

The Power of Indigenous Peoples in Decision-Making Processes of Mining Projects: The Pilbara Region

K. N. Penna, J. P. English

Abstract—The destruction of the Juukan Gorge rock shelters in 2020 has catalysed impetus within Australian society for a significant change in engagement with Indigenous Peoples, and the approach to Indigenous cultural heritage, both within the Pilbara region and more broadly across Australia. Culture-based and people-centred approaches are inherent to inclusive sustainable development and Free, Prior, Informed Consent, outcomes encouraged by international and local recommendations on the human rights and cultural heritage preservation of Indigenous peoples. In this paper, we present an interpretive model of an evolved process for mining project development, incorporating culture-based and people-centred approaches, based on the Theory U system change method. The evolved process advocates a change in organisational mindset and culture, and a comprehensive understanding of Indigenous Peoples' culture and values, as the foundations for increasing their influence and achieving mutually beneficial developments.

Keywords—Indigenous Engagement, mining industry, culture-based approach, people-centred approach, Theory U.

I. INTRODUCTION

THE mining industry is evolving to improve relationships with Indigenous Peoples, based on respect, meaningful engagement and mutually benefit outcomes [1]. To achieve this, best practice advocates the principle of Free, Prior, Informed Consent (FPIC), and inclusive sustainable development. FPIC is a principle of international human rights standards that enables Indigenous Peoples to self-determine an acceptable balance between the preservation of their cultural heritage, social values and traditional practices, and the impacts and benefits of developments [2], [3]. Inclusive sustainable development ensures stakeholders affected by a development contribute to creating opportunities, share the benefits and participate in decision-making and governance [4]. Inclusive sustainable development aims to more equitably distribute the benefits of economic growth, while respecting traditional communities' culture and cultural landscape values, promoting a people-centred economy that improves the wellbeing and quality of life of local people [5], [6].

A culture-based approach promotes the development of policies, actions and strategies based upon the cultural landscape values (aesthetic, environmental, social, cultural, spiritual and economic) of a community. A people-centred

approach advocates the empowerment of local communities to participate meaningfully in decisions making and governance [7].

In this paper, we present an interpretive model of the existing process of planning, engagement and implementation of mining projects, and an evolved process incorporating culture-based and people-centred approaches. The model associates industry best practices with the Theory U change management framework [8], that emphasizes mindset as the key to achieving meaningful system change. The evolved process advocates an organisational mindset of trust, respect and partnership, and a deep understanding of Indigenous Peoples' culture and values, as the foundations for achieving mutually beneficial developments.

II. METHODOLOGY

The paper is based on two methodologies - naturalistic inquiry and critical autoethnography - and two analytical methods - critical reflectivity and interpretive analysis. Data were gathered through engagement with Indigenous People located in the Pilbara region, and review of relevant publications and legislation.

A. Naturalistic Inquiry and Critical Autoethnography

The paper provides a cultural analysis of the engagement process with Indigenous People located in the Pilbara region, based on the authors' observations and interpretation of behaviours and actions of social groups during recent engagements, and review of relevant publications and legislation. Naturalistic enquiry entails the researchers immersing themselves in the studied social and cultural environment and observing and interpreting the experiences and actions of people and social groups [9]. Naturalistic inquiries differ from conventional inquiries [10], as illustrated by three main characteristics: (i) the study design is dynamic and emergent, evolving according to the ongoing integrated data gathering and interpretation processes [11]; (ii) the dynamic design leads to the emergence of additional data as the study evolves; and (iii) the inquiries are reported as case studies, providing a rich description of the multiple aspects of the context [12].

Autoethnography is linked with naturalist inquiry through

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the authors' experience and personal perspective of the researched subject. Autoethnographers utilise the perspective of their lived experiences to critically analyse social-cultural issues [13]. Critical theory was associated with autoethnography during this study to provide a performance and movement-driven framework, theorising in an ongoing process of thinking and acting [14].

