



O Trade

Capacity Mapping™

The Material Value of Inclusion,
Participation and Transparency



Prepared by

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1.0 Executive Summary

Monica Ospina (Founder & CEO)

Capacity Mapping™ mitigates risk by leveraging socio-economic inclusion in natural resource operations

"We design and implement solutions that integrate communities with industrial activities while creating value for all."

Companies in the natural resource sector often strive to maintain smooth partnerships with the local and Indigenous communities affected by operations. In remote areas, conflicts frequently escalate due to fears based on historical vulnerability, mismanaged expectations, and an inattentiveness toward community needs. However, shifting attitudes and recent globally recognized frameworks are redefining the narrative, pushing companies to prioritize socio-economic inclusion.

Today, companies must garner social approval to obtain land access agreements and demonstrate best practices in risk management and environmental, social, and governance (ESG) factors to secure funding from investors. They must also demonstrate strategic approaches to social inclusion and participation, for example avenues for job creation and collaboration to improve local infrastructure with governments.

Businesses implementing ethical practices founded on the three core tenets of inclusion, participation, and transparency are in a better position to manage social risk and mitigate conflict. At the 2023 World Economic Forum (WEF) Annual Meeting, leading global companies shared that inclusion is key to tapping into underserved markets and agreed that resilience and sustainability are top priorities. Additionally, recent studies indicate that higher ESG scores can reduce the cost of capital by 1.14–10%.

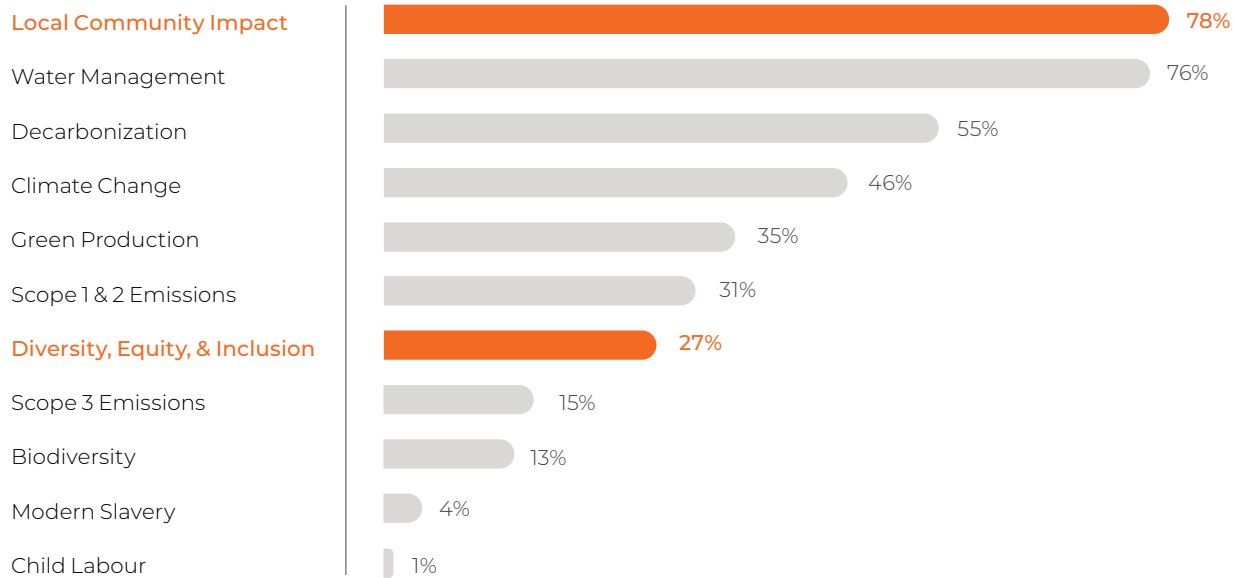
Trade's Capacity Mapping™ service addresses these long-standing challenges, empowering companies to build strong relationships with regional stakeholders and lower operating costs by engaging the local workforce. Harnessing community capacities is vital to mitigating social and operational risks while discovering growth opportunities in remote regions.

