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Participatory processes, mine closure and social transitions

Authors

Dr Jo-Anne Everingham, Senior Research Fellow
Sarah Mackenzie, Research Manager
Dr Kamila Svobodova, Research Fellow

Centre for Social Responsibility in Mining (CSRM)
Sustainable Minerals Institute (SMI)
The University of Queensland, Australia

Dr Kathy Witt, Senior Research Fellow
Centre for Natural Gas (CNG)
Faculty of Engineering, Architecture and Information Technology (EAIT)
The University of Queensland, Australia

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[1] QS World University Rankings and Performance Ranking of Scientific Papers for World Universities, 2018.
[2] The University of Queensland ranks first in the world for mining and mineral engineering, 2018 Shanghai Rankings by subject.

Executive summary

Mining companies have long recognised the value of public participation for generating useful information, and for building relationships and mutual understanding with communities affected by their operations. Throughout the mine life-cycle, mines typically adopt a range of participatory processes to identify what communities are affected by mining, how each is best engaged with, and what their interests, rights, and activities are.

In closure planning, the focus of public participation is on identifying and managing the changes brought about by closure. What participatory processes contribute to a smooth transition to a post-mining future? How can public participation contribute to a positive socio-economic legacy of mining?

This project, undertaken as part of the Social Aspects of Mine Closure Research Consortium, addresses these questions. We found few studies documenting the specific application of participatory processes to mine closure. Even fewer provide analysis to glean broader insights beyond time- and context-specific details. This project was designed as an exploratory, desktop study to ascertain what is known and documented about participation in mine closure. It is intended to provide an overview of key principles, and to function as a repository of case studies to support future research.

The objective of this project is to critically review the principles of meaningful participation, and answer questions about how participatory processes can be used to assist mine closure, namely:

- **Why** consider participatory processes for mine closure transitions?
- **Who** should participate in a mine closure process?
- **What** mine-closure related activities suit participation by different types of communities?
- **How** should community members participate (types of participation)?
- **When**, how often, and for how long should people participate in mine closure planning?

The report includes:

- The principles of meaningful participation (section 5)
- Examples of closure-focused participatory processes (section 6)
- Purposes of participation that align with mine operators' management tasks (section 7.2)
- A decision tree to suggest appropriate processes in various circumstances (section 7.3)
- A 'panorama' of participatory processes illustrating a broad range of processes and their features (section 8.2)
- Profiles of ten participatory processes recommended for use in relation to closure (Appendix A)
- Resources and practical guides for implementation (Appendices B and C)

The report concludes that the value and effectiveness of participation depends not so much on the methods that are chosen, but on *how* they are executed. The panorama of participation processes (section 8.2) provides a versatile way to understand the characteristics that differentiate various processes that can be used to support public participation in the social transition associated with mine closure – if conscientiously planned and diligently executed.

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1. Introduction

Mining companies have long recognised the value of public participation in generating useful information and insights, as well as building relationships and mutual understanding with communities affected by their operations. The term 'community' is often used to refer to anybody affected by a mine, but it is important to recognise that communities are not only spatially defined, but also socially constructed and overlapping. For example, communities could include:

- **Communities of interest**: people who share a common interest or goal
- **Communities of affiliation**: people who are connected through their affiliation with a social network or institution – such as a workers' union
- **Communities of standing**: people who have legal or formally recognised rights
- **Communities of place**: people who live, work, access, use, depend on, or otherwise have ties to a particular location.

Individuals often belong to more than one community simultaneously. Communities are also not internally homogenous – a community can include members who are more or less vulnerable than others. Children, the elderly, people who do not speak the dominant language of the society, and people marginalised from decision-making processes are examples of vulnerable groups.

Broadly speaking, public participation is the way in which communities, and individuals within communities, can engage with decisions that affect them. Such decisions include those relating to mine closure. The end of a major industry such as mining raises critical challenges about land rehabilitation and restitution, housing, infrastructure and service provisions, economic linkages, livelihoods and employment. Those affected should be provided with opportunities to participate in decisions about closure. To uphold equity and inclusiveness and to ensure that the interests and views of all affected communities are considered at appropriate levels, participatory processes are as important at this phase of mine life as at any other time.

This project is one of four industry-funded projects commissioned in 2019 under the Social Aspects of Mine Closure Research Consortium. This project seeks to identify what processes of public participation are appropriate and effective for mine closure. While there is literature on public participation and mining generally, this project proceeded on the basis that there was scant analysis of public participation and mine *closure* specifically. This project was designed as an exploratory, desktop study to ascertain what is known and documented about participation in mine closure. It is intended to provide an overview of key principles, and to function as a repository of case studies to support future research. Although the report focusses specifically on planned closure, it has relevance to related transitions including sudden closure, care and maintenance, downsizing, decommissioning and divestment.

2. Project aims and method

This study involved a desktop scan of publicly available resources reflecting industry-led uses of participatory processes around closure. It established that there are few studies documenting the specific application of participatory processes in the mine-closure situation. Even fewer provide any analysis of these to glean insights beyond time and context-specific details. The few cases located (and others deemed relevant) were synthesised to provide insights into participation mechanisms for closure.

The report profiles ten selected processes for public participation that, in CSRM's experience or from available reports, have been successfully implemented including in mine transition or closure phases

or are designed for that purpose. The report also indicates the potential benefits (for companies, communities and regulators) of such participation.

The objectives of the study were to:

- explore participatory processes with potential to support a social transition of benefit to local communities, public interest groups and rights holders in the decades after mining production
- profile the rationale and practices that characterise ten selected processes to identify characteristics or effectiveness criteria
- identify any cases or evaluations demonstrating what's working, what's not working and suggesting reasons for such performance, and
- identify enablers and barriers to promising processes and key principles of participation at this stage of the mine life-cycle.

3. Why consider public participation in mine closure

Mining companies' significant experience with community engagement and participation relates primarily to earlier stages of the mine life-cycle. They build relationships with the expectation of being present in a community for years or even decades. A focus on how best to exist and flourish side by side shapes an approach to participation whereby the company is seen as an active member of the community.

When the focus is on mine closure, the emphasis shifts, and public participation becomes about how to manage the change brought about by the departure of an entity that has become a significant element of the community. Guidance from the ICMM[3] on closure and regulatory requirements in various jurisdictions around the world[4] recommend that mine closure plans be developed and that participation be integrated into planning of activities throughout the mining cycle including in mine closure. As planned mine closure approaches, attention will focus more acutely on what this may entail. For instance, mine closure has known adverse impacts such as disruption to local economies, decreases in population and associated impacts on infrastructure and services. However, the transition at mine closure also presents a range of significant opportunities for local communities including re-purposing mining infrastructure and land, catalysing alternative economies, and supporting transition to a low carbon future. Many of the opportunities presented can be aligned with human rights obligations and sustainable development goals.

Participatory processes for mine closure also assist mining companies to manage pressures characteristic of this phase, that may compound including:

- financial constraints at the end of economic life
- unfulfilled stakeholder expectations
- difficulty predicting the end-of-mining and the closure transition
- demobilisation and attrition of key personnel
- complex legacy impacts and unresolved grievances.

Concerns of particular communities and issues often associated with earlier phases of mine-life such as free, prior and informed consent (FPIC) may re-surface. In response, companies can build or restore accord with relevant indigenous peoples, remedy losses and provide indigenous peoples with meaningful opportunities to influence the process of mine closure and relinquishment. Mine

[3] ICMM 2019 Integrated Mine Closure: Good Practice Guide.
[4] See 2019 Closure Consortium project 3 'Closure governance and regulation'

closure is therefore now widely regarded as a multi-party process, rather than an issue only for companies and the regulator. Involving community and stakeholders in participatory processes for closure can, for example:

- give greater transparency of decision-making – particularly when ultimately the company will no longer be there and the community is responsible for consequences of decisions made during closure planning
- improve quality of decision-making processes
- build on the relationships and practices that the company has used
- integrate more diverse knowledge and values about post-mining options
- provide an understanding of how social systems and community life have evolved during the mine-life to inform the ability to adjust to dynamic situations with further changes
- enhance alignment of closure outcomes with community aspirations for sustainable development and anticipation of a post-mining future
- facilitate negotiation about the end of locally relevant agreements (e.g. FPIC Agreements, Native Title Agreements, Indigenous Land Use Agreements, Impact and Benefit Agreements)
- help to provide a voice for those who will live with the legacy of mining after closure
- improve negotiation between competing interest groups.

