC) Towards Sustainable Mining (TSM) Initiative,⁷⁵ and Section 4C of Anglo American's Social Way Toolkit.⁷⁶ ICMM's performance expectations include the expectations that proponents will continually seek improvement in physical and psychological health, social performance, as well as contribute to the social and economic development of host communities.⁷⁷ HSE effects specific to the mining industry identified in this guidance include: the spread of communicable diseases in the workforce and affected communities, vector-related diseases related to water storage, issues related to environmental determinants of health (e.g., air quality, noise, etc.), social issues related to the influx of workers into remote communities (e.g., housing, substance use), and issues associated with the "4 M's" (a labour influx of men, surge in disposable money, movement due to new transport routes, and mixing of affected community members with the workforce).⁷⁸ **Influx of workers often leads to adverse EHS impacts for local communities directly impacted by the project.⁷⁹ This is especially true for projects located in and/or around rural, remote, or small communities.⁸⁰ Such adverse impacts may include increased demand and competition for local social and health services, as well as for goods and services, in addition to social conflicts within and between communities, increased risk of spread of communicable disease, increased rates of illicit behaviour and crime, and increased prevalence of violence, often against vulnerable**

⁷¹ International Finance Corporation (n.d). Environmental and Social Categorization. Retrieved from: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/es-categorization

⁷² International Finance Corporation (2007). Environmental, Health and Safety Guidelines for Mining. Retrieved from: <https://www.ifc.org/wps/wcm/connect/595149ed-8bef-4241-8d7c-50e91d8e459d/Final%2B-%2BMining.pdf?MOD=AJPERES&CVID=nPthex1&id=1323153264157>

⁷³ Initiative for Responsible Mining Assurance (2020). IRMA Standard For Responsible Mining Guidance Document Version 1.1. Retrieved from: https://responsiblemining.net/wp-content/uploads/2022/06/IRMA_Standard_Guidance_Updated-April2020-correctedcritical.pdf

⁷⁴ International Council on Mining and Metals (2022). Mining Principles: Performance Expectations. Retrieved from: <https://www.icmm.com/en-gb/our-principles/mining-principles/mining-principles>

⁷⁵ The Mining Association of Canada (n.d). Towards Sustainable Mining. Retrieved from: <https://mining.ca/towards-sustainable-mining/>

⁷⁶ AngloAmerican (n.d). Section 4C Community Health and Safety Management. Retrieved from: <https://socialway.angloamericacan.com/en/toolkit/impact-and-risk-prevention-and-management/community-health-and-safety-management/introduction>

⁷⁷ International Council on Mining and Metals (2022). Mining Principles: Performance Expectations. Retrieved from: <https://www.icmm.com/en-gb/our-principles/mining-principles/mining-principles>

⁷⁸ International Finance Corporation (2007). Environmental, Health and Safety Guidelines for Mining. Retrieved from: <https://www.ifc.org/wps/wcm/connect/595149ed-8bef-4241-8d7c-50e91d8e459d/Final%2B-%2BMining.pdf?MOD=AJPERES&CVID=nPthex1&id=1323153264157>

⁷⁹ Esteves, A. (2021). A people-centred approach to assessing livelihoods impacts. *Impact Assessment and Project Appraisal*, 39(6), 478-495.

⁸⁰ IFC & EBRD (2009). Workers' accommodation: processes and standards. Retrieved from: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_workersaccommodation



populations (women, children, Indigenous populations, etc.^{81,82} Measures can be developed using ICMM's guide for Critical Control Management to identify and prioritize measures that are crucial to mitigating HSE effects.⁸³ Recommendations for mitigation and enhancement measures for the mining sector include (but are not limited to):

- **mitigation and enhancement measures should be developed in alignment with the mitigation hierarchy (avoid, reduce, restore, and compensate);⁸⁴**
- **affected communities should be invited to collaborate and provide input on measures, and when needed, the proponent should provide resources to enhance their capacity to do so;⁸⁵ and**
- **the development of comprehensive Occupational Health and Safety (OHS) plans that include emergency preparedness and first aid response that take into account the remote nature of most mining project sites and limited access to emergency and general health services.⁸⁶**



4.3.2 OIL AND GAS INDUSTRY

Guidance for the oil and gas industry includes the World Bank's EHS Guidelines for Liquefied Natural Gas Facilities, Onshore, and Offshore Development,⁸⁷ as well as guidance from the International Petroleum Industry Environmental Conservation Association (IPIECA). IPIECA resources include good practice guidance for managing food and water safety,⁸⁸ COVID-19 outbreaks, testing and vaccines,⁸⁹ mental health

⁸¹ World Bank (2016). *Managing the risks of adverse impacts on communities from temporary project induced labor influx*. Retrieved from: <https://thedocs.worldbank.org/en/doc/497851495202591233-0290022017/original/ManagingRiskofAdverseImpactfromProjectLaborInflux.pdf>

⁸² International Finance Corporation (2012). Performance Standard 4: Community Health, Safety and Security. Available online at: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/performance-standards/ps4

⁸³ International Council on Mining & Metals (2015). Critical Control Management: Good Practice Guide. Retrieved from: <https://www.icmm.com/en-gb/guidance/health-safety/2015/ccm-good-practice-guide>

⁸⁴ Initiative for Responsible Mining Assurance (2020). IRMA Standard For Responsible Mining Guidance Document Version 1.1. Retrieved from: https://responsiblemining.net/wp-content/uploads/2022/06/IRMA_Standard_Guidance_Updated-April2020-correctedcritical.pdf

⁸⁵ Initiative for Responsible Mining Assurance (2020). IRMA Standard For Responsible Mining Guidance Document Version 1.1. Retrieved from: https://responsiblemining.net/wp-content/uploads/2022/06/IRMA_Standard_Guidance_Updated-April2020-correctedcritical.pdf

⁸⁶ International Finance Corporation (2007). Environmental, Health and Safety Guidelines for Mining. Retrieved from: <https://www.ifc.org/wps/wcm/connect/595149ed-8bef-4241-8d7c-50e91d8e459d/Final%2B-%2BMining.pdf?MOD=AJPERES&CVID=nPthex1&id=1323153264157>

⁸⁷ International Finance Corporation (2007). Environmental, Health and Safety Guidelines for Liquefied Natural Gas Facilities. Retrieved from: https://www.ifc.org/wps/wcm/connect/ab72db72-736a-43e7-8c81-f2d749ec3ad1/20170406-FINAL+LNG+EHS+Guide-line_April+2017.pdf?MOD=AJPERES&CVID=JJuCgVs

⁸⁸ IPIECA (2009). A Guide to Food and Water Safety for the oil and gas industry. Retrieved from: <https://www.ipieca.org/resources/good-practice/food-and-water-safety/>

⁸⁹ IPIECA (2021). IOGP-Ipieca Health Committee statement on COVID-19 testing in the oil and gas industry. Retrieved from: <https://www.ipieca.org/resources/awareness-briefing/iogp-ipieca-health-committee-statement-on-covid-19-testing-in-the-oil-and-gas-industry/>



risks associated with COVID-19,⁹⁰ tuberculosis,⁹¹ workplace stress,⁹² substance misuse and drugs/alcohol testing,⁹³ and community GRMs.⁹⁴ Recommendations for mitigation and enhancement measures for this sector include (but are not limited to):

- **apply the mitigation hierarchy (avoid, reduce, restore, and compensate) when designing measures;**
- **engage affected communities, individuals, and other stakeholders in the planning and monitoring of mitigation/enhancement measures;**⁹⁵
- **establish a project-level GRM accessible to affected communities in relation to project concerns and impacts, mitigation measures, management, and monitoring;**
- **design and implement a hazardous spill contingency plan that includes the following: initial response, spill containment, procedures, management of spills, clean-up, and reporting. Spill response plans should be developed in coordination with affected communities, and when necessary, help enhance the capacity of affected communities' emergency response.**⁹⁶



4.3.3 HYDROPOWER INDUSTRY

Guidance for the hydropower industry includes the IFC's Good Practice Note for Environmental, Health, and Safety Approaches for Hydropower Projects,⁹⁷ Sustainability Guidelines from the Hydropower Sustainability Council,⁹⁸ the How-to Guide on Envi-

⁹⁰ IPIECA (2021). Mental health risks and the COVID-19 pandemic. Retrieved from: <https://www.ipieca.org/resources/awareness-briefing/mental-health-risks-and-the-covid-19-pandemic/>

⁹¹ IPIECA (2010). Managing tuberculosis: a guide for managers and supervisors in the oil and gas industry. Retrieved from: <https://www.ipieca.org/resources/good-practice/managing-tuberculosis/>

⁹² IPIECA (2006). Managing workplace stress. Retrieved from: <https://www.ipieca.org/resources/good-practice/managing-workplace-stress/>

⁹³ IPIECA (2016). Oil and gas contractor drug and alcohol testing guidelines. Retrieved from: <https://www.ipieca.org/resources/good-practice/oil-and-gas-contractor-drug-and-alcohol-testing-guidelines/>

⁹⁴ IPIECA (2015). Community grievance mechanisms in the oil and gas industry. Retrieved from: <https://www.ipieca.org/resources/good-practice/community-grievance-mechanisms-in-the-oil-and-gas-industry/>

⁹⁵ IPIECA (2013). Integrating human rights into environmental, social and health impact assessments: A practical guide for the oil and gas industry. Retrieved from: https://www.ipieca.org/media/1571/integrating_hr_into_environmental_social_and_his.pdf

⁹⁶ World Bank Group (2017). Environmental, Health, and Safety Guidelines Liquefied Natural Gas Facilities. Retrieved from: https://www.ifc.org/wps/wcm/connect/ab72db72-736a-43e7-8c81-f2d749ec3ad1/20170406-FINAL+LNG+EHS+Guide-line_April+2017.pdf?MOD=AJPERES&CVID=IJuCgVs