2.0 Introduction – The Essential Transition to a Capacity-Based Approach

The World Economic Forum (WEF) Global Risks Perception Survey 2022–2023 identified “erosion of social cohesion and societal polarization” and “natural resource crises” as two of the top ten most severe global risks facing business over the next two years. The link between these environmental, social, and economic issues has been termed a “natural resource polycrisis”.

For decades the natural resource industry has implemented a needs-based approach to social assessments in operations, whereby the company assesses the community according to an identification of their needs. However, looming

environmental and societal pressures are causing the industry to undergo a critical transformation. It has been observed, “the economic and social outcomes of mining development can be enhanced by positioning the local communities central to development activities. Conventional approaches have failed to respond to the needs of the community without this involvement in decision making.” (Erzurumlu, 2015). Companies who wish to thrive in this new landscape must embrace a holistic approach that acknowledges needs while centering social and human capital, in other words, they must adopt a capacity-based approach.



Source: EY | Knowledge analysis of the business risks and opportunities survey 2023



“Businesses must find a way to recognize & tap into the potential of under-developed regions.”

Historically, businesses have found it challenging to engage local peoples in their activities due to uncertainties surrounding their qualifications, education, or technical skills. However, neglecting the local population often worsens the situation. Conflict determinants reflecting the need for capacity-focused solutions include investment in socially or environmentally sensitive regions, anti-mining sentiment, misalignment on the use of resources, the introduction of a formal economy alongside mining, and short-sighted decisions in addressing obstacles.

As governments, regulatory bodies, investors, and stakeholders all converge on the importance of ESG factors, businesses must find a way to recognize and tap into the potential of under-developed regions.

Top 10 business risks and opportunities for mining & metals in 2023

01

ESG

02

Geopolitics

03

Climate Change

04

License to Operate

05

Costs & Productivity

06

Supply Chain Disruption

07

Workforce

08

Capital

09

Digital & Innovation

10

New Business Models

Source: EY | Top 10 business risks and opportunities for mining and metals in 2023