Industry leading practice, such as the ICMM principles and performance expectations,[5] endorse inclusive consultation and partnership with local communities and outline commitments of member companies throughout the mining life-cycle – including closure transitions. For example ICMM Principle 9.1 requires member companies to:

> *Implement inclusive approaches with local communities to identify their development priorities and support activities that contribute to their lasting social and economic wellbeing, in partnership with government, civil society and development agencies, as appropriate.*

Public participation is especially important in the lead up to and during the mine closure phase as this is a period of increased uncertainty and social reorganisation (particularly in smaller communities). The uncertainty is compounded because predicting closure dates and life-of-mine is difficult with mine closure decisions being based on a range of factors. Hence, a mining community often experiences a 'mirage of closure'[6] with the prospect of closure always ahead but not eventuating if new discoveries, prices or technology changes allow continued economic operation – or companies seek to re-work formerly rehabilitated sections of a lease. People living in these communities and with these uncertainties can be informed and empowered through participatory processes, Feeling more influential is known to reduce the stress of impending or rapid change.

Indeed, participation by stakeholders (for instance consultation about reclamation, or the transition of a regional economy) is a common goal of governments, companies and civil society, but there are different opinions on the timing and means by which this should occur.[7] This report provides an introduction to a range of possibilities in this respect, to inform decisions about processes appropriate to engendering meaningful participation in transitions to mine closure and the management of social aspects of that transition.

[5] ICMM 2018 Performance Expectations; ICMM 2019 Integrated Mine Closure: Good Practice Guide.
[6] Evans, R. (2011). Closure Planning, pp 221-232 in Eds F. Vanclay, A.M. Esteves, New directions in social impact assessment: conceptual and methodological advances. Elgar.
[7] Miranda et al 2005, Framework for Responsible Mining (p. 37)

4. The scope of participatory processes

In line with international norms established through the United Nations, the IFC, and industry bodies, there are now measures to develop an informed, respectful dialogue between the state, extractive firms, and residents of affected communities and to ensure relevant members of the public are involved in decisions and activities that will affect their future – in this case, during and after mine closure. A participatory process implies a grassroots, community-focused form of transition, as opposed to top-down and exclusionary transition models. There is a broad range of types of participation, often represented on a spectrum from one-way communication to much higher levels of commitment from the parties involved (e.g. the IAP2 spectrum[8] includes inform, consult, involve, collaborate and empower). Many of these types of participation can occur simultaneously in a community relations strategy and they are not all equally suited to every context and purpose. Different types, or levels of participation are most appropriate depending on the goals, time frames, capacities of the community members and company representatives involved, resources available and levels of concern about the decision to be made. This report focuses on company initiation of the two-way (or multiple-way) processes that actively involve people and communities in planning and managing the social transitions accompanying mine closure.

There is considerable overlap between participatory processes and stakeholder engagement (the process of engaging relevant stakeholders for a specific purpose of managing the interface between company and community). The two processes share many of the same principles and characteristics. Engagement obliges a company to involve stakeholders so the company can identify, understand and respond to community issues and concerns, and report, explain and answer to stakeholders for decisions, actions and performance. Participation is a related process that is similarly purposeful, but interactions and exchanges are not necessarily initiated or coordinated by the company and are focused on discrete and active processes of identifying mutual interests and creating shared value. In this report, we concentrate on company-initiated processes that actively involve members of relevant communities. These understandings of participation and engagement raise questions about **who** should participate; **what** they should participate in and **how** and **when** they should participate with respect to mine closure transitions.

5. Principles of meaningful participation

All participatory processes should adhere to general principles enshrined in Principle 10 of the Rio Declaration and the Aarhus convention[9]. The three pillars for strengthening public participation processes state that the public is entitled to:

- ready availability of comprehensive, relevant and accurate socio-environmental information
- open opportunity to participate in decision-making
- justice, both distributive and retributive (including redress and remedy where warranted).

The principles have multiple implications. Organisations adopting participatory processes should ensure they are **informative**, **open**, and **just**. Each of these qualities is explored in the subsequent sections. The profiles appended to this report (Appendix A) note where these principles present a challenge with some processes, or specifically when considering social aspects of closure.

[8] International Association for Public Participation (IAP2): https://www.iap2.org.au/resources/spectrum/
[9] The Rio Summit's principle 10, 1992, and its implications.

5.1 Informative

Informative participatory processes are:

Transparent – Mining companies should maintain transparency about the finite life of their operations and their closure options, plans and constraints. They should be open about the risks and impacts of their closure preparation activities and anticipated milestones to relinquishment.

Accountable – Mining companies should be accountable for their actions and take responsibility for the risks and impact they create beyond their site for ecosystems and social systems now and in the future.

5.2 Open

Open participatory processes are:

Inclusive – Mining companies should provide the full diversity of people impacted by decisions and activities pertaining to closure with an opportunity to have a say in those decisions and activities. They should be able to participate in various and appropriate ways from initiating discourse and discussing (challenging and defending) claims, to monitoring and evaluating reports and undertaking joint activities. Communities should not be regarded as homogenous. People will be impacted differently by mine closure, will perceive impacts differently. They will have differing ability to participate in planning processes based on culture, physical abilities, age, gender and other individual and group characteristics. Specific arrangements should ensure opportunities for minority and marginalised groups to participate in closure decisions and processes.

For example, in a 2019 study of 31 sites by the Responsible Mining Foundation[10], Centerra Gold's Mt Milligan Mine in Canada was reported to have established relationships and interactions with local communities and stakeholders including Indigenous people. Though they did not demonstrate specific measures to include women, they did report a history of active participation in community organizations and community events and use of a variety of techniques to include a broad cross-section of affected community members including community meetings and presentations, one-on-one meetings, household visits, letters and newsletters, open houses and site tours. Notably, this site, received high scores on disclosure of the environmental impact assessments and discussion of the results with the community and stakeholders. It was one of very few sites in the study to have plans for post-closure socio-economic viability of the communities and the only one with some evidence of these being collaboratively developed taking into account the goals and views of the affected community.

Responsive – Mining companies should identify and be clear about the sustainable development topics that matter to their stakeholders and that represent the responsible use of valued resources to benefit current and future generations. These priorities are often expressed in annual Sustainability Reports but it is rarely clear that they guide rehabilitation and closure decisions and actions.

Dialogic – Mining companies should create opportunities for dialogue about mine closure since mutual understanding and shared future possibilities are created through language and conversations. Participation implies an active, two-way process, not delivering one-way communication to passive recipients. As the Responsible Mining Foundation reported, commonly used techniques including, '(e.g. public meetings, committees, presentations or newsletters), [these] are generally limited to information-sharing rather than more meaningful and collaborative approaches'.[11]

[10] Responsible Mining Framework (2019), Mine Site Study, p. 46
[11] Responsible Mining Framework (2019), p.22

Well-resourced – Mining companies should provide adequate in-kind, staff, material and information resources to support open, respectful, exchanges on an equal footing for all members. Rather than winding up investment in community relations at this phase, planning for closure and implementation of closure activities will require increased investment to ensure public participation processes provide comprehensive, authoritative and readily comprehensible information to ensure informed participation and open opportunities for a range of people to have their voices heard and their interests and futures considered.