⁹⁷ International Finance Corporation (2018). Good Practice Note on Environmental, Health and Safety Approaches for Hydropower Projects. Retrieved from: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_gpn_EHSHydropwer

⁹⁸ Hydropower Sustainability Council (2018). Sustainability Guidelines. Retrieved from: <https://static1.squarespace.com/static/5c1978d3ee1759dc44fbd8ba/t/61078a709fa31818f6d0b4f2/1627884197361/Hydropower+Sustainability+Guidelines+-+May+2020.pdf>



ronmental and Social Assessment and Management from the International Hydropower Association,⁹⁹ Guidance Notes on large hydropower and dam safety from the ADB,¹⁰⁰ and the World Bank.¹⁰¹ Recommendations for mitigation and enhancement measures for this sector include (but are not limited to):

- **ensure consultations and design of mitigation/enhancement measures are inclusive of women and vulnerable groups. For example, women often have greater traditional roles in the farming of vegetables on small riverside or floodplain plots which are more likely to be lost (upstream) or negatively impacted by altered flows (downstream).¹⁰² Women and Indigenous groups are often engaged with and more dependent on the gatherings of communal natural resources for food (e.g., fishing, harvesting of small aquatic animals/herbs) that may be lost and overlooked in hydropower compensation packages;¹⁰³**
- **legacy issues of previous developments need to be considered in the design of mitigation and compensation measures. Historical impacts of mistrust, mismanaged communications, disempowerment, and relocation programs in Indigenous communities may create more severe project-related impacts on affected communities;¹⁰⁴**
- **opportunities for enhancement measures may include project-related health services that can be used by local communities, population health monitoring programs, community involvement in basic dam safety monitoring, improved road safety, flood prediction and early warning systems, improvement of flood management infrastructure, community involvement in emergency preparedness training and infrastructure, and improvement of local waste management, sanitation, and water treatment.¹⁰⁵**

⁹⁹ International Hydropower Association (2021). How-To Guide Hydropower Environmental and Social Assessment and Management. Retrieved from: https://assets-global.website-files.com/5f749e4b9399c80b5e421384/610906adc88c076acf68b402_Hydro-power%20HTG%20E%26S%20268x190%20030821.pdf

¹⁰⁰ Asian Development Bank (2023). Guidance Note on Large Hydropower Plants. Retrieved from: <https://www.adb.org/sites/default/files/institutional-document/829416/draft-guidance-note-large-hydropower.pdf>

¹⁰¹ World Bank (2018). Environmental & Social Framework for IPF Operations. ESS4: Community Health and Safety. Retrieved from: <https://documents1.worldbank.org/curated/en/290471530216994899/ESF-Guidance-Note-4-Community-Health-and-Safety-English.pdf>

¹⁰² Ibid.

¹⁰³ Ibid.

¹⁰⁴ Ibid.

¹⁰⁵ Hydropower Sustainability Council (2018). Sustainability Guidelines. Retrieved from: <https://static1.squarespace.com/static/5c1978d3ee1759dc44fbd8ba/t/61078a709fa31818f6d0b4f2/1627884197361/Hydropower+Sustainability+Guidelines+-+May+2020.pdf>





4.3.4 LINEAR CORRIDOR PROJECTS (RAIL AND ROADS)

Guidance for the linear corridor projects include the World Bank's EHS Guidelines for Railways and Toll Roads,¹⁰⁶ and guidance from the United Nations Economic and Social Commission for Asia and the Pacific.¹⁰⁷ Recommendations for mitigation and enhancement measures for projects in this sector include:

- **robust traffic management plans developed in accordance with IFC sector-specific guidance, which include collaboration and consultation with all affected communities. Consultations should aim to identify and address local concerns and impacts related to changes in traffic;**
- **traffic safety plans, including safe driving practice educational/awareness campaigns, signage, and appropriate speed limits;**
- **pedestrian safety plans;**
- **Emergency Preparedness and Response (EPR) plans;**
- **monitoring of accidents and fatality rates;**
- **Grievance Redress Mechanisms (GRM) for affected communities.**



4.3.5 PORT AUTHORITY DEVELOPMENT

Guidance for the port authority development projects includes the World Bank's EHS Guidelines for Ports, Harbours, and Terminals.¹⁰⁸ Recommendations for mitigation and enhancement measures for projects in this sector include (but are not limited to):

- **the development and implementation of a Safety Management Plan (SMP) that includes procedures to regulate the safe movement of vessels within the harbour (including plottage procedures, port control/traffic services, navigational aids, and hydrography surveys), measures to protect the general public and communities from dangers arising from offshore activities and transportation of hazardous goods, and measures that prevent injury to workers and the public (including fishers and recreational users);**

¹⁰⁶ International Finance Corporation (2017). Environmental, Health, and Safety Guidelines for Railways. Retrieved from: <https://www.ifc.org/wps/wcm/connect/8a4a0318-9c7a-44f1-80bf-ff30cb3c9087/Final%2B-%2BRailways.pdf?MOD=AJPERES&CVID=nPtYg.&id=1323152551661>

¹⁰⁷ United Nations Economic and Social Commission (2022). Road Safety. Retrieved from: <https://www.unescap.org/our-work/transport/road-safety>

¹⁰⁸ International Finance Corporation (2017). Environmental, Health, and Safety Guidelines for Ports, Harbors, and Terminals. Retrieved from: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_policy_ehs-portsharborsterminals



- measures to avoid and mitigate impacts to Indigenous rights (fishing, harvesting, etc.) and access to traditional territories;
- comprehensive EPR plans developed with affected communities. Support for communities in developing their own emergency response plans;
- measures to mitigate the effects of nighttime illumination and visual impacts for affected communities.¹⁰⁹

4.4 SELECT TOPICS SPECIFIC TO HSE MITIGATION AND ENHANCEMENT

Mitigation and enhancement measures are not one size fits all. The following topics are common areas where the HSE effects of a project may intersect with and impact affected communities. Recommendations for mitigation and enhancement measures for each topic area are outlined below. Meaningful engagement and consultation with communities and those who work closely with communities (e.g., health and social service providers) is **essential** to ensure that measures are effectively tailored to the unique contextual factors of the project and associated communities. Consideration and understanding of the social determinants of health is crucial when designing mitigation and enhancement measures for HSE effects. Careful attention must be paid to how project-related effects impact the social determinants of the health of Indigenous Peoples, as health disparities are complex and cannot be removed from the past and current impacts related to colonization, the residential school system, and the resulting intergenerational trauma experienced by some Indigenous Peoples.¹¹⁰

Interconnectedness is also a critical aspect to consider when designing HSE mitigations and enhancement measures. There is wide consensus across the international field of IA that changes in social and economic conditions directly relate to the health and wellbeing of affected populations. The most comprehensive and recent guidance for assessing and mitigating health impacts as it relates to major projects has been developed by the Asian Development Bank (ADB) in 2018.¹¹¹ The International Association for Impact Assessment (IAIA)'s International Best Practice Principles for Health Impact Assessment,¹¹² and the IAIA & European Public Health Association (EUPHA)'s joint reference paper on human health¹¹³ are important resources that serve as a good starting point to emphasize the interconnection between HSE effects. In general, by avoiding adverse social and economic effects, project proponents can safeguard the health of the individuals, families, and communities where they operate. The following subsections highlight select HSE topics and benchmark

¹⁰⁹ Ibid.

¹¹⁰ Fariba Kolahdooz, Forouz Nader, Kyoung J. Yi & Sangita Sharma (2015). Understanding the social determinants of health among Indigenous Canadians: priorities for health promotion policies and actions. Retrieved from:

<https://www.tandfonline.com/doi/full/10.3402/gha.v8.27968?scroll=top&needAccess=true&role=tab>

¹¹¹ Asian Development Bank (2018). Health Impact Assessment: A Good Practice Sourcebook. Retrieved from: <https://www.adb.org/documents/health-impact-assessment-sourcebook>

¹¹² International Association for Impact Assessment (2021). International Best Practice Principles: Health Impact Assessment. Retrieved from: https://www.iaia.org/uploads/pdf/SP5%20HIA_21_5.pdf

¹¹³ International Association for Impact Assessment, European Public Health Association (2020). Human Health: Ensuring a high level of protection. Retrieved from: <https://eupha.org/repository/sections/HIA/Human%20Health%20Ensuring%20Protection%20Main%20and%20Appendices.pdf>



mitigation and enhancement measures as identified by the literature review and KIIs.



4.4.1 HEALTH SERVICE ACCESS

The planning and delivery of health services in Canada falls under the jurisdiction of provincial and territorial governments.¹¹⁴ Indigenous Services Canada (ISC) offers additional funding mechanisms for First Nations and Inuit to supplement those provided by provinces and territories, including primary healthcare, health promotion and supplementary health benefits. This context of delineation of responsibility between different levels in Canada is essential for the delivery of healthcare services as it relates to development projects that would trigger IA. Project sites and activities play a key role in impacting the health and wellbeing of workers, their families, and neighbouring communities. The influx of workers and increase in industrial activities in an area has been known to place additional strain on the local healthcare system. In Canada, this poses a significant problem, especially in rural, remote, and Northern areas where populations experience additional barriers to health service access, including having to travel across large geographic distances, long wait times, limitations in the range of services offered, hospital downsizing, and a lack of culturally-appropriate services.¹¹⁵ Indigenous Peoples in Canada experience remarkable challenges related to the accessibility of health services across all geographic regions; however, challenges are more pronounced in rural, remote, and Northern communities.¹¹⁶ To mitigate impacts on local health services, the World Bank Group's General EHS Guidelines recommends that projects provide internal health services.¹¹⁷ The provision of internal health services includes ensuring all employees, contractors, and subcontractors are given access to an onsite medical facility staffed by trained healthcare professionals.¹¹⁸ Affected community members employed by the project may benefit from internal healthcare services as they may provide increased continuity of care when compared to healthcare services offered in local communities (especially for those from remote and rural communities). Providing onsite access to allied health professionals may enhance healthcare services available for employees from affected communities, and improve return to work schema after injuries. Leveraging advancement in the delivery of virtual and telehealth services may also ensure continuity of care for the workforce when they are offsite in their home communities.