B. Critical Reflectivity and Interpretive Analysis

Critical reflectivity was the practice adopted for achieving the interpretive analysis. Critically reflective practice, best defined as "equivalent to being thoughtful about choices, decision and actions as practitioners" [15], is a vital element of identifying, questioning and assessing assumptions and existing scenarios. A critically reflective practitioner uses critical theory to inform their understanding of both organisational and community power dynamics, and how dominant ideologies shape their own behaviours. The critical reflectivity led to the interpretive analysis presented in Section IV of this paper. Interpretive analysis generates a rich and holistic description of a social environment based on the perspective of involved participants and/or researchers [16].

III. THEORETICAL FRAMEWORK

This analysis was conducted with consideration of the United Nations Declaration on the Rights of Indigenous People [2], that advocates four key principles: (i) self-determination; (ii) participation in decision making; (iii) respect for and protection of culture; (iv) equality and non-discrimination [17].

A culture-based approach promotes the development of policies, actions and strategies based upon the cultural landscape values of a community. A culture-based approach recognises cultural landscape values (aesthetic, environmental, social, cultural, spiritual and economic) are interrelated and inseparable. Cultural landscape values constitute living heritage where culture, nature and communities connect in a physical and spiritual way.

A people-centred approach advocates the empowerment of local communities to participate meaningfully in decisions making and governance. A people-centred approach recognises a community 'living' connection and use of significant places (cultural, environmental) as integral to their conservation and management [18].

Theory U provides an awareness-based framework and method for system change [8]. Key to successful change in this model is an open mindset of curiosity, courage and compassion in the persons who are collectively creating the change [19]. The Theory U method was considered particularly appropriate for this application, given its advocacy that system change should achieve more equitable outcomes. The Theory U method comprises five stages, associated with the framework of seven key mental and behavioural processes [8], as summarised in Table I, and illustrated in Fig. 1.

The decision to elevate the engagement with Indigenous Peoples to a more effective level requires a strong connection to people and their culture ('seeing'). The adoption of soft practices, such as active listening, compassionate engagement

and responsive learning can allow high level of sensibility to "sense" the current reality from the Indigenous Peoples' perspective and connect to the source of innovative ideas ('presencing') to shape joint solutions ('crystallizing') that more equitably meet the needs of communities. Working in collaboration in a sensitive way is at the heart of the Theory U - co-sensing and then co-shaping a better future [20].

TABLE I
 THEORY U METHOD AND FRAMEWORK FOR SYSTEM CHANGE [8]

Method stages	Framework - Mental and behavioural process
1. Co-initiating – establish shared intention among stakeholders and the team creating the change.	'Downloading' - the past patterns of thought and actions that have created the current reality. 'Seeing' – suspending judgement and reflecting on societies systems, relationships and behaviours (the 'social field') that have created the current reality that requires change.
2. Co-sensing – further develop understanding through immersion and engagement.	'Sensing' – redirecting focus to the interior condition from which thought and behaviour originate (the 'source') and recognizing the nature of the 'source' is a key influence on the nature of the 'social field' and any system change.
3. Co-presencing - generate innovative ideas.	'Presencing' – letting go of the past, establish deep connectivity with the sources of creativity to generate innovative ideas.
4. Co-creating – prototyping to learn by doing.	'Crystallizing' – collectively refining and determining the ideas to carry forward. 'Prototyping' – evolution of ideas via rapid iterations of enacting prototypes and generating stakeholder feedback.
5. Co-shaping – embodying and institutionalizing the new system.	'Performing' – implementing and scaling up the refined prototype, embedding feedback mechanisms.