Iterative – Mining companies should interact flexibly and incorporate systems for actively responding to changing circumstances, increased knowledge and updated predictions to drive continuous improvement and to ensure plans remain attuned to the local context and current situations and aspirations. In some locations, former subsistence farmers may have a widened range of options as mine closure approaches with new transport and communication links having opened, or new skills developed. Consideration of these circumstances as part of the asset base allows a future focus rather than locking companies and communities into proposals that may have been formulated decades earlier. For instance the master plan for Jabiru township, near Ranger Uranium Mine in the Northern Territory of Australia, has replaced the original plan to decommission and demolish the township in light of the tourism potential of a township in the heart of a World Heritage listed Wetland with significant Aboriginal cultural vibrancy[12].

5.3 Just

Just participatory processes are:

Impact- and opportunity-focused – Mining companies should monitor, measure, and manage the positive and negative impacts of their actions on ecosystems and social systems now and in the future. With a clear understanding of impacts and positive questions about future opportunities it is possible to generate momentum for change, and images of the future that inspire positive action. This process characterised the participatory processes that were part of the Clermont Preferred Futures project[13] initiated by local government and Rio Tinto to plan for and respond to looming transitions associated with the closure of Blair Athol Mine and the opening of the new Clermont Mine.

Equitable – Mining companies should explicitly consider distributive and retributive fairness with particular attention paid to the interests and voice of vulnerable and under-represented groups. Mine closure outcomes should not advantage only select groups and leave others with comparatively few options. While there is tendency to focus on ensuring viable futures for direct employees, conscious efforts to achieve widespread benefits for everyone likely to be affected are more challenging as has been demonstrated in numerous cases, leading to the claim that there is, as yet, little evidence of 'a secure trajectory towards …a just transition to a post-mining economy'.[14]

One example is the planning for the end of sand-mining on Stradbroke Island, off the coast of southeast Queensland, Australia, the traditional territory of the Quandamooka people. There, consultation included opportunities to participate in online surveys, open-ended commentary, written submissions and public meetings. Collaborative planning with the traditional owners, State and local governments, residents and business operators on the island, environmental and conservation groups, the tourism and fishing industries, mine workers and the mining company, Sibelco, themselves resulted in an economic transition strategy[15] which is envisaged to further involve a range of interests in an implementation committee.

[12] Gundjeihmi Aboriginal Corporation (2017) Jabiru Master Plan
[13] Parsons, R., Lederwasch, A. & Moffat, K. (2013). Clermont Preferred Future: Stakeholder Reflections on a Community Foresight and Planning Initiative. *Resources* 2: 528-554.
[14] O'Faircheallaigh, C & Lawrence, R (2019). Mine closure and the Aboriginal estate. *Australian Aboriginal Studies*. 1: 65-81
[15] Qld Department of State Development (2016) North Stradbroke Island economic transition strategy

6. Profiling specific processes

6.1 Examples of closure-focused participatory processes

There are many means of identifying community concerns and issues, gaining useful information on user needs, values and expectations, creating opportunities for community involvement in design processes and incorporating community concerns into decision-making. Ultimately, a well-designed community participation process contributes to a quality outcome and a smoother process. Of necessity, for this study, a limited number of processes could be examined and the selection was based on processes that:

- preferably, have been successfully used at mine closure though not necessarily widespread yet
- were familiar to the mining industry (for instance, used in operational phases) and/or
- had potential to be applied to enhance participation in closure-related decisions and activities

In documenting what appears to be current practice, the emphasis was not on providing case studies of the processes in use. However, where possible links are made to case studies of their use in closure or mining situations, or at least in illustrative situations as noted in this section. Nor was the aim to provide a 'how-to' for the selected process, resources have been referenced for that (Appendices B and C). While not advocating the use of any specific processes, the study identifies the potential of a range of processes for the specific transitions associated with mine closure. It also illustrates that some processes effective in engendering meaningful participation at earlier stages of mine life are readily adapted with a closure-focus.

6.1.1 Community reference groups

Community reference groups (CRGs) by various names are commonly used by mining companies during operations. However, they vary in the level of influence and participation members have in company decisions and actions. Specifically, CRGs do not always take a future focus and involve members in decisions and activities relevant to mine rehabilitation and closure. Nevertheless, there are examples of CRGs with a specific focus on closure or some aspect of it. For example, the CRG at the Kurri Kurri Aluminium refinery in the Hunter Valley receives progress reports on company efforts to mitigate impact on the community and gives input as the site masterplan is developed in accordance with the Regional Strategy. Some CRGs form WhatsApp groups to facilitate communication in real time, encourage responsiveness and enable all participants to have the same level of information.

6.1.2 Future visioning

One case where the former operator of a mine has encouraged community participation in Visioning is the former coal-mining town of Leigh Creek in South Australia where Alinta energy ceased mine production in 2015. This government-owned town differs from other examples in this report which relate to corporate activities. Nevertheless, the participation encouraged by the Government of South Australia, in establishing the Upper Spencer Gulf and Outback Taskforce and commissioning extensive community consultation with affected employees, residents, Adnyamathanha traditional owners, surrounding pastoralists, and businesses, could equally be adopted by companies. Though not ideal for this remote region, in many cases, visioning exercises that involve relatively few people in the final option design, may supplement the initial knowledge base and understanding of assets by web-based surveys and community Facebook pages to disseminate information and gather feedback. Instagram and Twitter are potentially useful too in gauging responses to options. However, such tools must be used with caution since their reliability and representativeness is questionable.

6.1.3 Social impact assessment (SIA) for closure

The SIA process is most familiar in the mine approvals stage. There are examples of specific assessments of the social impacts of mine closure as indicated below in Table 1 (page 17). For instance, New Gold's Cerro San Pedro mine in Mexico ceased production in 2016 and has been implementing an Integrated Closure Program designed on the basis of a social impact assessment. It identified that the workforce and local business context were most vulnerable to impacts when production ceased and consequently economic diversification measures feature prominently in their resultant strategies. Many aspects of their closure strategy[16] involve collaborating with local organisations. In one case, the company, and five organisations collaborated to provide about 429 skills-training hours in eight local communities. The programs involved a total of 384 people, of whom 90% were local women. Other activities intended to ensure a positive legacy for the community include an Entrepreneurial Development Program, which has a facilitator and a group of volunteers from within the communities, a microfinancing program and a land and vegetation reclamation program where volunteers from the local communities have helped exceed targets for areas to be re-forested and for seedling production in a dedicated nursery.

6.1.4 Foundations and trusts

Foundations and trusts vary in structure, approach and aims, with the more participatory models relying on community input into the establishment of them and into decision making process and the implementation of the community development projects they support. Much is known about how to operate such foundations; however, most of the insights relate to observations of the funds during mining operations. Nevertheless, the very nature of foundations and trusts offers the potential for a more enduring operation into a time when company funds are no longer accessible and when management of the fund requires considerable input from the community it serves.

The case of a foundation established by the gold mining company Empresa Inti Raymi S.A. (EMIRSA)[17] to facilitate the process of closure, illustrates some of the participatory processes that may be useful. The foundation was established in the early 1990s with considerable involvement of the company and with closure not anticipated until 2013. There has been a gradual evolution of the focus and operation with Fundación Inti Raymi's focus becoming more long-term. By the end of its first decade of operation, the foundation had clarified its purpose, fostered greater community participation and strengthened its financial independence of the company. The creation of a committee of beneficiaries that includes representation from community members and local level government, has meant that foundation projects now better fulfil community needs and are aligned with regional and national development plans. A specific fund has been established in each of three affected communities with the objectives of financing a post-closure social safety net (both individual and collective) and an economic investment program for the region. In the five years leading up to the end of production, the communities were increasingly proactive in the process of closure planning, suggesting strong prospects that the foundation will operate autonomously to support the communities' vision of economic and social development now mining is no longer the main economic activity in the region.