4.4.2 COMMUNICABLE DISEASES

The World Bank Group's General EHS Guidelines require projects to provide disease surveillance, screening and treatment of employees, and to take other active measures (such as supporting health awareness/education initiatives) that aim to promote individual behaviour that prevents the spread of infectious disease

¹¹⁴ Government of Canada (2020). Canada Health Act. Retrieved from: <https://www.canada.ca/en/health-canada/services/health-care-system/canada-health-care-system-medicare/canada-health-act.html>

¹¹⁵ Browne, A (n.d.). Issues Affecting Access to Health Services in Northern, Rural and Remote Regions of Canada. Retrieved from: <https://www2.unbc.ca/sites/default/files/sections/northern-studies/issuesaffectingaccesstohealthservicesinnorthern.pdf>

¹¹⁶ National Collaborating Centre for Indigenous Health (2019). Access to health services as a social determinant of First Nations, Inuit and Metis Health. Retrieved from: <https://www.nccih.ca/docs/determinants/FS-AccessHealthServicesSDOH-2019-EN.pdf>

¹¹⁷ International Finance Corporation (2007). Environmental, Health, and Safety General Guidelines. Retrieved from: <https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM>

¹¹⁸ International Finance Corporation (2007). Environmental, Health, and Safety General Guidelines. Retrieved from: <https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=nPtguVM>



between the workforce and affected communities.¹¹⁹ Measures should align with current health authority recommendations, government guidance, and Communicable Disease Response Plans (CDRP) developed by Indigenous communities. In some cases, the prevalence of pre-existing communicable diseases in an affected community may inform mitigation and enhancement measures. In alignment with IFC PS4, measures should go beyond just the prevention of infection and aim to reduce the prevalence of diseases in affected communities. When affected communities include Indigenous Peoples, measures should also be culturally relevant, and take into consideration that Indigenous Peoples often experience a more significant burden of infectious diseases due to health and social inequities from the impact of past and current colonial policies and practices.¹²⁰ Mitigation and enhancement measures may include (but are not limited to):

- establishing a communicable disease task force to liaise with affected communities, government, and health authority officials, and assess new and emerging communicable disease risks;
- including point of care testing and treatment for existing and emergent communicable diseases at a project-site for employees (e.g., Sexually Transmitted Infection (STI) testing and treatment);
- supporting the assessment of Knowledge, Attitudes, and Practices (KAP) surveys amongst the workforce and community around important communicable diseases for the location to inform targeted interventions;
- investing in existing community-based awareness-raising and behaviour change interventions targeting communicable diseases;
- providing resources for affected communities (e.g., K=knowledge pamphlets, Personal Protective Equipment (PPE), testing kits, and preventative measures);
- establishing or supporting screening or other relevant testing for all employees, families, and communities when possible.



4.4.3 NON-COMMUNICABLE DISEASES

Non-Communicable Diseases (NCDs) cannot be transmitted between humans, and risk factors include exposure to pollutants, unhealthy lifestyles, stress, or genetics.¹²¹ Project-related HSE effects such as changes in diet, rising incomes, and movement from rural to urban lifestyles may trigger a rise in non-communicable diseases (e.g., hypertension and diabetes) in the workforce and affected communities.¹²² Guidance from the World Health Organization (WHO) on NCD management recommends interventions focused on detecting, screening, and treating NCDs.¹²³ More detailed guidance on NCD management can be found in the [WHO's](#)

¹¹⁹ International Finance Corporation (2007). Environmental, Health, and Safety General Guidelines. Retrieved from: <https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuide-lines.pdf?MOD=AJPERES&CVID=nPtguVM>

¹²⁰ Power, T. (2020). COVID-19 and Indigenous Peoples: An imperative for action. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7272911/>

¹²¹ Asian Development Bank (2018). Health Impact Assessment: A good practice sourcebook. Retrieved from: <https://www.adb.org/sites/default/files/institutional-document/452951/health-impact-assessment-sourcebook.pdf>

¹²² International Finance Corporation (2007). Guidance Note 4 Community Health, Safety and Security. Retrieved from: https://www.ifc.org/wps/wcm/connect/c7f84508-d39e-43ec-9719-1873e91aa8e1/2007%2BUpdated%2BGuidance%2BNote_4.pdf?MOD=AJPERES&CVID=jqeAWoe

¹²³ World Health Organization (n.d). Management of noncommunicable diseases. Retrieved from: <https://www.who.int/activities/management-of-noncommunicable-diseases>



[Toolkit for developing a multisectoral action plan for noncommunicable diseases](#). NCDs such as cancer, cardiovascular diseases, and diabetes represent dominant health issues in Canada.¹²⁴ Indigenous populations in Canada are disproportionately impacted by chronic diseases and their associated risk factors.¹²⁵ For Indigenous communities, disruption and change in access to VCs, such as the lands, rivers, or waterways of their territory, may result in reduced harvesting practices and consumption of traditional foods. Changes to traditional food security can impact nutritional health, which, over time, can increase the risk for certain NCDs. Several strategies for mitigating the risk of NCDs include:

1. Promoting physical activity: development projects should incorporate features that encourage physical activity, such as bike lanes, walking paths, and playgrounds;
2. Supporting healthy eating: projects should promote access to healthy food options for workers and communities, such as fresh fruits and vegetables, and avoid adverse effects that impact traditional food security;
3. Reducing exposure to harmful substances: avoid or minimize exposure to substances that are known to increase the risk of NCDs, such as tobacco smoke, air pollution, and hazardous chemicals;
4. Enhancing access to healthcare: where possible, proponents should prioritize the development or enhancement of healthcare facilities and services.

In particular, projects should be adequately resourced so as to avoid crowding out access to primary and preventative care for local residents.¹²⁶ Monitoring and evaluation of health elements in the management system will help to ensure that management plans and controls can be adapted on a continuous basis as needs and health issues change. Experience tells us that health management and mitigation measures should change over the course of a project as health conditions are also likely to change. These must be living processes and require active engagement with workers and communities.

Further, mitigation and enhancement measures that target food security, nutrition, exercise, and education/awareness campaigns can help improve health outcomes related to NCDs for employees and affected community members. Mitigation and enhancement measures may include (but are not limited to):

- investing in and supporting existing food security and traditional food programs for affected Indigenous First Nation communities;
- supporting and investing in local agricultural programs;
- providing ongoing and sustainable donations of food hampers and vouchers for affected communities;
- supporting health promotion campaigns at project-site targeting employees (e.g., smoking cessation programs, nutrition education initiatives, physical activity interventions, etc.);

¹²⁴ Government of Canada (2016). Health Status of Canadians 2016 – A report of the Chief Public Health Officer. Retrieved from: <https://healthycanadians.gc.ca/publications/department-ministere/state-public-health-status-2016-etat-sante-publique-statut/alt/pdf-eng.pdf>

¹²⁵ Earle, L. (2013). Understanding chronic disease and the role for traditional approaches in Aboriginal Communities. Retrieved from: <https://www.nccih.ca/docs/emerging/FS-UnderstandingChronicDisease-Earle-EN.pdf>

¹²⁶ Inter-American Development Bank (2020). Health Risk Management and Resiliency in Private Sector Projects. Retrieved from: <https://www.idbinvest.org/en/publications/health-risk-management-and-resiliency-private-sector-projects>



- providing healthy food options for employees at project-site;
- funding interventions delivered in collaboration with primary care services.



4.4.4 MENTAL HEALTH AND SUBSTANCE USE

Mitigation and enhancement measures should aim to protect, promote, and enhance the mental health of affected communities and project employees. Projects can impact mental health and wellbeing through a variety of pathways, including (but not limited to) changes in noise, dust, vibration, pollution, light, access to traditional lands, resources, and cultural activities.¹²⁷ Affected communities may experience pre-existing challenges related to mental health and substance use, which may be exasperated by project-related activities. It is recognized that Indigenous populations may be more vulnerable to changes in environmental and socio-economic conditions stemming from development activities. Increased vulnerability is primarily due to the catastrophic cultural effects (both past and present) of colonialism and subsequent assimilation practices.¹²⁸ Mitigation and enhancement measures should consider adverse mental health effects experienced specifically by Indigenous communities. Indigenous populations in Canada have disproportionately experienced political, economic, and social disadvantage through past and present colonial policies and practices and therefore, disproportionately bear the burden of mental health challenges when compared with non-Indigenous populations.¹²⁹ For example, suicide rates in some Indigenous communities are estimated to be 5-6 times higher than the general population.¹³⁰ Development project activity can place an additional burden on individuals (including employees), families, and communities that struggle with mental health-related issues. Further, many communities in Canada are experiencing crisis levels of opioid-related harms and deaths,¹³¹ and there is evidence that individuals working for development projects are disproportionately represented in these deaths.¹³² Stressful work environments, shift work, and distance from social support networks have been shown to contribute to and/or exacerbate mental health and substance use issues. Overdose prevention and response, along with prevention and recovery interventions, is a shared responsibility among many sectors of society, including large-scale industrial development. It is prudent for onsite health services and worker accommodations to be equipped with naloxone kits, and for First Aid workers on projects sites to receive overdose prevention and response training. Management and interventions for substance use disorders are needed and should adhere to the key principles and standards set out by the United Nations Office on Drugs and Crime (UNODC), which include adhering to UN Declaration of Human Rights, promoting personal autonomy, and promoting individual and societal safety.¹³³

¹²⁷ Smyth, E., & F. Vanclay. (2016). The Social Framework for Projects: a conceptual but practical model to assist in assessing, planning and managing the social impacts of projects. Retrieved from: <https://www.tandfonline.com/doi/full/10.1080/14615517.2016.1271539>

¹²⁸ Howitt, R., Havnen, O., & Veland, S. (2012). Natural and Unnatural Disasters: Responding with Respect for Indigenous Rights and Knowledges. *Geographical Research*, 50(1), 47-59. <https://doi.org/10.1111/j.1745-5871.2011.00709.x>

¹²⁹ Kim, P. (2019). Social Determinants of Health Inequities in Indigenous Canadians Through a Life Course Approach to Colonialism and the Residential School System. *Health Equity*, 2019 Jul 25;3(1):378-381. doi: 10.1089/hec.2019.0041. PMID: 31346558; PMCID: PMC6657289.