3.0 Current Challenges Facing Companies



Obtaining Social Approval & Land Access Permits



Meeting Government & Regulatory Requirements



Lack of skilled labour and high cost of recruitment for remote operations



Navigating Relationships with Local & Indigenous Communities



Harnessing Traditional & Local Knowledge



Compliance with Local, Regional & International Standards



Preventing Social & Operational Risks



Absence of Infrastructure



Managing Community Expectations



Differentiating Responsibility of the Company from Responsibility of the State

4.0 Capacity Mapping™ – The Material Value of Inclusion and Participation

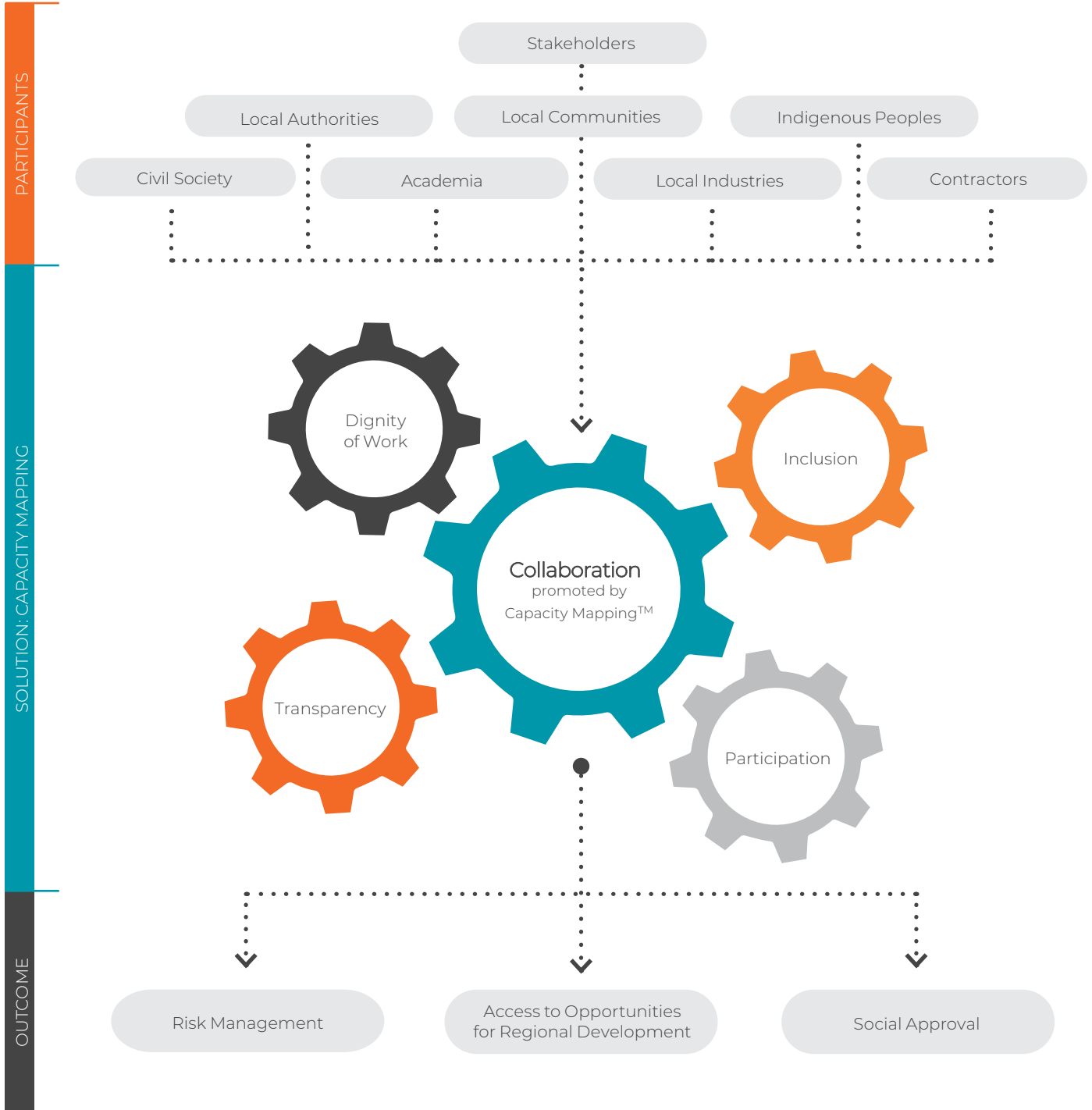


Over 20 years of observation, research, and fieldwork, O Trade has developed a process to address the socio-economic inclusion of communities. Capacity Mapping™ is a methodology that uniquely assesses the demands of natural resource initiatives and the potential of the people who live in the affected region. A capacity-based approach facilitates better overall communication and allows for acts of respect. Pairing companies with communities based on capacity maximizes the utility of the region and enables locals to become contributors at all phases in the mineral cycle. This holistic approach acknowledges the needs of the community while centering social and human capital.

Capacity Mapping™ encourages companies to assess factual opportunities and explore social multiplier effects, pushing demand in other local industries and avoiding promises they cannot keep. Companies can help community members raise their capabilities and fill the gaps. When mapping capacities, active community participation prevents resentment—the jobs that can be done by local people are understood and demand over the lifetime of the project can be forecasted.

By leveraging social inclusion, participation, and transparency companies can prepare communities prior to operations, building towards operational readiness by facilitating a conflict-free environment. As trust solidifies, the community may feel more invested in the project and inclined to grant social approval in the permitting process. Meanwhile, communities benefit from the guarantee their rights are recognized, opportunities for dignified work, economic influx, and a balanced relationship with the companies in their region. Capacity Mapping™ communicates a company's recognition of the value of individuals: their ability to learn, work, and excel.




Unlocking Hidden Opportunities: Capacity Mapping™ for Inclusive Workforce Development



5.0 Methodology – How Capacity Mapping Works



The Process Follows a Three-Stage Approach

		
<p>Assessment</p>	<p>Design & Implementation</p>	<p>Measurement & Monitoring</p>
<p>The assessment stage examines the socio-economic landscape, including demographics, regional economic activities, traditional practices, culture, and the history of regional development. Then discovers the requirements of the company and the capacities of the prospective community. Applying a capacity-focused lens, the information collected from delving into these dimensions helps identify the gaps and opportunities present. O Trade’s approach reframes gaps as spaces for collaboration and emphasizes opportunities ahead.</p>	<p>The design and implementation stage pertains to the co-creation of solutions which reflect opportunities for both the company and the community. O Trade’s expertise in customizing socio-economic solutions guides the process and provides a framework for maximizing outcomes through collaboration with local stakeholders, governments, and authorities.</p>	<p>The measuring and monitoring stage involves obtaining information about the engagement process at each phase of the project. The data collected at this stage assists companies in reporting to communities, governments, regulatory authorities, and multilateral banks, facilitating compliance with international standards like the IFC Performance Standards or EBRD Performance Requirements.</p>