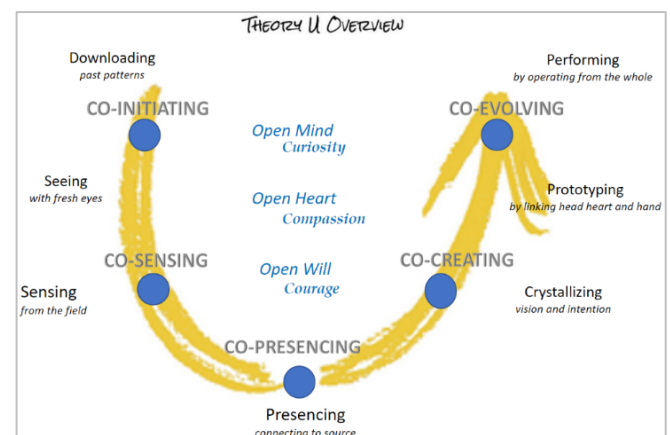


Fig. 1 Diagram of Theory U process [8]

IV. COMMUNITY ENGAGEMENT

Community engagement is the process whereby the public contributes to decision-making processes and can be characterised by 5 levels of public participation and influence (Table II) [21].

V. STUDY CASE ANALYSIS: MINING INDUSTRY AND ITS ENGAGEMENT WITH TRADITIONAL COMMUNITIES IN THE

PILBARA REGION

A. The Pilbara Region

The Pilbara is a large (507,896 km²) region in the north of Western Australia (Fig. 2), with an arid climate, high biodiversity values, and sparse population [22], [23].

The Pilbara hosts the world's largest iron ore resource base, and the associated iron ore industry is a major contributor to the Australian economy, with 2019 exports accounting for more than \$97bn in revenue [24]. The Pilbara is the traditional lands of multiple Indigenous Peoples, with approximately 31 language groups [25]. 19 native title claims have been determined to date in the Pilbara region under the Commonwealth *Native Title Act 1993* [26], and many Indigenous land use agreements (ILUAs) under this Act are in place between Indigenous groups and mining companies [27].

Following the destruction of the Juukan Gorge rock shelters in May 2020 by Rio Tinto, there is broad recognition across industry, government, Indigenous Peoples and Australian society that significant improvement is required in heritage

protection laws, land use agreements and implementation, industry accountability and capability regarding cultural heritage, and the ongoing engagement with Indigenous Peoples [24], [28]-[30].

TABLE II
 LEVELS OF COMMUNITY ENGAGEMENT [21]

Public participation level	Public participation goal
Inform	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions
Consult	To obtain public feedback on analysis, alternatives or decisions.
Involve	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.
Collaborate	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.
Empower	To place final decision making in the hands of the public.