¹³⁰ Eggertson L. (2015). Canada lacks national suicide prevention strategy. Retrieved from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(15\)61147-3/fulltext#:~:text=Canada%20hosted%20an%20international%20conference,Laura%20Eggertson%20reports%20from%20Montreal.](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)61147-3/fulltext#:~:text=Canada%20hosted%20an%20international%20conference,Laura%20Eggertson%20reports%20from%20Montreal.)

¹³¹ Government of Canada (2022). Opioid- and Stimulant-related Harms in Canada. Retrieved from: <https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants>

¹³² ICES (2022). Construction workers disproportionately impacted by opioid-related death, report finds. Retrieved from: <https://www.ices.on.ca/Newsroom/News-Releases/2022/Construction-workers-disproportionately-impacted-by-opioid-related-deaths>

¹³³ World Health Organization, United Nations Office on Drugs and Crime (2020). International standards for the treatment of drug use disorders. Retrieved from: https://www.unodc.org/documents/drug-prevention-and-treatment/UNODC-WHO_International_Standards_Treatment_Drug_Use_Disorders_April_2020.pdf



Mitigation and enhancement measures for mental health and substance use may include (but are not limited to):

- training/education in mental health for project employees (e.g., mental health first aid programs). Providing employees with educational resources around alcohol and drug use can help reduce stigma and foster an open and respectful work environment;¹³⁴
- providing telehealth/virtual mental health counseling for project employees and family members (included in employee benefits). Telehealth programming will help ensure continuity of care for mental health challenges;
- supporting and funding existing mental health and substance use interventions and awareness programs in affected communities;
- providing overdose awareness and first aid training with the distribution of naloxone kits to employees, and if feasible, provide resources for training to affected communities;
- providing confidential access to harm-reduction supplies for employees (e.g., sterile needles, sharps containers, naloxone, condoms, etc.);¹³⁵
- developing and implementing a drugs and alcohol use policy for the project site. Policy should focus on safety in the workplace and take into consideration the limitations of random or systematic drug testing, and the unintended consequences (fear and anxiety) that testing programs may have on the workforce;¹³⁶
- supporting employees (financially and logistically) access treatment for substance use, and provide return to work schemes once treatment is completed.

Example: Mount Polley Mine tailing dam failure and emotional distress

Emotional distress and mental health impacts related to project activities are important to monitor throughout the project lifecycle. The 2014 tailing dam failure at the Mount Polley Mine led to strong and ongoing emotional stress for members of affected First Nation communities.¹³⁷ Emotional stress related to this incident was linked to a lack of information/communication during the dam breach, reduction or cessation of fishing activities, community conflict, and the exacerbation of existing environmental concerns.¹³⁸ Emotional stress has been found to be related to adverse psychological and physical health outcomes, including mental health issues, cardiovascular disease, cancer, and unhealthy lifestyle behaviours.¹³⁹ One approach that was recommended included proponents taking steps to improve access

¹³⁴ Northern Health Office of Health and Resource Development (2018). Health and Safety During the Opioid Overdose Emergency: Northern Health's Recommendations for Industrial Camps. Retrieved from: https://www.northernhealth.ca/sites/northern_health/files/services/office-health-resource-development/documents/overdose-prevention-camps.pdf

¹³⁵ Ibid.

¹³⁶ Ibid.

¹³⁷ Shandro, J., Jokinen, L., Stockwell, A., Mazzei, F., & Winkler, M.S. (2017). Risks and Impacts to First Nation Health and the Mount Polley Mine Tailings Dam Failure. *International Journal of Indigenous Health*, 12, 84-102.

¹³⁸ Ibid.

¹³⁹ Ibid.



to mental health services across the local area where project-affected community members reside.



4.4.5 EMPLOYMENT AND TRAINING

Benefits for affected communities generally lie in the development of new and sustainable jobs for community members. Local procurement refers to the purchase of goods and services from local businesses. In Canada, this may occur where local communities have expectations about participating in new opportunities associated with designated projects.¹⁴⁰ Designing and implementing a local procurement strategy is an enhancement measure targeting project-associated economic opportunities for local communities. In the cases where affected communities include Indigenous Peoples, strategies for local hiring must also involve working with individual Indigenous communities to understand the employment needs of their members. Providing on the job training for local workforce members (e.g., haul truck operator training,¹⁴¹ etc.), may help communities overcome barriers to employment and experience project-related benefits. Training-related outcomes should be documented and tracked to assess whether these initiatives result in the hiring and retention of affected community members. Monitoring training-related outcomes is essential for assessing how affected communities are benefiting from projects. Employment on designated projects allows for multiple high-level training opportunities to enhance personal and professional development. Skills in areas like EPR are often “brought home” to affected communities by local workers, extending the benefit far beyond the individual. To further enhance these benefits, proponents may consider measures to facilitate further skill transfer training and capacity building programs in line with the priorities identified by affected communities. Measures in this area could include training of the trainer programs, community skills workshops, or other interventions co-designed with community partners.



4.4.6 HOUSING

Industrial development and the influx of workers can place additional burdens (either directly or indirectly) on pre-existing systems such as housing, which are already under great strain in communities across Canada.^{142,143} As a result of project development, affected communities may experience an influx of large mobile workforces. This can raise housing costs and limit the supply of affordable housing.¹⁴⁴ Disruptions in access

¹⁴⁰ International Finance Corporation (2011). Guide to Getting Started in Local Procurement. Retrieved from: https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_guidetogettingstartedinlocalprocurement_wci_1319579447675

¹⁴¹ Ibid.

¹⁴² Shandro, J., Jokinen, L., Kerr, K., Sam, A.M., Scoble, M., Ostry, A. (2014) Ten Steps Ahead: Community Health and Safety during the Construction Phase of the Mount Milligan Mine.

¹⁴³ Shandro, J., Ostry, A., and Scoble, M. (2012) Meeting the Health Needs of the Stuart Lake-Nak' al Bun Area: A Baseline Study of Community Health, Community Health and Social Services and Reported Impacts from Local Mining Developments. Available online at: <http://bchealthy-communities.ca/res/download.php?id=1818>

¹⁴⁴ Laura Ryser, Greg Halseth & Sean Markey (2021) Moving from government to governance: addressing housing pressures during rapid industrial development in Kitimat, BC, Canada, *Housing Studies*, 36:10, 1618-1643, DOI: 10.1080/02673037.2020.1789564



to safe and affordable housing has been shown to increase the risk of homelessness among the most vulnerable community members.¹⁴⁵ Poor housing conditions (e.g., overcrowding and mold) adversely impact the mental and physical wellbeing of individuals and families. Mitigation and enhancement measures could include (but are not limited to):

- constructing and operating accommodations for employees who are not local residents;
- ensuring accommodations are well-maintained, and providing adequate space for employees;
- ensuring accommodations provide resources for the mental health and wellness of employees. These could include: access to high quality internet, gym/exercise facilities, social and community areas, and healthy catering options;
- Providing donations/financial support to existing social housing interventions in affected communities.



4.4.7 GENDER-BASED VIOLENCE

Gender-based violence (GBV) is a serious issue with far-reaching consequences for workplaces, services, and communities.¹⁴⁶ This issue does not impact all communities equally, with Indigenous women consistently experiencing higher rates and more severe forms of physical assault and robbery than other groups in Canada.^{147,148} In addition, sexual violence is a huge problem in all its forms: Indigenous women are sexually assaulted three times more frequently than their non-Indigenous counterparts,¹⁴⁹ and most of the women and children trafficked in Canada are Indigenous.^{150,151} Proponents should follow guidance for mitigation measures and monitoring set out in Good Practice Guidance for GBV commissioned by the IFC, EBRD and CDC Group.¹⁵² Best practice guidance stresses the importance of policies and procedures which adhere to these overarching principles:¹⁵³

- prioritizing the rights and needs of survivors;
- protecting people who experience, witness, or report GBV;
- considering the local legal and social context;
- collaborating with internal and external stakeholders (e.g., human resources, community organizations, law enforcement, healthcare system);
- addressing the heightened risk of GBV for certain vulnerable groups (e.g., women, 2SLGBTQQIA+ communities, children, disabled people);

¹⁴⁵ Guirguis-Younger, M., McNeil, R., & Stephen W. Hwang (Eds.). (2014). *Homelessness & Health in Canada*. University of Ottawa Press. Retrieved October 6, 2020, from <http://www.jstor.org/stable/j.ctt184qqc6>

¹⁴⁶ IFC, the European Bank for Reconstruction and Development (EBRD), and CDC Group (2020). *Addressing Gender-Based Violence and Harassment: Emerging Good Practice for the Private Sector*. Retrieved from: https://www.ifc.org/wps/wcm/connect/f1645167-7eff-439b-922b-7656c75320ab/GPN_AddressingGBVH_July2020.pdf?MOD=AJPERES&CVID=nddokiS

¹⁴⁷ Boyce, "Victimization of Aboriginal People in Canada, 2014."