6.0 Solution Details – Assessment



Capacity Mapping™ Analyzes a Region's Capacity Via Three Dimensions:

		
Skills	Demand	Infrastructure
<ul style="list-style-type: none"> • How can we recognize human capital? • What can people reasonably do or be taught in a community? • What can people in a community reasonably be expected to want given cultural identities? 	<ul style="list-style-type: none"> • What does the company require to operate in the region? • How much time is allotted to build community skills? • What is the project closure plan? • What are the conditions of the Impact Benefit Agreement (IBA) or Land Access Agreement (LAA)? 	<ul style="list-style-type: none"> • What facilities exist that enable local production and mobilization of goods or services? • What are the opportunities for social development? • What are the company's and the community's responsibilities for social planning?

Research into local demographics, socioeconomic, and operational productivity is followed by targeted stakeholder engagement to identify ground-level capabilities and opportunities for capacity development based on the lifetime

of the project. The outcome and analysis are based on hard data the company can use to create opportunities for employment by working with governments, civil society, and communities.

7.0 Solution Details – Design & Implementation

Transforming the Assessment Into Action

Following the assessment of skills, demand, and infrastructure capacities, O Trade's Capacity Mapping™ reconciles these three dimensions in a timeline projection to explore all possible options for the inclusion of the local workforce via direct or indirect employment as part of local supply chains

sourced through local procurement. Options are analyzed and identified as a good or poor fit. If an option is a good fit, the community and the company may come together to build something neither of them could alone.



Solution Details – Measurement & Monitoring

Evaluating The Efficacy of the Project

The final stage involves establishing mechanisms to measure and monitor community engagements throughout the duration of the project. Data collection informs company reporting to governments, regulatory authorities, and multilateral banks, as well as enables compliance with international standards, such as International Finance

Corporation (IFC) Performance Standards or European Bank for Reconstruction and Development (EBRD) Performance Requirements. Monitoring protocols ensure that the potential of the community is reconciled with the requirements of the company.

8.0 Business Benefits of Capacity Mapping™ Design & Implementation



“Shifting to a capacity-focused approach reveals untapped possibilities”

Capacity Mapping™ empowers companies with a pragmatic approach to planning local engagement processes while centering the values of inclusion, participation, and transparency. By recognizing the existing potential of a region, businesses can secure a competitive advantage and position their teams to maintain the social license to operate. Shifting to a capacity-focused approach reveals untapped possibilities, expanding what’s possible without increasing overhead. The methodology uniquely addresses several modern challenges facing the natural resource industry, affording the following benefits:

- Demonstrates commitment to inclusion of local and Indigenous communities
- Supports the process to obtain social approval
- Facilitates honest and informed conversations with communities
- Leverages transparency when managing community expectations
- Reduces the cost of labour in remote regions
- Deescalates conflicts and mitigates social risks
- Provides dignified employment for the local workforce
- Maximizes utility of existing resources
- Communicates role of company as a catalyst rather than a donor
- Futureproofs company by improving business agility and resilience
- Enables compliance with international corporate performance standards
- Harnesses ESG opportunities

9.0 Case Studies



Aurania Resources Ltd., Morona, Santiago

O Trade was hired by Aurania Resources Ltd. to secure land access, gain social approval, and navigate inclusion of local and Indigenous communities for an upcoming mineral exploration project to be conducted across the ancestral land of the Shuar peoples. Capacity Mapping™ allowed O Trade to work with the isolated communities in Shuar villages to identify

opportunities for economic inclusion. One solution was to organize small warehouses and train local women on how to keep inventories, maintain equipment, and organize supplies for expeditions. Overall, the company created 1,300 short-term job opportunities, benefiting over 800 Shuar families, and successfully negotiated over 150 land access agreements.