6.1.5 Impact and benefit agreements

Though usually established before permitting and construction, impact and benefit agreements can address closure considerations and express post-mining aspirations and define the 'expiry date' of the agreement. There are also examples of the negotiation of separate, closure related agreements. Many post-mining obligations are understood to stand 'in perpetuity' but what does this mean if a

[16] Cerro Gold (2017). Integrated Mine Closure Program.
[17] Pacheco, V (2012). Foundations, trusts and funds in near mine closure and post-closure environments: a case from Bolivia. *Mine Closure Conference*.

company is no longer active in an area, no longer has a presence in the relevant jurisdiction, or even ceases to exist altogether? All parties should participate in defining acceptable end points of agreements. At the former lead-zinc Woodcutters Mine in the Northern Territory, Newmont has an agreement[18] with the traditional owners of the land (the Kungarakan and Warai people). In accordance with this, the decommissioning, rehabilitation and monitoring activities at the site support the goal of handing over the land to the traditional owners once all agreed-upon closure criteria and objectives have been met. The agreement also details the company's local employment, training and stakeholder engagement commitments. It is notable that the site was already non-operational when Newmont acquired it in 2002.

6.1.6 Strategic community investment

Mining companies routinely invest in communities and have increasingly moved from random sponsorships and donations to more strategic investment. A key consideration in determining whether investments are strategic or not is the extent to which they create dependency or have the potential to eventually provide benefits independent of the mining company. Many companies direct their community spending to education and training in mining-related skills as an investment with long-lasting benefits to both company and community. As well, and especially nearing closure, companies support education and training initiatives that will increase general employability and a diverse skills base in a region regardless of the presence of the mining industry. For example, during operations, MMG provided dozens of apprenticeships that were initially designed to lead to employment at its Century Mine. In the final years of operation, these programs were redirected to develop skills that would have wider applicability in the region.

6.1.7 Participatory geographic information systems (GIS)

Participatory GIS is useful for company-community collaboration about spatial and land use options post-mining. While not only used specifically for closure, participatory mapping is a technique useful for providing social data and predicting conflict potential. It is being used in an increasing number of terrestrial applications to identify land suitability and inform spatial and landscape planning. The process is therefore well-suited to focusing on post-closure options for mine sites and environs.

Participatory GIS can involve interviews, physical surveys (e.g. walking over country), hard copies of maps, or even be interactive and web-based. In the latter case for instance, a consultation about landscape preferences and values and land use planning in Victoria encouraged the public to place icons on aerial GIS images of state lands.

It has also been used in northwest Australia to identify potential conflict in a coastal and marine environment between various groups based on communities of place, affiliation or interests.[19] This is an area experiencing contention over potential economic development through resource extraction or tourism. By considering the views of 14 different categories of people with the largest being Aboriginal people, tourists and non-Indigenous Kimberley residents, the study mapped areas valued for 17 different uses or significance. In this case, physical, recreation, and biodiversity values were expressed and mapped most frequently. Although not related to mine closure, the Kimberley study demonstrates the potential relevance of this process. Table 1 (below, page 17) indicates that there are a few mine-closure examples available and provides links to those.

[18] Decipher (2019). How Newmont rehabilitated the Woodcutters mine.
[19] Moore, SA., Brown, G., Kobryn,H. & Strickland-Munro, J. (2017) Identifying conflict potential in a coastal and marine environment using participatory mapping. *Journal of Environmental Management.* 197: 706-718

6.1.8 Participatory monitoring and evaluation

The UNDP is just one group to study multiple uses of participatory monitoring and evaluation at various stages in a mining context. The UNDP study[20] notes that participatory monitoring committees can contribute to improved socio-environmental management and the attainment of various Sustainable Development Goals (SDGs). By identifying possible sources of pollution, participatory monitoring could contribute to SDG 6 'Clean water and sanitation', SDG 15 'Life on land', and potentially SDG 2 'Zero hunger' and SDG 3 'Good health and well-being'. Their report describes nine case studies of participatory monitoring committees in Argentina, Bolivia, Panama and Peru. Though these are not all closure-related, the concern with environmental matters is equally relevant during and after production so the process can be adopted at multiple stages. Notably some of the cases indicate the particular value of such committees in mining regions where multiple enterprises operate. The cumulative effect is something any individual company will have difficulty monitoring, particularly if mines are at different stages at of the life-cycle or combine their impact with other human activities. For instance, in the case of Sudbury, Ontario, Canada,[21] a century of mining, logging, smelter emissions and soil erosion had wiped out almost all of the vegetation in the area and poisoned lakes and streams. Most of the copper and nickel mining and smelting was conducted by Inco (now Vale Inco) and Falconbridge (now Xstrata) and for decades there was considerable dependency of the community on the companies. A group of academics, municipal employees, mining company leaders and local residents put their heads together 35 years ago to come up with a way to save it. The companies worked closely with a municipal body, Vegetation Enhancement Technical Advisory Committee, and gradually involved more community groups so that monitoring and reclamation activities can now continue even after mining ceases altogether in the region.

6.2 Summary of closure-focused examples

These processes are profiled in Appendix A and case examples of them at closure are summarised in Table 1 and located in Figure 1.

As indicated, some of the processes are closure-specific, others, companies will employ in their community relations though they may need to consciously ensure closure is considered at appropriate times with relevant groups. Yet others may not be part of a company's usual repertoire, though their value for closure may warrant enlisting external expertise to implement. Not all of the processes are inherently participatory and attention to the principles of participation and to use of suitable techniques will be needed to maximise participation. The profiles indicate how people participate, in most cases indicating that, with variations and adjustments, most processes are versatile and can take different forms and suit different purposes and contexts. Similarly, many techniques (e.g. interviews, surveys, websites and workshops) can be applied in multiple processes.

[20] UNDP (2019) Participatory Environmental Monitoring Committees in a Mining Context.
[21] The Sudbury region is likely to continue with active mining for some decades, but collaboration among polluters and the community have mended much of the damage and ensures improved management into the future.