¹⁴⁸ *Reclaiming Power and Place*. (2019). Privy Council Office.

¹⁴⁹ Conroy and Cotter, "Self-reported Sexual Assault in Canada, 2014."

¹⁵⁰ Canada (2019). *Public Safety Canada, National Action Plan to Combat Human Trafficking*. Retrieved from: <https://www.publicsafety.gc.ca/cnt/rsrscs/pblctns/2019-ntnl-strtyg-hmnn-trffc/index-en.aspx>

¹⁵¹ *Reclaiming Power and Place*. (2019). Privy Council Office.

¹⁵² *Ibid.*

¹⁵³ *Ibid.*



- integrating GBV policies and procedures with existing company management systems;
- drawing on evidence and input from subject matter experts.

The following are examples of mitigation and enhancement measures for GBV:

- contractual requirements for GBV to be integrated into company or contractors' systems, plans and procedures;
- training for all staff and contractors on GBV. Training may teach staff and contractors about the types of GBV, local legislation dealing with GBV, company grievance systems and policies, how to recognize and respond to incidents of GBV, and how to handle disclosures of GBV from victims;¹⁵⁴
- worker GRM with specific GBV provisions;
- community GRM that is well-disseminated, accessible, and trusted, and a system to track the resolution of queries and complaints;¹⁵⁵
- IFC/EBRD worker accommodation standards, including lockable toilets, adequate lighting in the evening for workers walking throughout accommodation, and safe access arrangement to site and accommodation;¹⁵⁶
- supporting and developing GBV programs for the workforce (targeting domestic abuse, discrimination, and social stigmatization, as well as making physical spaces more secure for female employees);
- fund safety planning resources and community organizations for women and families in affected communities.



4.4.8 CRIME

Adverse impacts to community safety and crime levels directly related with development activities have been well-documented in Canada and throughout the world. Mitigation and enhancement measures will vary depending on the nature of the crime and the context of affected communities. UNODC guidelines on crime prevention include measures to promote the wellbeing of people and encourage prosocial behaviors, changing conditions that influence offending by investing in communities, preventing crime by reducing opportunities, and supporting the social reintegration of incarcerated offenders to prevent recidivism.¹⁵⁷ Community-based GRMs were highlighted in best practice guidance as a way for proponents to respond to new and emerging

¹⁵⁴ International Finance Corporation (2022). Case study: Exploring client approaches to gender-based violence prevention and response. Retrieved from: <https://www.ifc.org/wps/wcm/connect/93f8eb39-abf3-4acb-9e5b-c4bf99ac70b6/Case+Study+-+EDP+El+Salvador.pdf?MOD=AJPERES&CVID=onvRSjU>

¹⁵⁵ IFC, the European Bank for Reconstruction and Development (EBRD), and CDC Group (2020). Addressing Gender-Based Violence and Harassment: Emerging Good Practice for the Private Sector. Retrieved from: https://www.ifc.org/wps/wcm/connect/f1645167-7eff-439b-922b-7656c75320ab/GPN_AddressingGBVH_July2020.pdf?MOD=AJPERES&CVID=nddokiS

¹⁵⁶ Ibid.

¹⁵⁷ United Nations Office on Drugs and Crime (2002). United Nations Standards and Norms in Crime Prevention. Retrieved from: https://www.unodc.org/pdf/criminal_justice/UN_standards_and_norms_in_crime_prevention_at_your_fingertips.pdf



issues for communities, including sexual exploitation, abuse and harassment,¹⁵⁸ and security-related concerns.¹⁵⁹ Community members should know where to go with complaints about the conduct of employees, contractors, or security personnel. In addition to a general community-based grievance mechanism, specific channels of communication may need to be developed for certain issues.¹⁶⁰ When developing communication channels with affected communities, it's important to make gender considerations as women and 2SLGBTQIA+ communities often have vastly different experiences and interactions with security personnel, employees, and contractors.¹⁶¹ Engaging with women and 2SLGBTQIA+ communities through focus group discussions and soliciting their feedback will help ensure a community based grievance mechanism is inclusive and safe.¹⁶²

Indigenous communities across Canada have a tenuous and often negative relationship with law enforcement. According to a 2019 report published by the Council of Canadian Academies (CCA) entitled *Toward Peace, Harmony, and Well-Being: Policing in Indigenous communities. The Expert Panel on Policing Indigenous Communities*, “current realities with policing in Indigenous communities, as well as crime, victimization, and incarceration, are tied to historical context. The impact of colonialism continues to reverberate in Indigenous communities.”¹⁶³ While efforts have been made to improve policing for Indigenous communities in Canada in recent decades, qualitative crime-related statistics provides evidence that illustrates that Indigenous communities continue to have higher rates of police-reported crime and incarceration when compared with the rest of Canada.¹⁶⁴ The CCA report proposes several recommendations “toward change” to address these challenges, including self-determined policing, building and sustaining capacity for Indigenous Peoples, relationship-based approaches, and policing as part of a broader landscape.¹⁶⁵

Mitigation and enhancement measures should be developed in collaboration with affected communities, local law enforcement, and community organizations. Mitigation and enhancement measures could include (but are not limited to):

- establishing a community based GRM;¹⁶⁶
- monitoring of local crime statistics with local authorities;
- developing a code of conduct and companywide policies around illegal activities for all employees and subcontractors;
- funding community-based crime prevention interventions.

¹⁵⁸ International Finance Corporation (2022). Supporting companies to develop and manage community-based grievance and feedback mechanisms regarding sexual exploitation, abuse and harassment. Retrieved from: https://www.ifc.org/wps/wcm/connect/26117203-17b7-491a-b205-39d07374037f/IFC_CommunityBasedGrievanceMechanism_Toolkit.pdf?MOD=AJPERES&CVID=n-ICjvb

¹⁵⁹ International Finance Corporation (2017). Good Practice Handbook: Use of security forces: assessing and managing risks and impacts. Retrieved from: https://www.ifc.org/wps/wcm/connect/bd858b9c-5534-4e65-b713-01f6376a7ef4/p_handbook_SecurityForces_2017.pdf?MOD=AJPERES&CVID=nzgFLCy

¹⁶⁰ Ibid.

¹⁶¹ Ibid.

¹⁶² International Finance Corporation (2022). Supporting companies to develop and manage community-based grievance and feedback mechanisms regarding sexual exploitation, abuse and harassment. Retrieved from: https://www.ifc.org/wps/wcm/connect/26117203-17b7-491a-b205-39d07374037f/IFC_CommunityBasedGrievanceMechanism_Toolkit.pdf?MOD=AJPERES&CVID=n-ICjvb

¹⁶³ Council of Canadian Academies (2019). *Toward Peace, Harmony, and Well-Being: Policing in Indigenous Communities*. The expert Panel on Policing in Indigenous Communities. Retrieved from: <https://cca-reports.ca/reports/policing-in-indigenous-communities/>

¹⁶⁴ Ibid.

¹⁶⁵ Ibid.

¹⁶⁶ International Finance Corporation (2022). Supporting companies to develop and manage community-based grievance and feedback mechanisms regarding sexual exploitation, abuse and harassment. Retrieved from: https://www.ifc.org/wps/wcm/connect/26117203-17b7-491a-b205-39d07374037f/IFC_CommunityBasedGrievanceMechanism_Toolkit.pdf?MOD=AJPERES&CVID=n-ICjvb





4.4.9 TRAFFIC

Changes in traffic due to industrial developments can have profound impacts on community health and safety. It is recommended that proponents establish robust traffic management plans that are developed in accordance with IFC's General and Sector-Specific EHS Guidelines and IFC Performance Standards (PS1, PS4, PS7).¹⁶⁷ This includes collaborating and consulting with all affected communities to identify and address local concerns to minimize the risks and impacts related to external (both proponent and subcontractor) sources of traffic. In addition to EHS Guidelines and IFC Performance Standards, proponents should align mitigation and enhancement strategies for traffic with the recommendations put forth in the World Bank's Good Practice Note on Road Safety.¹⁶⁸ The best practice note encompasses numerous comprehensive road safety recommendations that center on the "adoption of best transport safety practices across all aspects of project operations with the goal of preventing traffic accidents and minimizing injuries suffered by project personnel and the public."¹⁶⁹ Specific measures to achieve this goal include (but are not limited to):

- establishing policies and procedures that emphasize safety practices among drivers (e.g., licensing, speed controls on large project vehicles, remote monitoring of driving, regular maintenance);
- limiting trip duration and routes to reduce fatigue and avoid dangerous routes for the workforce;
- providing affected communities with resources to promote safe roadway use (e.g., awareness-raising and educational campaigns on risks and safe driving practices and universally-accessible updates on road conditions).

In Canada, the lack of access to safe and reliable transit has led to an increased vulnerability of Indigenous women, girls, and 2SLGBTQIA+ people.¹⁷⁰ When economically and technically feasible, proponents have unique opportunities to design measures to enhance these groups' access to safe transport. Any measures should be designed in collaboration with these sub-groups of affected communities and effectively monitored.