Petróleos Mexicanos (PEMEX), Veracruz, Mexico

During offshore exploration in the Gulf of Mexico, PEMEX hired O Trade to complete social impact assessments and develop a social investment plan that would enable them to secure operational permits. Under normal conditions, the Totonac Indigenous peoples would be disqualified from direct employment due to a lack of technical skills in offshore mineral exploration. However, the Capacity Mapping™

method identified their best competencies and leveraged their ancestral knowledge of traditional vanilla production to create over 800 jobs for the Totonac peoples. Pemex's commitment to social inclusion mitigated potential conflicts and resulted in approval for operational permits by the Mexican Secretariat

Government of Alberta, Alberta, Canada

O Trade worked with the Government of Alberta to create opportunities for small businesses and expand the workforce in the regional energy industry. Capacity Mapping™ allowed O Trade to identify metal fabrication as a strategic sector to maximize local competencies. By implementing the Local

Community Procurement Program (LCPP), over 500 people received training as metal fabricator suppliers, enabling them to access their local supply chains and build regional efficiencies.

10.0 Conclusion



Capacity Mapping™ paves a way for companies to utilize a holistic, capacity-focused approach that centers social and human capital. The capacity mindset is one of respect and inclusion—we see value in each individual and all community members can be an active part in shaping the future around progress, for themselves, their families, and their whole region. O Trade presents Capacity Mapping™ as an expedited path that fosters opportunities rooted in core values like the dignity of work, validates local knowledge, and streamlines processes for community inclusion.

The methodology is designed for easy and practical use, enabling the capacities of the company and community to be matched prior to or during operations. Capacity Mapping™ facilitates inclusion and participation, preparing companies for negotiation with communities who are familiar with their offer, limitations, and timeline. Demonstrating acts of respect supports a conflict-free environment in which the company and community collectively value each other’s contributions to development. Not only does the community benefit from education, careers, and infrastructure, but companies can garner social approval, mitigating potential operational risks. Planning together opens the door to unprecedented collaboration.