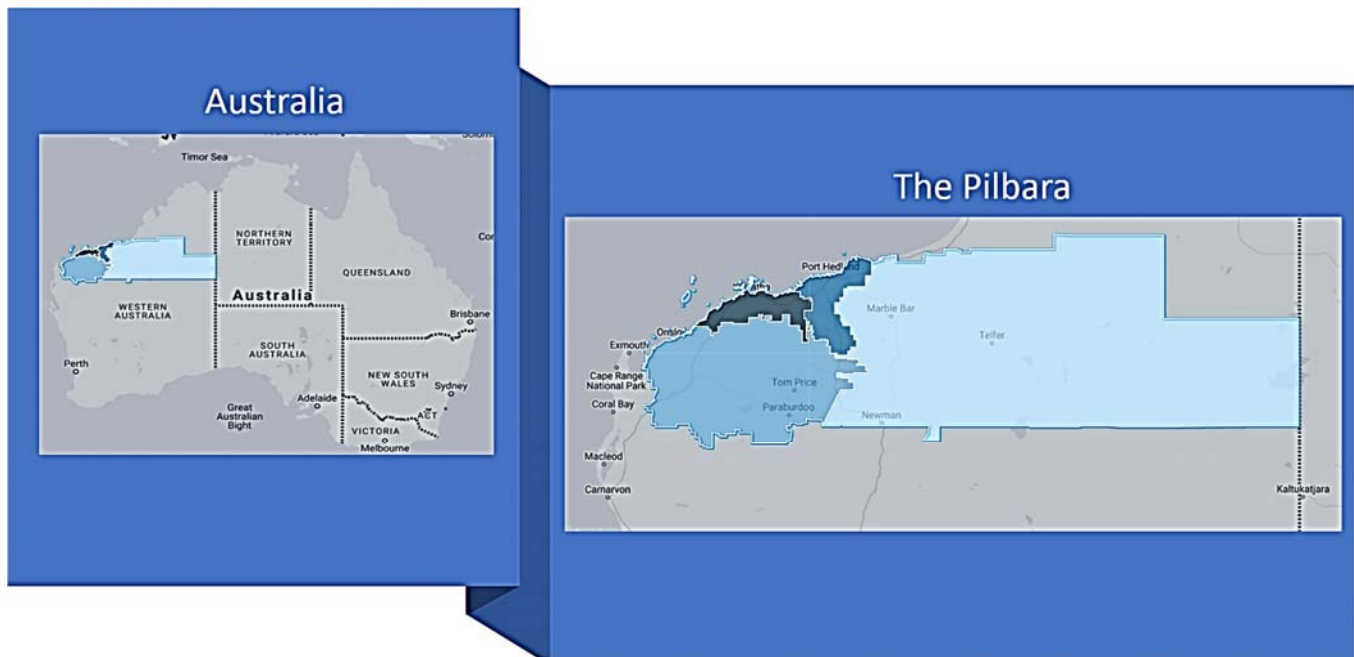


Fig. 2 Map of Australia and The Pilbara Region [31]

B. System Framework Overview

The interpretive analysis provided in this paper adopts a holistic form of system analysis. The systems perspective considers that the current processes of engagement, decision-making and implementation of mining projects in Western Australia are framed and constrained predominantly by the regulatory regime.

Native title and protection of cultural heritage and the environment in Western Australia are regulated by both State and Commonwealth legislation [32]. Consultation with stakeholders regarding significant new mining projects is required through the regulatory regime, and there is an expectation that the industry will successfully negotiate

agreement with Indigenous Peoples [24], [28]. However, the legislation does provide for the government to make the final decision on whether a project proceeds, with consideration of broader economic and social issues. Hence negotiation is undertaken with the context that while Indigenous Peoples can significantly influence mining developments, particularly in the current socio-political climate, they do not ultimately have the right to fully veto projects as advocated by the principle of FPIC.

C. Indigenous People Engagement/Planning Process

Although many good practices for community engagement are currently implemented by the mining industry in the Pilbara,

there is broad recognition that engagement with Indigenous Peoples needs to be improved [33], [34]. Prior to the Juukan incident in 2020, in the authors view industry engagement was generally at the levels of ‘Consult’ - ‘Involve’, with some leading practice examples of ‘Collaborate’. Since 2020, strong socio-political expectations are for industry to increase participation and influence by Indigenous Peoples and arguably achieve ‘Collaborate’ as the standard level of engagement, as reflected in recent industry commitments and trends in practice. Continued progression towards increased Indigenous Peoples participation and influence will require a supportive mindset at both a corporate and individual level, and integration into the organisations values, policies and systems.

D. The Interpretive Model

An interpretive model was developed of the process of

mining project development, from planning to implementation (Fig. 3). The upper half of the model represents the typical process of project development prior to 2020 (termed ‘existing’ process in this study). The lower half represents an evolved process based on the Theory U system change method, incorporating culture-based and people-centred approaches. The evolved process is based on a change in organisational mindset, deep connection and understanding of Indigenous Peoples and their culture, and meaningful collaboration with the community in project planning and implementation. Industry has recognised the need for change [35], [28] and engagement practice is rapidly evolving but will require further development to reach the evolved process.