¹⁶⁷ International Finance Corporation (2012). Performance Standards on Environmental and Social Sustainability. Retrieved from: https://www.ifc.org/wps/wcm/connect/24e6bfc3-5de3-444d-be9b-226188c95454/PS_English_2012_Full-Documents.pdf?MOD=AJPERES&CVID=jkV-X6h

¹⁶⁸ World Bank (2019). Good Practice Note: Environment & Social Framework for IPF Operations Road Safety. Retrieved from: <https://the-docs.worldbank.org/en/doc/648681570135612401-0290022019/original/GoodPracticeNoteRoadSafety.pdf>

¹⁶⁹ World Bank (2019). Good Practice Note: Environment & Social Framework for IPF Operations Road Safety. Retrieved from: <https://the-docs.worldbank.org/en/doc/648681570135612401-0290022019/original/GoodPracticeNoteRoadSafety.pdf>

¹⁷⁰ National Inquiry into Missing and Murdered Indigenous Women and Girls (2018). More frequent and accessible transportations services: National Inquiry reiterates the importance of building on the many previous findings and recommendations from multiple Inquiries and reports to keep Indigenous women, girls and 2SLGBTQ people safe. Retrieved from: https://www.mmiwg-ffada.ca/wp-content/uploads/2018/07/Pub-lic-transportation_Statement.pdf



4.4.10 HUMAN RIGHTS

Mitigation and enhancement measures should align with the UN Guiding Principles on Business and Human Rights,¹⁷¹ which include (but are not limited to):

- respecting human rights, including “the human rights of individuals belonging to specific groups or populations that require particular attention, where they may have adverse human rights impacts on them... (responsibility to respect human rights) exists over and above compliance with national laws and regulations protecting human rights”;
- “avoid causing or contributing to adverse human rights impacts through their own activities, and address such impacts when they occur”;
- “seek to prevent or mitigate adverse human rights impacts that are directly linked to their operations, products or services by their business relationships, even if they have not contributed to those impacts”;
- “seek to understand the concerns of potentially affected stakeholders by consulting them directly in a manner that takes into account language and other potential barriers to effective engagement.”

Identification of mitigation and enhancement measures should involve both the community rights-holders who are impacted as well as relevant duty-bearers and other stakeholders.¹⁷² Community involvement can help increase awareness about changes that may arise, and reduce affected communities fear and uncertainty.¹⁷³ A failure to consult community rights-holders could cause anger, resentment and in some cases protest actions, including violence.¹⁷⁴ Coordinating mitigation measures with local authorities and service providers is essential to understand their capacity, and the proponent may need to build/enhance local institutional capacity to effectively implement measures.¹⁷⁵



4.4.11 ADDITIONAL CONSIDERATIONS FOR INDIGENOUS POPULATIONS

Mitigation and enhancement measures for all of the above topic areas should include considerations for Indigenous populations, and measures should be co-designed with communities. IFC PS1 outlines that effective engagement is characterized as ongoing, timely, and appropriately scaled when HSE effects emerge. Ongoing engagement involves establishing clear pathways for communication, information-sharing activities that are developed with Indigenous communities, and mechanisms for collecting and responding to grievances from

¹⁷¹ Office of the United Nations High Commissioner for Human Rights (OHCHR). (2011, April). Guiding Principles on Business and Human Rights. Retrieved from https://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

¹⁷² Esteves, A. M., Factor, G., Vanclay, F., Gotzmann, N., & Moreira, S. (2017). Adapting social impact assessment to address a project's human rights impacts and risks. *Environmental Impact Assessment Review*, 67, 73-87. <https://doi.org/10.1016/j.eiar.2017.07.001>

¹⁷³ Ibid.

¹⁷⁴ Ibid.

¹⁷⁵ Ibid.



affected communities.¹⁷⁶ Mitigation and enhancement measures should meet the Truth and Reconciliation Commission of Canada's (TRC) Calls to Action #92, which calls upon the corporate sector in Canada to adopt the UNDRIP as a reconciliation framework, and to apply its principles to corporate policy and core operational activities.¹⁷⁷ As set out in the Commission's report, this requires the corporate sector to:

- “commit to meaningful consultation, building respectful relationships, and obtaining the free, prior, and informed consent of Indigenous Peoples before proceeding with economic development projects;
- ensure that Indigenous Peoples have equitable access to jobs, training, and education opportunities in the corporate sector, and that Indigenous communities gain long-term sustainable benefits from economic development projects;
- provide education for management and staff on the history of Indigenous Peoples, including the history and legacy of residential schools, the UNDRIP, Treaties and Indigenous rights, Indigenous law, and Indigenous–Crown relations. This will require skills-based training in intercultural competency, conflict resolution, human rights, and anti-racism.”¹⁷⁸

4.5 PERFORMANCE MANAGEMENT SYSTEMS FOR SUCCESSFUL IMPLEMENTATION OF MITIGATION AND ENHANCEMENT MEASURES

Mitigation and enhancement measures are only effective if they are actually implemented.¹⁷⁹ For designated projects under the IAA, post-decision follow-up programs and monitoring may be conditions set out in the decision statement.¹⁸⁰ In line with IFC PS1, good international practice includes the ability to identify and mitigate HSE risks and effects.¹⁸¹ IFC PS1 includes the requirement for proponents to design and implement a social performance management system (SPMS) to effectively mitigate HSE effects. Furthermore, the presentation of effective and actionable mitigations should provide specific details on:

- what the mitigation or enhancement measure is;
- why it is needed and what it is designed to achieve;
- when it needs to be implemented;
- where it needs to be implemented;

¹⁷⁶ International Finance Corporation (2012). Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. Retrieved from: https://www.ifc.org/wps/wcm/connect/8804e6fb-bd51-4822-92cf-3dfd8221be28/PS1_English_2012.pdf?MOD=AJPERES&CVID=jiVQIfe

¹⁷⁷ Truth and Reconciliation Commission of Canada. (2015). Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada. Retrieved from http://nctr.ca/assets/reports/Final%20Reports/Executive_Summary_English_Web.pdf

¹⁷⁸ Truth and Reconciliation Commission of Canada. (2015). Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada. Retrieved from http://nctr.ca/assets/reports/Final%20Reports/Executive_Summary_English_Web.pdf

¹⁷⁹ IEMA (2013). Mitigation- applying best practice. Retrieved from: <https://www.iema.net/articles/mitigation-applying-best-practice>

¹⁸⁰ International Finance Corporation (2012). Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. Retrieved from: https://www.ifc.org/wps/wcm/connect/8804e6fb-bd51-4822-92cf-3dfd8221be28/PS1_English_2012.pdf?MOD=AJPERES&CVID=jiVQIfe

¹⁸¹ Ibid.



- how it will be implemented;
- how it will be measured / monitored to ensure it is having the intended effect;
- the person/role or organization responsible for completing the mitigation or enhancement measure;¹⁸²
- who will fund and assume the cost of the measure. For example, grievance mechanisms should be implemented and managed at no cost to affected communities.¹⁸³

The identification and management of HSE effects requires a system that is dynamic. This process should continue across the life cycle of a project and is **not** limited to the impact assessment phase. Figure 3 (see below) illustrates the key elements of a performance management system for HSE (commonly referred to as a social performance management system (SPMS) or environmental and social management system (ESMS)).

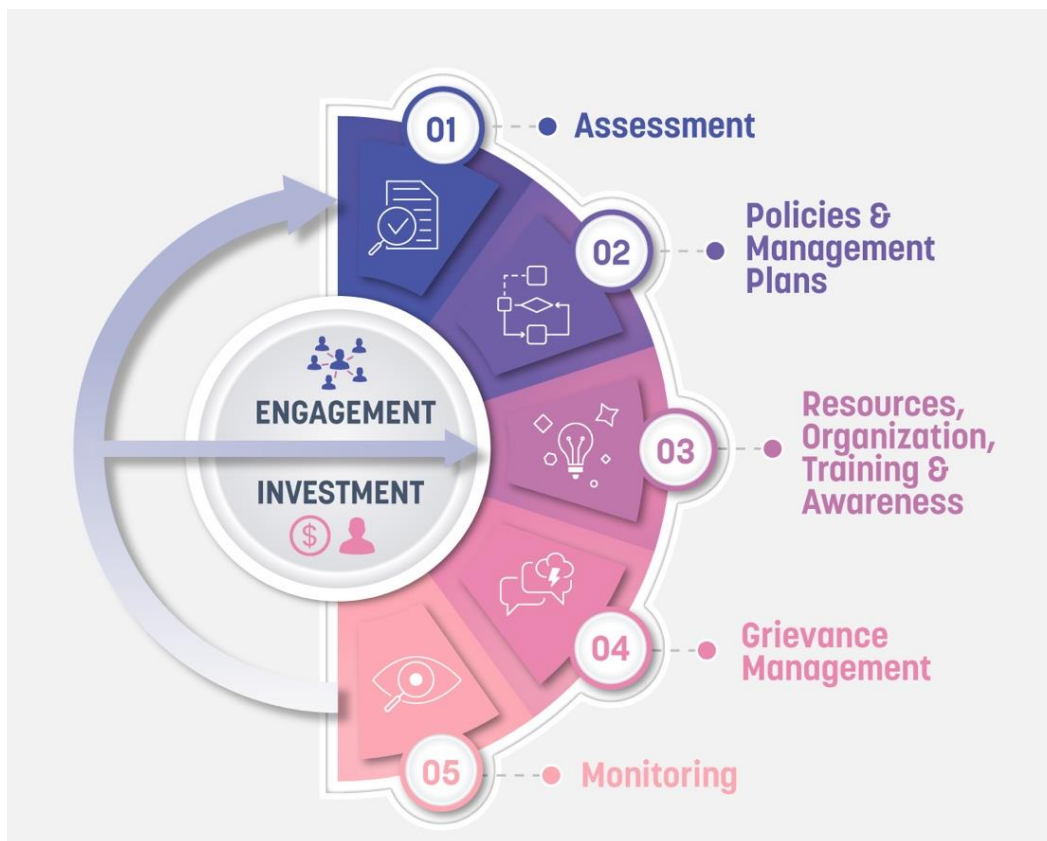


Figure 3. Elements of a social performance management system (SPMS).