11.0 References

- Black, N. & Sandström, J. (2021, May 25). 7 insights to help the mining industry prepare its workforce for the future. *World Economic Forum*. <https://www.weforum.org/agenda/2021/05/7-insights-mining-industry-prepare-workforce-future>
- Chartrand, A.L. (2014). *Impact Benefits Agreements* [Seminar]. Indigenous Leadership Development Institute Inc., Manitoba, Canada. <https://www.edo.ca/downloads/impact-benefit-agreements-2.pdf>
- Cook, N., Sarver, E. & Krometis, L.A. (2015). Putting Corporate Social Responsibility to Work in Mining Communities: Exploring Community Needs for Central Appalachian Wastewater Treatment. *Resources*, 4(2), 185–202. <https://doi.org/10.3390/resources4020185>
- Davis, R. & Franks, D. M. (2011). *The costs of conflict with local communities in the extractive industry*. First International Seminar on Social Responsibility in Mining. Chapter 6. <https://www.globalbusinessandhumanrights.com/uploads/file/Costs%20of%20Conflict.pdf>
- Erzurumlu, S. S. & Erzurumlu, Y. O. (2015). Sustainable mining development with community using design thinking and multi-criteria decision analysis. *Resources Policy*, 46(1), 6–14. <https://doi.org/10.1016/j.resourpol.2014.10.001>
- Fraser, J., Bat-Erdene Z. & Kunz, N. (2020). *Starting local: Creating value from mining in rural communities* [Research Report]. The University of British Columbia, Vancouver, Canada. https://sppga.ubc.ca/wp-content/uploads/sites/5/2020/10/20200916_UBC_Starting-Local_Report_ENG.pdf
- Geipel, J. (2017). Local procurement in mining: A central component of tackling the resource curse. *The Extractive Industries and Society*, 4(3), 434–438. <https://doi.org/10.1016/j.exis.2017.07.001>
- Grice, T. (2018). *Local Content Policies: Stimulating direct local employment*. The International Institute for Sustainable Development. <https://www.iisd.org/system/files/publications/local-content-policies-mining-direct-local-employment.pdf>
- International Labour Office. (2010). *A Skilled Workforce for Strong, Sustainable and Balanced Growth*. <https://www.oecd.org/g20/summits/toronto/G20-Skills-Strategy.pdf>
- KPMG. (2021). 2021 *Global Mining Risk Survey Report: Risks and Opportunities for Mining*. <https://kpmg.com/xx/en/home/insights/2021/02/risks-and-opportunities-for-mining.html>
- McKnight, J. L. & Kretzmann J. P. (1996). *Mapping Community Capacity*. Institute for Policy Research. <https://resources.depaul.edu/abcd-institute/publications/publications-by-topic/Documents/MappingCapacity.pdf?msclid=e77ca7f4c32711ecace6fcdc6e498c88>
- Mitchell, P. (2022). *Top 10 business risks and opportunities for mining and metals in 2023*. EY. https://www.ey.com/en_gl/mining-metals/risks-opportunities
- Munnings, A. (2018, September 12). *Impact Benefit Agreements* [PowerPoint slides]. NALMA National Gathering, British Columbia, Canada. https://nalma.ca/wp-content/uploads/2016/01/ImpactBenefitAgreements_AdamMunnings.pdf
- Nickerson, E., Geipel, J. & James, H. (2017). *Local Procurement Strategies of Mining Companies and their Regulatory Environments*. Canadian International Resources and Development Institute. <https://static1.squarespace.com/static/60a5714c0fd0954ac36a6129/t/615370d-d8a132a64b3344d10/1632858361949/MSV-EWB-CIR-DI-Local-Procurement-Regulation-SA-Namibia-Feb-2017.pdf>
- Nickerson, E. & Geipel J. (2019). *Local Content Policies in the Mining Sector: Scaling up local procurement*. International Institute for Sustainable Development. <https://www.iisd.org/system/files/publications/local-content-policies-mining.pdf>
- Poxleitner, G. (2016). Operating Costs for Miners [PowerPoint slides]. SRK Consulting Inc., Canada. https://dxi97tvbmbh-ca.cloudfront.net/upload/user/image/GPoxleitnerOperatingCostEstimationForMiners_201620191128185443446.pdf
- PWC. (2022). *ESG Value Creation Journey*. <https://www.pwc.com/id/en/esg/esg-capability-statement.pdf>
- Ramdoos, I. (2017). Local content policies in the mining sector: Lessons, challenges and new tools [PowerPoint slides]. African Minerals Development Centre. <https://www.igfmining.org/wp-content/uploads/2018/09/Session-14-Local-content-policies-in-the-mining-sector-by-Isabelle-Ramdoos.pdf>
- Ramdoos, I. (2021) Can new mining technologies strengthen community resilience? *Intergovernmental Forum*. <https://www.igfmining.org/new-mining-technologies-community-resilience/>
- Scales, M. (2018, August 1). Getting a handle on remote mine costs. *Canadian Mining Journal*. <https://www.canadian-miningjournal.com/featured-article/getting-a-handle-on-remote-mine-costs/>
- Sievert, C. & Butler, A. (2017, January 30). Community Engagement in Mining: Sharing Experiences and Best Practices. *Centre for International Policy Studies*. <https://www.cips-cepi.ca/2017/01/30/community-engagement-in-mining-sharing-experiences-and-best-practices/>
- The World Bank. (2021, July 21). *Skills Development*. <https://www.worldbank.org/en/topic/skillsdevelopment>
- United Nations. (2018). *World Youth Report: Youth and the 2030 agenda for sustainable development*. <https://www.un.org/development/desa/youth/wp-content/uploads/sites/21/2018/12/WorldYouthReport-2030Agenda.pdf>
- Verougstraete, M. (2016, March 24). Building capacity for public-private partnerships. *World Bank Blogs*. <https://blogs.worldbank.org/ppps/building-capacity-public-private-partnerships>
- World Economic Forum. (2022). *The Global Risks Report 2022*. https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2022.pdf




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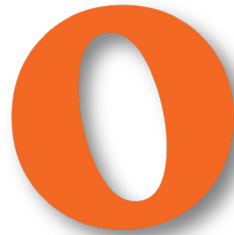


Contact Us

O Trade is a socio-economic development firm with over twenty years of expertise in designing and implementing strategic ESG solutions to assist the private sector in partnering with local stakeholders.

Contact us at info@otrade.ca or +1 647 201 3161 to discuss how Capacity Mapping™ can support your business endeavors.





O Trade

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