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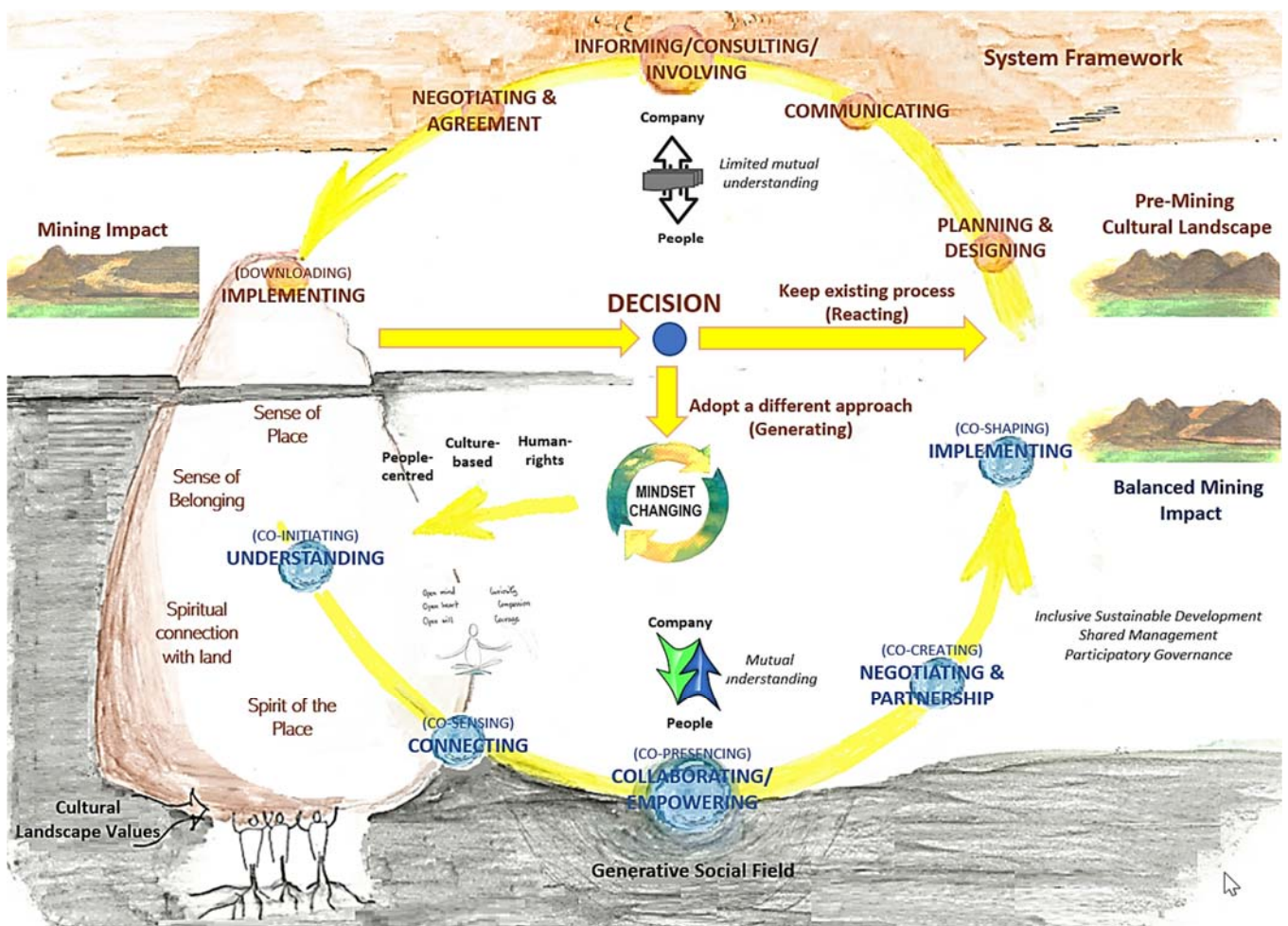


Fig. 3 Interpretive Model of Mining Project Development Process based on Theory U