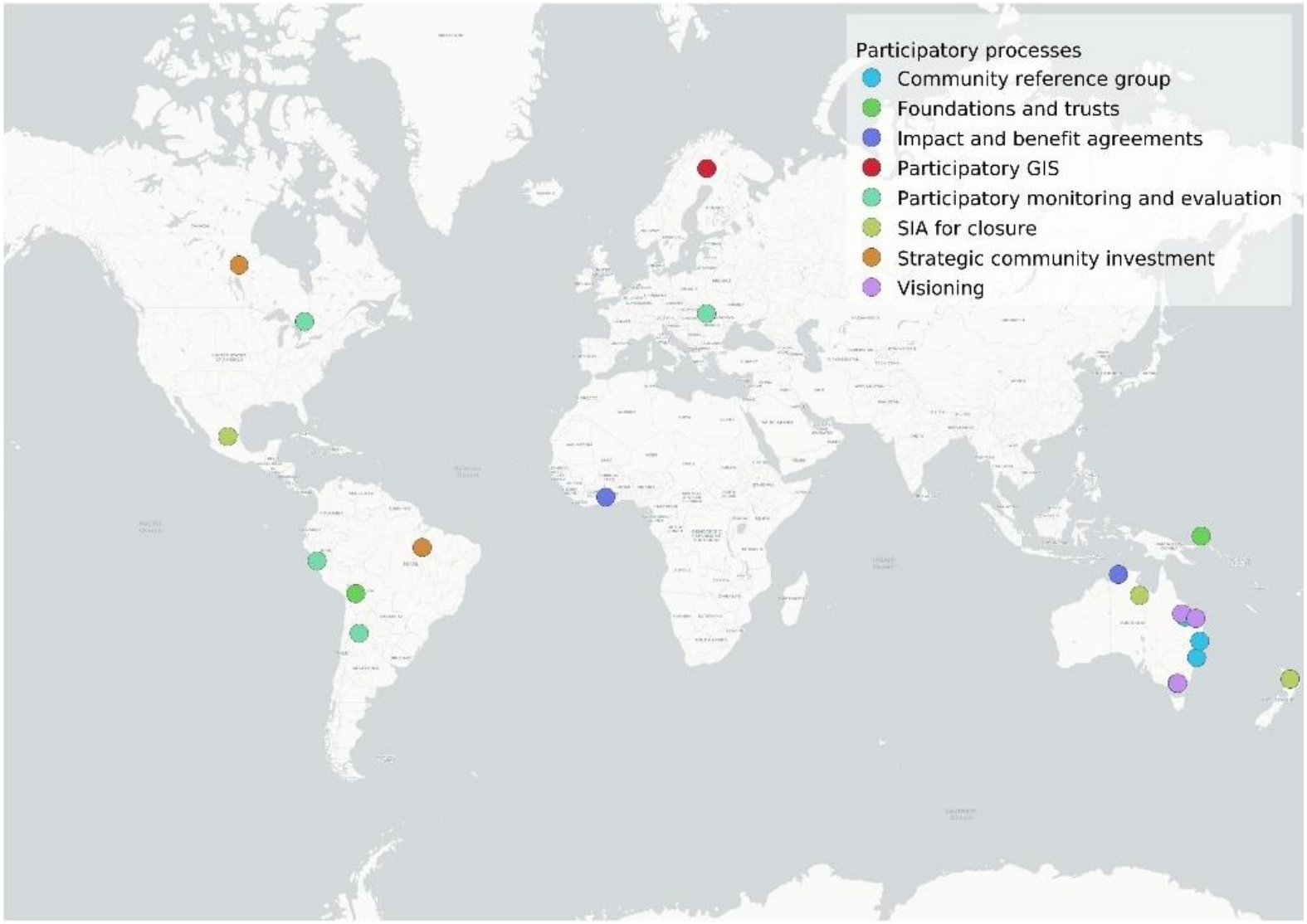

Figure 1: Location of sample participatory processes used in closure contexts

Table 1: Case examples of profiled participatory processes

PROCESSES	CASES
Community reference group	• Norsk Hydro – the Kurri Kurri aluminium refinery in NSW (near Maitland and Cessnock) has ceased production and is 'shutting down with respect' at their 1900 hectare site (Norsk Hydro (2016) informed by a CRG. https://www.hydro.com/en/our-future/Society/Restructuring/Shutting-down-with-respect/ • Idemitsu Residual Void Community Reference Group – a forum for discussing options at Ensham Mine, in the Central Queensland coalfields. www.idemitsu.com.au/mining/projects/ensham-rv-community-reference-group • Latrobe Valley Mine Rehabilitation Advisory Committee – 16 representatives of various stakeholder groups involved in preparing and implementing a regional rehabilitation strategy over a four year period. earthresources.vic.gov.au/projects/lvrrs/advisory-committee • Timbarra Gold Mine Closure Focus Group – a multi-stakeholder group that reduced confrontation and developed a robust and Ministerially Approved Closure Plan. http://www.nswmining.com.au/NSWMining/media/NSW-Mining/Events/Excellence-Awards-Booklet_Final.pdf and https://www.youtube.com/watch?v=iiC7ZNDhftA
Visioning	• Clermont Preferred Futures: https://www.climartchange.com/clermont-preferred-futures/. • Gladstone Region 2028 Vision Project, initiated in 2008 and revisited since, the process has involved different industry stakeholders, including Rio Tinto Alcan. Facilitated by Future Eye, https://futureye.com/, https://www.sunshinecoastdaily.com.au/news/project-set-take-gladstone-future/2474656/ • Latrobe Valley Regional Rehabilitation Strategy Preliminary Land Use Vision for Latrobe Valley.
SIA for closure	• New Gold's Cerro San Pedro Mine, central Mexico used participatory approaches to understand the social impacts of closure. • MMG Century Mine commissioned CSRM to assess the socio-economic impacts of closure using the SIA framework (2014) https://www.csrm.uq.edu.au/publications/social-aspects-of-the-closure-of-century-mine-social-impact-assessment-stage-2 • Social Impacts of Closure of Newmont Waihi Gold operations
Foundations and trusts	• Multi-purpose fund including compensation payments, royalties and community investment projects with both a contemporary and future focus: Lihir Sustainable Development Plan Trust to deliver the integrated benefit package (IBP) (1995). https://siteresources.worldbank.org/EXTOGMC/Resources/Sourcebook_Full_Report.pdf • A closure-focused one: Inti Raymi Foundation in Bolivia facilitated closure. https://www.mineclosure.net/elibrary/foundations-trusts-and-funds-in-near-mine-closure-and-post-closure-enviornments-a-case-from-bolivia
Impact and benefit agreements	• Gulf Communities Agreement at Century Zinc Mine – where MMG's 'Big Zinc' operation ceased production in 2017 and the signatories to the Agreement commenced assessment of the likely social impacts of closure in earnest five years earlier. See Social aspects of the closure of Century Mine: Combined Report (2013) • Ahafo – Newmont Agreement and associated foundation. • Woodcutters Mine post-closure rehabilitation by Newmont under the Woodcutters Agreement with the Kungarakan and Warai people.
Strategic community investment	• Vale's investment in the AGIR program, Brazil • Economic diversification plan for Thompson, Manitoba, Canada (Vale, ICMM page 47)

PROCESSES	CASES
Participatory GIS	• PPGIS Mapping of Landscape Values, Knowledge Needs, and Future Perspectives in Northern Finland: https://www.mdpi.com/2073-445X/7/4/151/pdf. A PGIS study of values, needs and preferences by local residents and visitors in two post-mining areas Hannukainen and Rautuvaara (iron ore-copper). • Using workshop processes to generate stakeholder agreement about transferring post-mine land to grazing in central Queensland (ACARP Project C25032). Stakeholders identified their preferred post-mining land use options using PGIS techniques (and paper maps).
Participatory monitoring and evaluation	• Participatory GIS Risk Mapping and Citizen Science for Solotvyno Salt Mines, Ukraine (available at https://www.mdpi.com/2072-4292/10/11/1828) • Monitoring the impacts of extraction in Peru, a monitoring committee in the region of Ancash (Himley 2014) https://journals.sagepub.com/doi/10.1068/a45631 • The reclamation of Sudbury in Ontario, Canada; Regional Municipality of Sudbury created the Vegetation Enhancement Technical Advisory Committee (VETAC). The organisation is committed to the restoration and protection of Sudbury's air, land and water. http://viewpointmining.com/article/the-reclamation-of-sudbury • Participatory Environmental Monitoring Committees In Mining Contexts: Lessons From nine case studies in four Latin American countries (UNDP 2018). The report describes nine case studies of participatory monitoring committees in Argentina, Bolivia, Panama and Peru. https://www.undp.org/content/dam/undp/library/planet/environment/UNDP-CIRDI_Participatory_Environmental_Monitoring_Committees_in_Mining_Contexts.pdf • Pareja et al. (2018) identified 55 Water Monitoring Groups in Latin-American mining sector including Bajo Alumbrera, Argentina at closure. For 20 cases, the authors explain how the PME programs were conceptualized and how data was collected and interpreted. https://www.mdpi.com/2073-4441/10/10/1325/pdf

6.3 Potential participatory processes for mine closure

In addition to processes that have been demonstrated in practice, two participatory processes, developed for other purposes by SMI, are assessed as being potentially applicable to mine closure situations with suitable modification. The additional processes are:

- **Rapid appraisal using the UQ indicators toolkit:** The community indicators approach has been used to assess and plan responses to rapid change and cumulative socio-economic effects in relation to development of coal seam gas resources in Queensland's regional communities, leading to the development of the UQ Boomtown Toolkit. Adaptation to other transitions, including downturns and closure is possible.
- **SMI's Towns Tool:** The Towns Tool was initially developed in partnership with Rio Tinto to consider mining town normalisation and has been implemented by CSRM and Rio Tinto in Australia. It was modified in 2018 to suit mine closure situations and trialled with the Niger government as a transition readiness assessment process with respect to the uranium-mining city of Arlit.

In total ten processes are profiled in Appendix A to outline key considerations about participation in decisions and processes related to closure transitions. Each profile outlines a series of characteristics associated with the ideal application of the participatory process describing:

- the rationale for using that sort of process
- who is usually involved

- when participation re social aspects of closure might occur using the process
- the typical duration and frequency of the participation
- a brief description of the process followed and data used
- benefits, strengths and enablers of the process
- drawbacks, barriers and weaknesses of the process
- any challenges aligning the process with the principles of participation
- the potential for the process to work with other participatory processes.