Key elements of an environmental and social management system outlined in IFC's Environmental and Social Management System Implementation Handbook include policies; identification of risks and impacts; manage-

¹⁸² IEMA (2013). Mitigation- applying best practice. Retrieved from: <https://www.iema.net/articles/mitigation-applying-best-practice>

¹⁸³ International Finance Corporation (2012). Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts. Retrieved from: https://www.ifc.org/wps/wcm/connect/8804e6fb-bd51-4822-92cf-3dfd8221be28/PS1_English_2012.pdf?MOD=AJPERES&CVID=jjVQlfe



ment programs; organizational capacity and competency; EPR; stakeholder engagement; external communications and GRM; and ongoing reporting to affected communities and monitoring and reviewing.¹⁸⁴ Implementation will require dedicated, trained and committed people,¹⁸⁵ and collaborative initiatives are often needed to support good HSE performance management. Some examples include:

- Facilitating collaborative risk-review workshops with associated communities;
- Conducting regular site tours for affected communities;
- Supporting community monitoring programs where affected community members are provided with the training/skills necessary to conduct environmental or social monitoring;
- Ensuring engagement and communication materials with affected communities are conducted and provided in accessible and agreeable formats;
- Contributing financially to community-led monitoring programs.

4.6 PLAN-DO-CHECK-ACT STRATEGY

An effective SPMS or ESMS will help assess and control risks and provide a process for continual improvement. The Plan-Do-Check-Act (PDCA) cycle (see Figure 4 below) is a method for ongoing reviewing, correcting, and improving performance. The components of this cycle include:

- **Plan:** Identifying and analyzing the risks and objectives. This phase involves asking “*What is important for you as an organization, and what are you going to do about it?*”
- **Do:** Developing and implementing a potential solution. This phase involves asking “*What actions will you take? Who, what, where, when, and how?*”
- **Check:** Measuring how effective the solution was, and analyzing whether it could be improved. This phase involves asking “*Did you see the change you expected after implementing the actions?*”
- **Act:** Implementing the improved solution. This phase involves asking “*What will you change if the results are not what you expected?*”

¹⁸⁴ International Finance Corporation (2015). Environmental and Social Management System Implementation Handbook. Retrieved from: <https://www.ifc.org/wps/wcm/connect/4c41260d-1ba8-4d10-a77d-f762d60a1380/ESMS+Handbook+General+v2.1.pdf?MOD=AJPERES&CVID=nzhmupn>

¹⁸⁵ International Finance Corporation (2015). Environmental and Social Management System Implementation Handbook. Retrieved from: <https://www.ifc.org/wps/wcm/connect/4c41260d-1ba8-4d10-a77d-f762d60a1380/ESMS+Handbook+General+v2.1.pdf?MOD=AJPERES&CVID=nzhmupn>



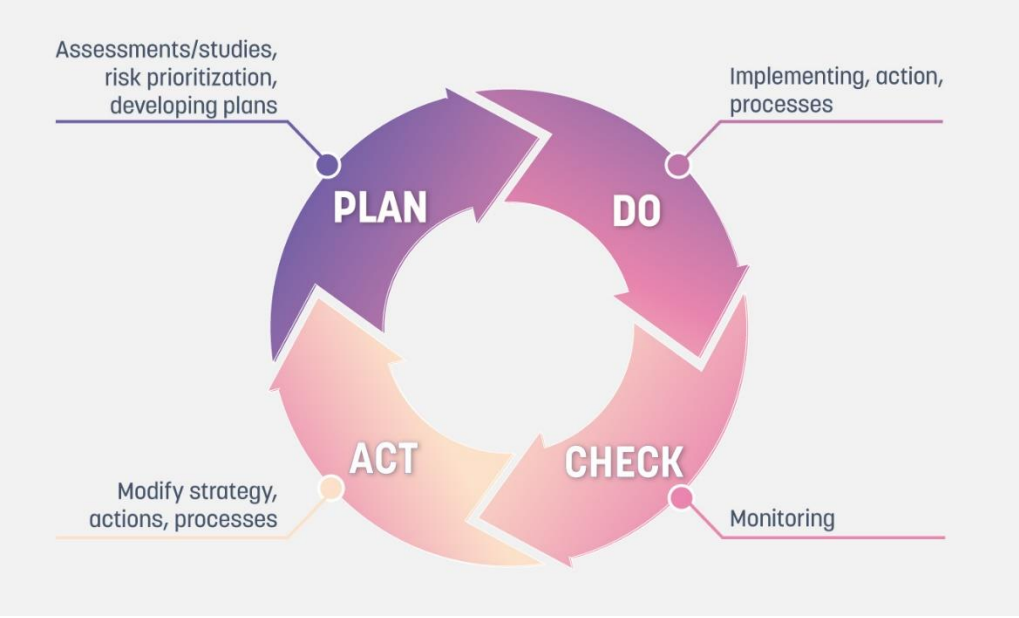


Figure 4. Plan-Do-Check-Act Cycle.



5.0 CONCLUSION

International guidance and standards related to HSE mitigation are relevant to the Canadian context. They provide practitioners with solid, evidence-informed, and widely used strategies for the design and implementation of project management plans. The practices and guidance summarized in this report have been successfully used and applied to numerous projects around the world across different sectors. These resources along with IAAC's guiding tools will undoubtedly support practitioners in their design and implementation of mitigation and enhancement measures. In summary, mitigation and enhancement measures informed by good international practice work to:

- help proponents effectively address HSE effects associated with projects;
- empower communities to inform, collaborate, and provide feedback on the design and implementation of measures;
- provide consenting authorities and communities with clear, detailed commitments that can be effectively monitored and be revised/alterd when not effective.



APPENDIX

APPENDIX A: SELECT HSE MITIGATION AND ENHANCEMENT RESOURCES

Table 1. Select HSE Mitigation and Enhancement Resources

RESOURCE TITLE	DATE	AUTHOR
General IAAC and other National HSE Resources		
<u>Impact Assessment Act</u>	2019	Canada.ca, Justice Laws Website, Government of Canada
<u>IA Process Overview webpage</u>	2022	Canada.ca, Impact Assessment Agency of Canada
<u>Impact Assessment Act and CEAA2012 Comparison</u>	2020	Canada.ca, Impact Assessment Agency of Canada
<u>e-learning course: Overview of the Impact Assessment Act</u>	2020	Canada.ca, Impact Assessment Agency of Canada
<u>Practitioner’s Guide to the Impact Assessment Act</u>	2023	Canada.ca, Impact Assessment Agency of Canada
<u>Guidance- Analyzing Health, Social and Economic Effects under the Impact Assessment Act</u>	2020	Canada.ca, Impact Assessment Agency of Canada
<u>Guidance- Considering the Extent to which a Project Contributes to Sustainability</u>	2021	Canada.ca, Impact Assessment Agency of Canada
<u>Tailored Impact Statement Guidelines Template for Designated Projects Subject to the Impact Assessment Act</u>	2020	Canada.ca, Impact Assessment Agency of Canada
<u>Socio-economic impact assessment guidelines.</u>	2007	Mackenzie Valley Review Board
<u>Human and Community Well-Being Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C.</u>	2020	BC Environmental Assessment Office
<u>Gender-based Analysis Plus in Impact Assessment (Interim Guidance).</u>	2019	Government of Canada



RESOURCE TITLE	DATE	AUTHOR
<u>Indigenous Knowledge Policy Framework for Project Reviews and Regulatory Decisions</u>	2022	Government of Canada
General International HSE Mitigation Resources		
<u>IFC Performance Standards on Environmental and Social Sustainability</u>	2012	International Finance Corporation, World Bank Group
<u>Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts</u>	2012	International Finance Corporation, World Bank Group
<u>Environmental and Social Management System Implementation Handbook (General)</u>	2015	International Finance Corporation, World Bank Group
<u>Environmental and Social Management System Toolkit (General)</u>	2015	International Finance Corporation, World Bank Group
<u>Guide to Getting Started in Local Procurement</u>	2011	International Finance Corporation, World Bank Group
<u>Environmental, Health, and Safety Guidelines (General)</u>	2007	International Finance Corporation, World Bank Group
<u>Environmental and Social Policy (ESP) Performance Requirements (PR)</u>	2019	European Bank for Reconstruction and Development
<u>Social and Environmental Standards (SES).</u>	2021	United Nations Development Program (UNDP)
<u>Environmental and Social Standards (ESS).</u>	2020	Conservation International
<u>Social Impact Assessment: Guidance for assessing and managing the social impacts of projects.</u>	2015	Vanclay, F., Esteves, A. M., Aucamp, I., & Franks, D.
<u>Guidance Note on Stakeholder Communication Strategies for Projects in South Asia</u>	2019	Asian Development Bank
<u>Strengthening Participation for Development Results</u>	2012	Asian Development Bank
<u>Safeguard Policy Statement</u>	2009	Asian Development Bank
Select sector-specific resources - Mining		
<u>Environmental, Health, and Safety Guidelines for Mining</u>	2007	World Bank Group
<u>Good practice guidance on 'critical control management'</u>	2015	International Council on Mining and Metals
<u>IRMA Standard for Responsible Mining Guidance Document Version 1.1</u>	2020	Initiative for Responsible Mining Assurance