1. Existing Engagement, Design and Project Implementation Process

a) Planning & Designing

Companies design an initial project base case with a focus on optimising financial value, balanced by social, cultural heritage and environmental considerations, and an acceptable risk

profile. The extent of modifications to the initial base case for non-financial values and risk will be influenced by the company values, policies and standards, the regulatory regime and commitments/agreements with other parties such as ILUAs. The base case will typically be considered by the company as ‘approvable’ under the regulatory regime, based on published guidance from regulators, experience/precedents of previous

developments, and feedback from preliminary stakeholder consultation. Generally, major mining projects are likely to receive regulatory approval, but will often require some further modifications and commitments from the initial base case based on feedback from the community and regulatory stakeholders.

b) Communicating

Companies provide information to the Indigenous communities in various forms about what the proposed mining project involves. This may include written, visual and verbal information. The information may be specifically developed for provision to Indigenous communities or may be information generated to support other processes such as feasibility studies, and regulatory approvals. Existing agreements with Indigenous Peoples (such as ILUAs) may also have clauses requiring information to be provided. The suite of information that can be provided is extensive and can be technical, so may be overwhelming in volume and not easily understood.

Communication of information to the Indigenous community regarding a potential mining project will progressively ramp up as the project progresses through the phases of exploration, feasibility studies, land access agreements and regulatory approvals. The submission of Environmental Impact Assessment (EIA) documentation under environmental legislation, typically during the latter stages of feasibility studies, is a key milestone in terms of the public release of information regarding a proposed project, requiring the presentation of a relatively detailed base case project. Some additional options for components of the project may also be presented upfront to external stakeholders (this may be in the context of justifying the selection of the base case) or as stakeholder engagement progresses.

c) Consulting/Involving

Representatives from the company seek feedback on the proposed project from the Indigenous community, over multiple engagements. We consider engagement in the Pilbara to be generally at the levels of 'Consult' - 'Involve', with some leading practice examples of 'Collaborate' (Table I, [21]). The quality of engagement is highly dependent on effective two-way communication of information so mutual understanding is developed; however, this is not being consistently achieved. There are many barriers/filters that can impede effective communication and developing mutual understanding, such as cultural differences, cultural awareness of company personnel, negative legacies and perceptions, the level of trust and respect, information quality, agreement clauses, and company timeline pressures [1], [34], [29].

d) Negotiating & Agreement

As engagement and understanding for both parties develop, negotiation will commence over various aspects of the proposed project (and land access agreement if not already in place). The proposed project may be modified based on feedback from the Indigenous community. A power imbalance during negotiations favouring the mining company is generally recognised [1], [29]. While achieving FPIC of Indigenous Peoples is advocated as best practice by industry and

government, and Indigenous Peoples may be supportive of the project, negotiation is nonetheless undertaken with the context the regulatory regime provides for the government to make the final decision on whether a project proceeds [29].

The outcome of the negotiation is typically an agreement for a project to proceed (a project-specific agreement may be subject to an existing or new overarching land access agreement). Indigenous Peoples have a spectrum of views regarding the adequacy of current agreements; however, older agreements are often viewed negatively, and in some instances are acknowledged by industry as warranting review and modernisation [29], [35].

e) Implementing

Project implementation proceeds through construction, operation and eventual closure. There is broad recognition across industry, government, Indigenous Peoples and Australian society that significant improvement is required in land use agreements and implementation, industry accountability and capability regarding cultural heritage, heritage protection laws, and the ongoing engagement with Indigenous Peoples [24], [29]-[30].

2. Decision

In the authors view, the 'existing' project development process is largely reactive to the current system (predominantly the regulatory regime). From our perspective, significant improvement in the project development process and relationships with Indigenous Peoples will require a decision by mining companies to change organisational mindset and culture. Theory U emphasizes that the quality of results achieved by any system change is dependent on the mindset of the people creating and then enacting the changed system [8]. The importance of company mindset in ensuring mutually beneficial engagement and outcomes with Indigenous Peoples is recognised in industry best practice [1]. A company mindset of trust, respect and partnership will create the foundation to generate an evolved project development process (lower half of Fig. 3). Integral to the decision to change mindset is an acceptance that the more balanced project outcome of an evolved process will likely require more time, and/or impact project financial value.