As section 7.3 indicates, the transition requires processes with varied potential. Some will be used to orient participation, set directions and express mutual commitments. Others will be knowledge-based and function to build a shared understanding and develop trust and relationships. Regardless of processes adopted, it will still be necessary to choose appropriate tools and techniques for implementing them. These will range from public meetings, interviews and workshops to social media, and role plays. This report does not go into detail about techniques since these are well documented in the guides and toolkits listed in Appendices B and C.

Many factors influence the choice as to suitable ways to encourage stakeholder participation around social aspects of mine closure. These include the number of people to involve; the allocated time and budget; the state of trust and relationships already established between the company and community and existing within the community. Many aspects of the context will also influence the suitability of particular techniques. For example, a permanently accessible website with monitoring results may be less demanding and resource intensive than routine participatory monitoring. However it is not ideal where internet service is poor; it is also an impersonal mode of engagement. Similarly, a special event public meeting for 500 attendees is an inexpensive and relatively rapid way of gaining some concerns and reactions; whereas a series of 100 one-on-one meetings, though more personal, is more time consuming – and both may lack broad representation of interests depending on the specific participants. A complaints and suggestions mechanism provides a permanent communication and consultation channel, but it is impersonal, requires regular servicing and contributes little to overall trust and company-community relations, indeed may emphasise negatives. In most cases a package of techniques works best for any process rather than exclusive use of one.

7. Designing participation for closure transitioning: FAQ

This section examines the '**who**, **what**, **how**, and **when'** of using participatory processes for closure. It provides frameworks that assist with activities that are common for all participatory processes.

7.1 Identifying stakeholders (*who* should participate)

Within the overall objective of inclusiveness, all participatory exercises must decide who should participate in the relevant activities. Definitions of 'stakeholders', 'community' and the 'public' all vary and may all have relevance in various situations. This question of 'participation by whom?' is multi-dimensional since there will be decisions about how many people should participate, whether it should be in individual (i.e. one-on-one meetings) or group processes; whether the targeted participants require special accommodation and whether the participants are a representative sample, a selected cross-section, self-nominated or democratically chosen. The range of potential participants can be large as shown in Figure 2.

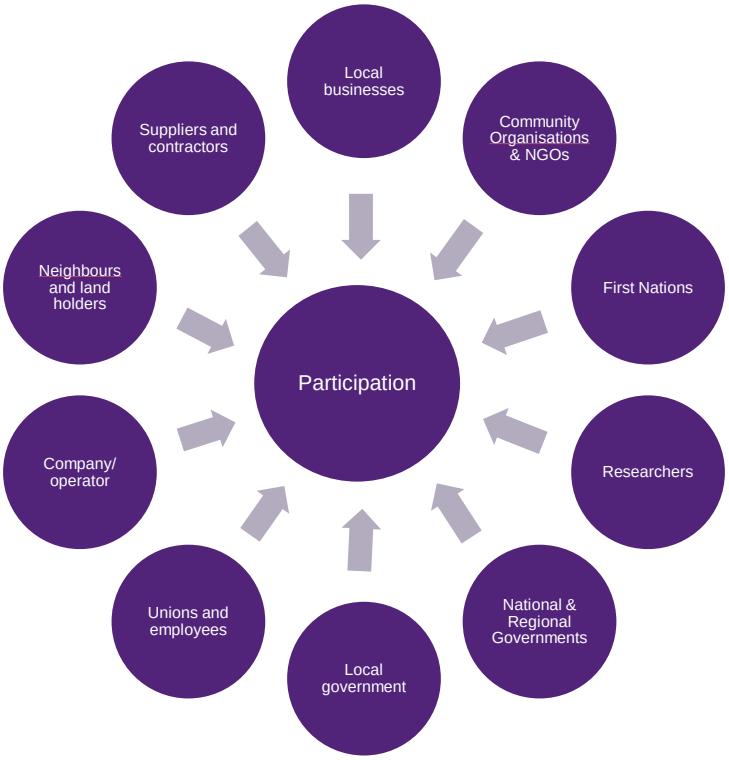

Figure 2: Potential groups of participants with a stake in the social aspects of mine closure

Convening the right people is crucial to successful participatory processes. In general, the more far-reaching the issue being tackled, the greater the requirement for a broad diversity of participants. Nevertheless, it is not always inclusive simply to issue an open call to everyone who may have a stake in the effort. Some relevant people may lack the confidence or means to respond to such a call. Rather, 'thoughtful inclusion' of an appropriate number, preferably according to transparent selection criteria or invitation of those recommended by community informants can result in a more thorough cross-section of people committed to the process. Key considerations in determining who should participate in mine closure planning include:

- Whose rights are affected?
- Who has (or can develop) capacity, expresses themselves well, listens well and respects diverse perspectives?
- Who has a stake in the issue?
- Who is likely to be impacted – directly or indirectly?
- Will particular groups be disproportionately impacted (e.g. youth, seniors, parents, local businesses, particular skill groups, women, landholders, traditional owners, people with health conditions or a disability, people with particular livelihoods, people in specific income brackets?
- How will people find it most convenient to participate?
- Who has authority to act in this region or has the ability to influence the outcomes?
- Who has resources that will be valuable – reliable information, expertise or experience about the topic at hand, time, money, equipment, contacts?

Questions about participant selection are not covered in detail in this report but there is considerable guidance on methods of stakeholder identification and analysis that can be adapted with the relevance to closure in mind (see Appendix B). Various arrangements can facilitate the involvement

of passive interested parties, powerful and prominent groups, marginalised and excluded groups, a randomly chosen and representative group or a democratically chosen set of representatives. The processes may need flexible adaptation to suit these variations in the size and composition of participants and their capacity to participate.

Such considerations informed the formation of the Latrobe Valley Rehabilitation Committee with 16 representatives of seven stakeholder groups, namely the Latrobe Valley community (2), the Aboriginal community (1), Latrobe City Council (2), water authorities (2), State Government departments (4) and the Trades and Labour Council (1).

For the closure SIA at what was MMG's Century Mine,[22] participation in four workshops that primarily involved the Century Liaison Advisory Committee (representing parties to agreement).[23] This encompassed two representatives of the company, one of the Gulf Aboriginal Development Corporation, nine of the Native Title Groups (5 Waanyi, 2 Gkuthaarn and Kukatj and 1 Mingginda) and one of the Queensland Government. However, broader consultation was conducted in surveys and individual and group interviews throughout the region that involved local Aboriginal people currently employed by Century (survey response rate of 79% of the 150 and 73 group or individual interviews); regional businesses (10) and businesses that are contractors and suppliers to Century (14); community leaders, land council representatives, key Century personnel, state and local government personnel, service providers, local community members (a total of 150 individuals representing 45 organisations) and other stakeholders. These consultations occurred in a series of sessions over one year.

Ideally, participatory processes will provide ways to involve, and give voice to, any person, or group with an interest in the transition of the community post-mining or the potential to be affected by the mine closure. The community members participating in the social transition planning process should not be limited to elected leaders, but should include informal and traditional representatives of women, youth, community associations, vulnerable groups and under-represented minorities in robust consultation that reflects a greater diversity than the majority view. Many of the resources in Appendix B provide methods for identifying and analysing the key stakeholders in a project, and planning for their participation.

7.2 Purpose in management tasks (participating in *what*)

This report assumes that many mining companies engage in core management tasks in the closure transition. The purpose of the participation in the context of mine closure can be aligned with these four tasks as depicted in Figure 3.

[22] Everingham, J., Brereton, D., Arbelaez-Ruiz, D., Barnes, R., Collins, N., Weldegiorgis, F., Rogers, P. & Oñate Santibáñez, B. (2013) Social Aspects of the Closure of Century Mine. Combined Report, CSRM: Brisbane

[23] Everingham, J., Barnes, R., & Brereton, D. 2013. Gulf Communities Agreement 2008-2013. 15-year Review. CSRM, The University of Queensland: Brisbane.