RESOURCE TITLE	DATE	AUTHOR
<u>Protecting workers and local communities through effective critical control management</u>	2021	International Council on Mining and Metals
<u>Global Industry Standard on Tailings Management</u>	2020	International Council on Mining and Metals
<u>Towards Sustainable Mining and the UN Sustainable Development Goals</u>	2022	The Mining Association of Canada
<u>Indigenous Guardians</u>	2019	Shared Value Solutions
<u>Due Diligence Guidance for Meaningful Stakeholder Engagement in the Extractives Sector</u>	2015	Organisation for Economic Co-operation and Development
Select sector-specific resources - Oil and Gas		
<u>Environmental, Health, and Safety Guidelines for Liquefied Natural Gas Facilities</u>	2017	International Finance Corporation, World Bank Group
<u>Sustainability reporting guidance for the oil and gas industry</u>	2020	International Petroleum Industry Environmental Conservation Association
<u>Community development agreements guidance</u>	2019	International Petroleum Industry Environmental Conservation Association
<u>Health impact assessment. A guide for the oil and gas industry.</u>	2016	International Petroleum Industry Environmental Conservation Association
<u>Health management in the oil and gas industry</u>	2020	International Petroleum Industry Environmental Conservation Association
<u>Offshore impacts to fisheries: practitioner guidance for social baselines</u>	2023	International Petroleum Industry Environmental Conservation Association
Select sector-specific resources - Hydropower		
<u>Good Practice Note on Environmental, Health, and Safety Approaches for Hydropower Projects</u>	2018	International Finance Corporation, World Bank Group
<u>How-to Guide on Environmental and Social Assessment and Management</u>	2021	International Hydropower Association / Hydropower Sustainability Council
<u>Sustainability Guidelines</u>	2018	International Hydropower Association / Hydropower Sustainability Council
<u>Guidance Note on Large Hydropower Plants</u>	2023	Asian Development Bank
Select sector-specific resources - Railways		
<u>Environmental, Health, and Safety Guidelines for Railways</u>	2007	International Finance Corporation, World Bank Group



RESOURCE TITLE	DATE	AUTHOR
Transport – Road Safety	2022	United Nation Economic and Social Commission for Asian and the Pacific
Select sector-specific resources - Road developments		
Good Practice Note: Environment & Social Framework for IPF Operations Road Safety.	2019	World Bank
Road Safety Guidelines for the Asia and Pacific Region	2003	Asian Development Bank
COVID-19 and Transport in Asian and the Pacific – Guidance Note	2020	Asian Development Bank
Select sector-specific resources - Ports		
Environmental, Health, and Safety Guidelines for Ports, Harbors, and Terminals	2017	World Bank
COVID-19 and the port sector	2021	International Labour Organization
Smart Ports in the Pacific	2020	Asian Development Bank
Climate Risks and Business Ports	2011	International Finance Corporation
Health		
Targeted Guidance- UNDP SES Standard 3 Community Health, Safety and Security	2021	United Nations Development Programme
Health Impact Assessment: A Good Practice Sourcebook	2018	Asian Development Bank
A Health Impact Assessment Framework for Special Economic Zones in the Greater Mekong Subregion	2018	Asian Development Bank
International Best Practice Principles: Health Impact Assessment	2021	International Association for Impact Assessment
A Guideline for Conducting Health Impact Assessment for First Nations in British Columbia, Canada	2018	Tsimshian Environmental Stewardship Authority
Human health: Ensuring a high level of protection	2020	International Association for Impact Assessment and European Public Health Association
Saskatchewan Guidelines for Reviewing Health Impacts in Environmental Assessments	2014	Saskatchewan Ministry of Health
Health and Safety Performance Indicators: Guidance	2021	International Council on Mining and Metals



RESOURCE TITLE	DATE	AUTHOR
4C.1 About Community Health and Safety (CHS)	n.d	AngloAmerican
4C.2 Guidance Overview	n.d	AngloAmerican
Health risk assessment and management	2022	International Petroleum Industry Environmental Conservation Association
Health Risk Management and Resiliency in Private Sector Projects	2020	Inter-American Development Bank
Communicable/Vector-Borne Disease Management		
Pandemic management in the oil and gas industry	2021	International Petroleum Industry Environmental Conservation Association
Infectious disease outbreak management. A programme manual for the oil and gas industry	2016	International Petroleum Industry Environmental Conservation Association
Vector-borne disease management programmes	2013	International Petroleum Industry Environmental Conservation Association
National Framework for Communicable Disease Control	2014	Commonwealth of Australia
A CDC Framework for Preventing Infectious Diseases	2011	Centers for Disease Control
Anticipate, Prepare and Respond to Crises - Invest Now in Resilient OSH Systems	2021	International Labour Organization
Guidance for Infrastructure Projects on COVID-19: A Rapid Risk Profile and Decision Framework	2020	Inter-American Development Bank
Guidance for the Agriculture Sector on COVID-19: Risks and Response Framework	2020	Inter-American Development Bank
Non-communicable Diseases		
Non-communicable Disease Prevention and Control: A guidance note for investment cases	2019	World Health Organization and the United Nations Development Programme
Responding to non-communicable diseases during and beyond the COVID-19 pandemic	2020	World Health Organization and the United Nations Development Programme
Toolkit for developing a multisectoral action plan for noncommunicable disease: overview	2022	World Health Organization
Healthier Together - EU Non-Communicable Diseases Initiative	2022	European Commission
Substance Use		



RESOURCE TITLE	DATE	AUTHOR
<u>Health and Safety During the Opioid Overdose Emergency: Northern Health's Recommendations for Industrial Camps</u>	2018	Northern Health Office of Health and Resource Development
<u>International standards for the treatment of drug use disorders.</u>	2020	World Health Organization, United Nations Office on Drugs and Crime
<u>Oil and gas contractor drug and alcohol testing guidelines</u>	2016	International Petroleum Industry Environmental Conservation Association
Gender-based Violence		
<u>Addressing Gender-Based Violence and Harassment: Emerging Good Practice for the Private Sector.</u>	2020	IFC, the European Bank for Reconstruction and Development (EBRD), and CDC Group
<u>A Good Practice Note. Addressing Gender Based Violence in Investment Project Financing involving Major Civil Works</u>	2018	World Bank
<u>Applying the Asian Development Bank's Approach to Gender Mainstreaming in Private Sector</u>	2022	Asian Development Bank
<u>Supporting companies to develop and manage community-based grievance and feedback mechanisms regarding sexual exploitation, abuse and harassment.</u>	2022	International Finance Corporation
<u>Case Study: Exploring Client Approaches to Gender-Based Violence Prevention and Response: Energia del Pacifico Infrastructure, El Salvador</u>	2022	International Finance Corporation
<u>Case Study: Exploring Client Approaches to Gender-Based Violence Prevention and Response: Gas Natural Açú (GNA), Energy, Brazil</u>	2022	International Finance Corporation
<u>Case Study: Exploring Client Approaches to Gender-Based Violence Prevention and Response: Alcazar Energy, Egypt</u>	2022	International Finance Corporation
<u>Case Study: Exploring Client Approaches to Gender-Based Violence Prevention and Response: Asyaport, Infrastructure, Turkiye</u>	2022	International Finance Corporation
<u>Case Study: Exploring Client Approaches to Gender-Based Violence Prevention and Response: Bioparques de Occidente, Agribusiness and Forestry, Mexico</u>	2022	International Finance Corporation
Human Rights		
<u>Guiding Principles on Business and Human Rights</u>	2011	Office of the United Nations High Commissioner for Human Rights (OHCHR)



RESOURCE TITLE	DATE	AUTHOR
<u>Integrating human rights into environmental, social and health impact assessments</u>	2013	International Petroleum Industry Environmental Conservation Association (IPIECA)
<u>Involuntary Resettlement Safeguards: A Planning and Implementation Good Practice Sourcebook (Draft Working Document)</u>	2012	Asian Development Bank
<u>Guidelines on Implementing the IOM Programme Policy on Migrants and Gender Issues</u>	1999	International Organization for Migration
<u>2022 Country Reports on Human Rights and Practices</u>	2023	U.S. Department of State
<u>The ITUC Global Rights Index</u>	n.d.	International Trade Union Confederation (ITUC)
Indigenous Peoples		
<u>Performance Standard 7: Indigenous Peoples</u>	2012	International Finance Corporation, World Bank Group
<u>Guidance Note Evaluating Projects with Affected Indigenous Peoples</u>	2020	Equator Principles
<u>Policy Context: Indigenous Participation in Impact Assessment.</u>	2021	Government of Canada
<u>Guidelines for Incorporating Traditional Knowledge in Environmental Impact Assessment.</u>	2005	Mackenzie Valley Review Board
<u>Indigenous Communities and Industrial Camps</u>	2017	Firelight Group with Lake Babine Nation and Nak'azdli Whut'en
<u>Engaging Indigenous Peoples on Policing and Community Safety</u>	2022	Government of Canada
<u>Indigenous Peoples Safeguards: A Planning and Implementation Good Practice Sourcebook (Draft Working Document)</u>	2013	Asian Development Bank
Crime		
<u>United Nations Standards and Norms in Crime Prevention.</u>	2002	United Nations Office on Drugs and Crime
<u>Good Practice Handbook: Use of security forces: assessing and managing risks and impacts.</u>	2017	International Finance Corporation
<u>Voluntary Principles on Security and Human Rights Implementation Guidance Tools</u>	2021	ICMM, ICRC, IFC, IPIECA



RESOURCE TITLE	DATE	AUTHOR
<u>A Renewed Approach to Policing in Indigenous Communities</u>	2016	Government of Canada
<u>Toward Peace, Harmony, and Well-Being Policing in Indigenous Communities.</u>	2019	Council of Canadian Academies
Influx-Related		
<u>Worker's accommodations: processes and standards</u>	2009	International Finance Corporation and European Bank for Reconstruction and Development
<u>A Handbook for Addressing Project-Induced In-Migration</u>	2009	International Finance Corporation
<u>Managing the risks of adverse impacts on communities from temporary project induced labor influx.</u>	2016	World Bank
<u>B.C. Guidelines for Industrial Camps Regulations</u>	2017	Government of British Columbia
<u>Labor Migration in Asia - Impacts of the COVID-19 Crisis and the Post-Pandemic Future</u>	2021	Asian Development Bank, Organisation for Economic Co-operation and Development and International Labour Organization.