3. Evolved Process

The proposed evolved process incorporates culture-based and people-centred approaches, including: a deep connection and understanding of the Indigenous Peoples and their culture, shared intention, meaningful engagement, good faith negotiation, shared governance, and capacity building, to achieve mutually beneficial developments. While the evolved process is framed in this paper in the context of a new mining project development, the process could also be applied to an existing mining operation.

a) Understanding (Co-initiating)

Objective: Establish a shared intention to evolve the relationship and process for a mining project development and initiate a plan and team to implement.

The evolved company mindset of respect and partnership provides the foundation to develop a shared intention with the Indigenous community to evolve the relationship and process for mining project developments ('seeing'). This shared intention recognises the company and local communities will need to work together to (i) develop a deep understanding of the community and their cultural landscape values; (ii) reflect on current company/industry practices to identify practices that require improvement or redesign; (iii) understand the positive and negative impacts of the mining project and work together to achieve mutually acceptable and beneficial outcomes.

The company and the Indigenous community co-develop a plan for an evolved process for the mining project development. This will include senior leader sponsors, and the project team, from both the company and the Indigenous community. Additional funding, resourcing, engagement forums and time will likely be required compared to the 'existing' process. The plan must respect and provide sufficient time for the decision-making process of the Indigenous community and may need to allow for capacity building and support for the Indigenous representatives [1]. Company representatives on the project team will need to be trained in cultural awareness and cultural sensitivity (with an appropriate level of cross-cultural training provided to all company employees).

A core Indigenous relations team from the company is required to develop a trusting relationship with the Indigenous People. This team will be critical to reaching agreement with the Indigenous community to implement a mining project, but also to ensure the success of the operational and closure stages. The permanency of this team is important to ensure long-term, trusting relationships are maintained throughout the mining companies' presence on their traditional lands (e.g., exploration to closure).

b) Connecting (Co-sensing)

Objective: Develop a comprehensive shared understanding of the project, Indigenous cultural landscape values, project impacts (positive and negative) and risks.

During this stage, the company representatives establish (or further develop) a trusting relationship with the local community, and a deep understanding of their community and cultural landscape values, through immersion and sustained engagement ('seeing'/'sensing'). This may already be in place for existing company Indigenous relations personnel, who can then facilitate the relationship building for other project personnel. Understanding will need to be further developed with the context of a specific mining project development, and the impacts (positive and negative) on the Indigenous community, including their cultural landscape values.

Cultural landscape values constitute living heritage where culture, nature and communities connect and interact in a physical and spiritual way. Some key aspects of cultural landscape values that are particularly relevant to Indigenous Peoples include:

- 'Sense of place' is a feeling of emotional or spiritual attachment to a specific geographic place.
- 'Sense of belonging' is an emotional attachment of an

individual to a place or to a specific social group. Sense of belonging is important to secure the physical, emotional and political locus of an individual within society [36].

- 'Spirit of a place' is the whole naturalistic setting of a social group. The spirit of place is made up of tangible elements (sites, buildings, landscapes, routes, objects), and intangible elements such as memories, narratives, written documents, festivals, commemorations, rituals, traditional knowledge and values as described in the Quebec Declaration about the Spirit of the Place [37].

The company facilitates the Indigenous project representatives, and the broader Indigenous community, developing a comprehensive understanding of the mining project and associated impacts and risks. Identification of impacts and risks will be iterative based on feedback from the Indigenous community.

Barriers and filters to effective communication must be addressed to ensure mutual understanding. Information provided to the Indigenous community must be accessible, digestible and relevant [1], and in agreed formats and forums. The Indigenous relations personnel can facilitate a constructive environment during these engagements and understanding of communications by both parties. Engagement of independent expert advice to assist community understanding and confidence may be warranted.

c) Collaboration/Empowering (Co-presencing)

Objective: Collectively generate innovative ideas to optimise the mining project for mutual benefit.