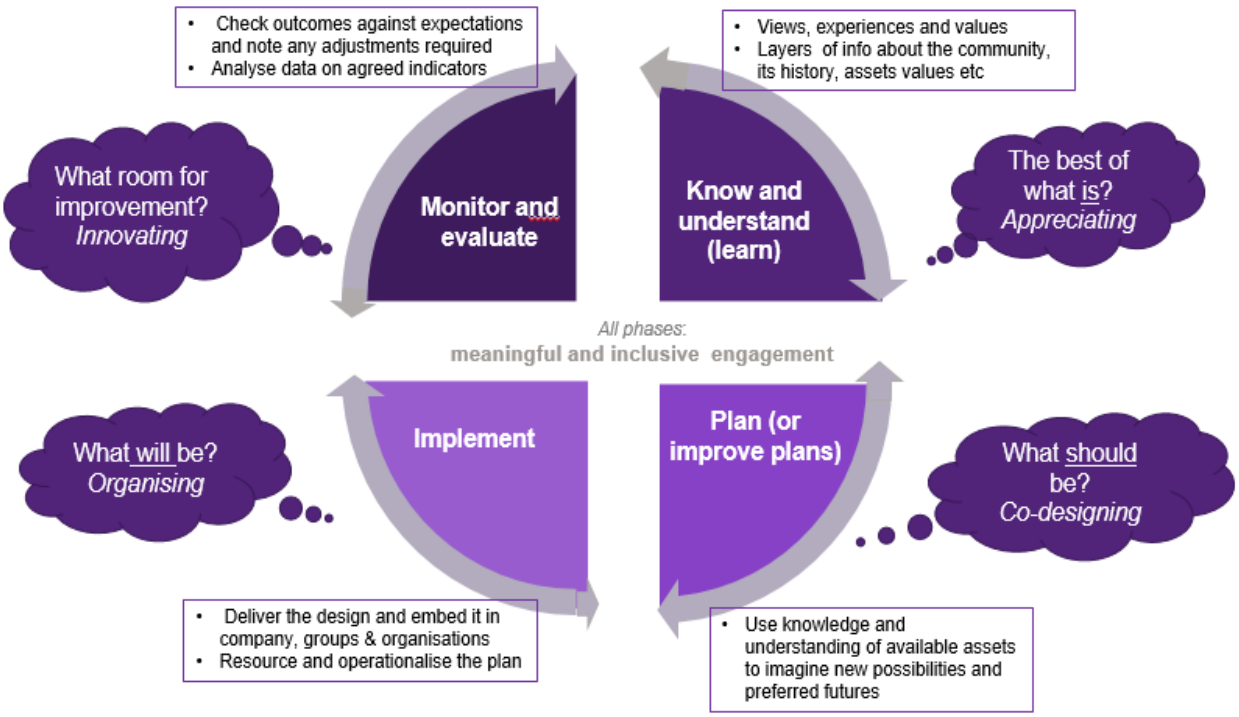

Figure 3: Four purposes of public participation in the management of mine closure transitions

This report also assumes that inclusive participation, dialogue (2-way), accountability and transparency are integral to all four of the management tasks described below.

- **Understand** – Sharing of knowledge, experiences, values and perspectives to expand knowledge and build understanding. Updating a wide range of data about the geographical, social, historical, economic, and political context of the operation and community, enables appreciation of what is valued and any underlying issues. This task requires company and community participants to have or develop skills in analysis and systems views to strengthen understanding. For example, participatory monitoring and evaluation processes require training of all participating stakeholders from government, extractive companies to community members. In this way, UNDP's report Participatory Environmental Monitoring Committees in Mining Contexts recommends specific short-term and long-term actions for each stakeholder group in PME to expand the knowledge base. Web tools including surveys and collation platforms are increasingly being used to aggregate knowledge in comparable formats and the Town transition tool proposes a framework for gathering relevant data and developing a shared understanding of transition-readiness in workshop settings.

- **Plan** – Using pooled knowledge and experience of 'what works' in the local community and what assets are available to imagine new possibilities, to assist the community to envisage a preferred future and express aspirations. Participants skilled or facilitated in risk analysis, visioning, assets and opportunity assessment, and goal setting can produce informed planning or a collectively designed closure plan and post-closure options.

  In the township of Jabiru, near ERA's Ranger uranium mine in the Northern Territory, Australia, the local community was concerned that the mine closure plan, though providing for exemplary environmental rehabilitation, insufficiently addressed social ramifications given the mine's 'significant' socio-economic contribution to the town. Mine production ceased in 2012, and by 2026 the site will be completely rehabilitated and incorporated into the surrounding world-

heritage-listed Kakadu National Park. Residents and the local Aboriginal population (especially the Mirarr traditional owners) were concerned about the projected demolition of housing and critical infrastructure including power and water supplies, the displacement of residents, changes to demography, regional economic contraction, the loss of regional health, education, and retail services, as well as closure of the Jabiru airport when the company's lease expires in 2021. Under the community-based initiative of Gundjheimi Aboriginal Corporation they involved a cross-section of stakeholders in pooling knowledge of the community's strengths to design a pathway beyond closure that would provide a 'successful after-life' and inform deliberation about the resources, skills, and governance regimes to realise the plan. Such collective planning can involve varied techniques including interviews, surveys, workshops, and risk analyses as well as techniques and processes that allow visualisation of geo-spatial data and proposals. In central Queensland, for instance, Participatory GIS processes assisted in recognising areas of consensus and conflict among graziers and other stakeholders with respect to post-mining land use options.[24]

- **Implement** – Delivering the design and harnessing identified resources to operationalise and embed the plan in the company and other groups and organisations so that the vision is realised. This requires some participants with skills in project management, forecasting, coordinating and cooperating, budgeting, and resource allocation. The Latrobe Valley Regional Rehabilitation Committee[25] (LVRRC) in Victoria, Australia confronted a situation where Hazelwood Mine closed in 2017 and the region's other two brown coal mines, Yallourn and Loy Yang, are planned to close by years 2032 and 2048 respectively. While mine operators will develop a plan to rehabilitate their mine sites in order to achieve a safe, stable and sustainable landscape once mining activity ceases, there are many challenges for the region as a whole in this transition. Hence, the Victorian Government established the LVRRC with four years to prepare and implement a regional rehabilitation strategy. This required extensive technical studies, the assessment of potential regional impacts on the environment, and, importantly the evaluation of likely future landscape changes and future land use options and associated economic and social opportunities that could be created over time as the mines close and are rehabilitated. The latter task has been informed by a draft Latrobe Valley Preliminary Land Use Vision based on key land use themes. These themes include tourism, energy, and service industries that emerged in conversations and workshops in 2018 and 2019 with local community members and other stakeholders, including the Latrobe Valley mine operators and government agencies. Additional context for the Vision comes from a social history study, which captures and celebrates the Latrobe Valley's heritage. This extended, participatory and data-based planning process illustrates a number of the processes profiled in this report, including Visioning. It has used multiple techniques and the LVRRC is due to deliver its strategy in the middle of 2020. Thereafter implementation will continue harnessing many of the collaborators and assets that have been identified throughout the process.
- **Monitor** – Tracking performance against plans, expectations and criteria agreed in advance. Using or developing company and community participants' skills in setting measurable goals and objectives, defining outcomes, developing indicators, gathering and analysing data and creating a positive learning environment, monitoring data provides a basis for evaluating success and identifying any adjustments or innovations needed. Management or monitoring regimes in some cases monitor prior to closure as well as during and after the transition for example using community scorecards[26]. They not only enhance the credibility of monitoring

[24] Rolfe, J., Kinnear, S. Everingham, J. and Akbar, D. (2018). ACARP C25032: Report 4 – Assessing the convergence of stakeholder views on post-mining lands uses in the Bowen Basin. Queensland: ACARP.
[25] Earth Resources, Victoria, Latrobe Valley Projects
[26] Some Community Scorecards provide opportunities for wide input on perceptions of standards of environmental performance or service provision against agreed indicators (such as those of air quality, employment levels or service provision. However, more significant are those where community volunteers or a community organisation uses trained volunteers to conduct systematic

reports but provide potential for a sustainable post-mining monitoring regime. This will be the case with the VETAC in Sudbury, Canada[27] where this community-controlled body drives a participatory monitoring process with the capacity to track cumulative impacts of multiple industries and harness many local resources for various rectification initiatives. As explained in section 6.1 participation of the City of Sudbury and other partners means the initiative can be resourced beyond closure.