The mutual understanding of both parties provides the basis to collectively develop innovative ideas for improvement opportunities and impact mitigation, through deep connectivity with the sources of creativity ('presencing'). The trusting relationship, an open mindset, and a constructive environment in engagement forums are particularly critical to enable this creativity and innovation. This generation of innovative ideas will overlap with the subsequent co-creating stage as ideas are iteratively refined and new ideas emerge.

The level of engagement throughout the evolved process should be at least 'Collaborate', with co-development of options for impact mitigation and opportunities, and joint decisions on preferred solutions. For some project aspects it may be mutually agreed that the final decision is made by the Indigenous Peoples (e.g. 'Empower').

d) Negotiating/Partnership (Co-creating)

Objective: Refine and agree on the form of the mining project and associated commitments, complete good faith negotiation

The company and indigenous community work through various ideas and options to optimise the project for mutual benefit ('crystallizing'). Some project aspects may be easily agreed, whereas others may be more challenging to reach agreement, and require either multiple option iterations, or more formal negotiation, to resolve a way forward.

Innovative ideas (such as options to mitigate impacts and capacity building initiatives), may require further refinement through iterative review and feedback with a wider range of

company and community stakeholders, before agreement is reached to carry forward ('prototyping'). Further iterative review and refinement may extend into implementation.

Negotiation must be undertaken in good faith, in an environment of mutual respect, with removal of power imbalances, and genuine intention to resolve disagreements in a balanced way through compromise. To remove power imbalances the company may need to provide assistance to the Indigenous community, such as funding to support expert technical and legal advice and representation, capacity building through legal and negotiation training, and negotiation facilitators [1], [29]. The decision-making process for the Indigenous community must be respected and allowed for during the negotiation.

A balanced partnership agreement for inclusive sustainable development should include the following principles and practices:

- Economic benefits for the Indigenous community (financial payments, new and improved infrastructure);
- Preservation and co-management of cultural landscape values;
- Capacity building initiatives; preparing local community for a sustainable future, providing training for employment, current businesses, future opportunities and training/development for active involvement in participatory governance and shared management
- Entrepreneurship program: Business, cultural and social entrepreneurship to create economic, cultural and social impact projects for short and long-term social changes, aiming to strengthen the local community.
- Monitoring and feedback mechanisms, adaptive management/continual improvement.

f) Implementing (Co-evolving)

Objective: Implement the project as an embodiment of the evolved process, continue to evolve based on feedback mechanisms.

The implemented project embodies the 'spirit' of the evolved process and agreement with the Indigenous community, delivering mutually beneficial outcomes ('performing'). Adaptive management and continual improvement, informed by monitoring and feedback mechanisms, will ensure that the project is achieving agreed outcomes. This is particularly important given different approaches may be incorporated into the project and require further optimisation. The company and Indigenous community should share the key elements and learnings from the evolved mining project development process, and ongoing implementation, to contribute to the progression of the broader mining industry.

VI. CONCLUSION

Achieving FPIC and Inclusive Sustainable Development relies on effective engagement of Indigenous peoples, where high levels of participation, such as collaboration and empowerment, seem to work better for balanced decision-making than lower levels. Although UNDRIP and other international and local recommendations provide a framework

of best practices for effective engagement, in our perspective, it will be difficult to meet balanced benefits and outcomes without a decision in changing the existing process.

As an outcome of this study, we suggested an interpretive model of an evolved process for mining project development. This model incorporates culture-based and people-centred approaches, and it is based on the Theory U system change method. The Theory U method was considered particularly appropriate for this application, given its advocacy that system change should achieve more equitable outcomes. We expect that the evolved process can assist to reach the desired organisational mindset of trust, respect and partnership, enabling a comprehensive understanding of Indigenous cultural landscape values. This deep understanding enables genuine partnerships, which is the foundation for increasing traditional communities' participation, influence and achieving inclusive sustainable development.

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