7.3 Levels of participation (*how* to participate)

The question of how people are enabled to participate in closure and what type of participatory process to use is also critical. There are many types of participatory processes, which each require different levels of commitment and capacity by the parties involved. Different types of participation will be more or less appropriate depending on contextual circumstances and the level of commitment members of the different affected communities are willing and able to contribute. It is valuable for companies to understand the range of types and levels of participation. There are different ways of describing the types of participation in various processes that companies can use with stakeholders that convey the increasing complexity and commitment they involve and the variable capacity demanded of the company and other participants. This variety is depicted in the Panorama of Participatory Processes[28] which conceives of six progressive levels of participation culminating in a convening company ceding control altogether to a community or subsequent authority or landholder as shown in Figure 4.

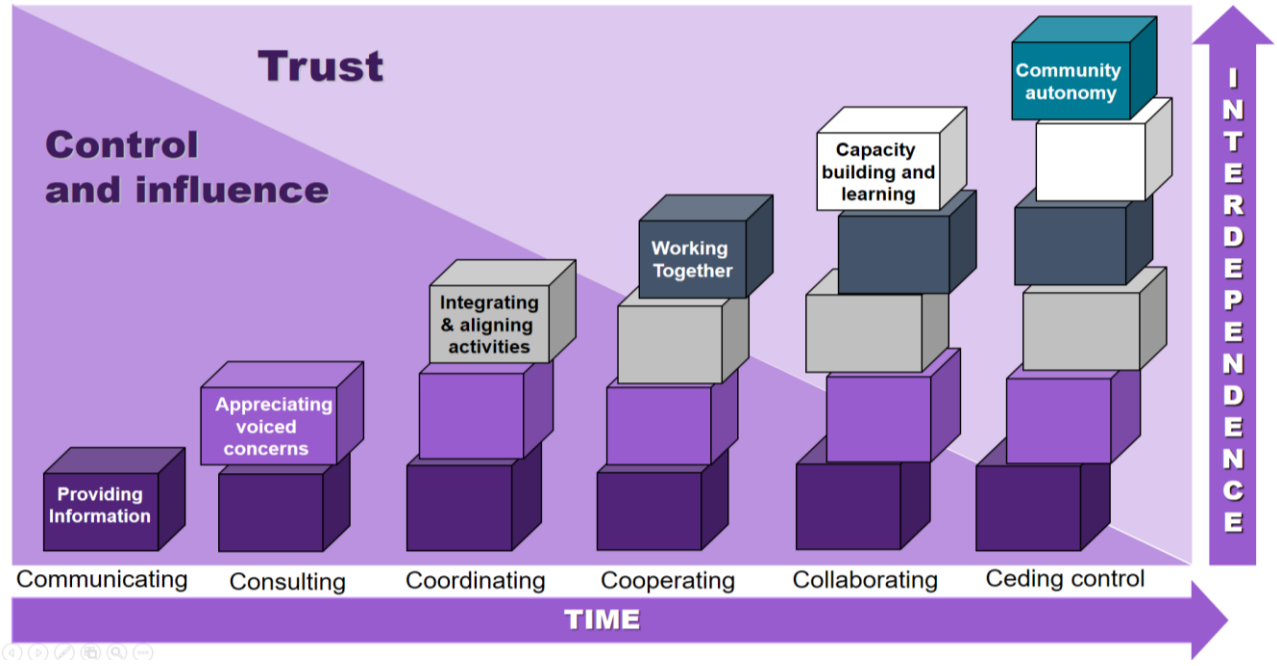

Figure 4: Types of participation ranging from company-led provision of information to community-led processes, structures and administration

measures of specific matters within their area of interest or expertise from environmental matters such as water acidity and rainfall measures to populations of particular plant or animal species.

[27] The Sudbury region like the Latrobe Valley will continue to have active mining for some years. Even as a transition to a positive post-mining legacy is envisaged and enabled.

[28] Modified from: http://partnerships.ucsf.edu/sites/partnerships.ucsf.edu/files/images/Collaboration%20Continuum%20Definition.pdf Accessed 23/02/2011.

- **Communicating** involves *providing* comprehensive, balanced, objective and authoritative information to stakeholders so they can understand options and considerations. Feedback is not sought and communities have negligible influence on decision making (through this process at least). Though important for keeping affected communities informed of decisions and actions, the provision of one-way communication is not very demanding of companies and communications would be generated as part of their broader community or media relations programs. Common techniques to support this type of process are websites, factsheets, newsletters and media reports.
- **Consulting** involves two-way communication to *exchange information* for mutual benefit. This is relatively easy to do. It requires respectful listening and soliciting of feedback but usually only limited time availability and still no concession of control, advantage, influence or autonomy. Participants can contribute but control and influence is often unbalanced with the company using consultation to minimise business risk. Inviting community members to participate in consultation about closure options and activities or a post-mining future is perhaps the most common opportunity companies provide for communities. For example, the Ensham Residual Void project[29] presented the CRG with three options though they didn't have a role in designing those. The presentation utilises aerial visualisations, GIS and virtual reality. Similarly, Rio Tinto's Gove operation[30] uses virtual reality technology with Traditional Owners in preparation for the anticipated end of production in 2030. Illustrating rehabilitation processes gives insight into how the land may look in the future. Thus informed, Traditional Owners have the opportunity to see their future aspirations and share their feedback with the company.
- **Coordinating** involves exchanging information, *integrating perspectives and altering activities* for mutual benefit and to achieve a common purpose. Such participatory processes involve interaction between the company and stakeholders, and require a higher level of trust and some concession of control, influence or autonomy by a company intent on harmonising where possible. For example, at the former Hydro Aluminium Kurri Kurri Smelter site and the surrounding buffer lands located at Loxford, NSW, where operations ceased in 2012, the Hydro Kurri Kurri Redevelopment Project[31] involved representatives of the community and local government in informing a redevelopment plan. The resultant plans for the 2000 hectare site include approximately 65 per cent of the land being set aside for conservation, 10 per cent each for residential and industrial use (respectively) and 15 per cent for rural land. Importantly, the Community Reference Groups advised on consultation strategies and relevant regional strategies with which the company coordinated its planning including the local government Kurri Kurri District Strategy.
- **Cooperating** involves exchanging information, altering activities and *sharing resources and rewards* to achieve mutual benefit in the form of a common purpose. The increased commitment required may involve written agreements, shared resources and human, financial and technical contributions. Cooperative processes require a substantial amount of time, high level of trust and, with the contributions and resources required, some sharing of control and influence. Participants and company work together in a relationship. An example, is Woodcutters Mine in the Northern Territory[32] where Newmont works in partnership with the traditional owners on closure projects. Though company studies suggested five options for post-mining land use, they did not present these to traditional owners. Rather, they asked traditional owners to identify possibilities and indicate preferences and funded studies that they requested. After two years, the traditional owners came up with the same options and ruled out ones that the company had judged impractical or not feasible. Cooperation continues on implementing the final preferred

[29] Ensham Residual Void Study, Community Reference Group Meeting Minutes 4/6/2018.
[30] Rio Tinto (2020) Gove.
[31] Advance Cessnock Commercial and Industrial Land, Cessnock City p6-9
[32] Decipher (2019) How Newmont has rehabilitated the Woddcutters mine.

option. For instance Rusca Bros Services Pty Ltd, a 100 percent locally owned, indigenous civil, mining and recruitment organization, was the earthworks contractor for a project to reclaim a 'borrow pit' and create a wetland in accord with the preferred option of the traditional owners. The project used over 90% Indigenous employment and lasted for over a year.

- **Collaborating** involves exchanging information, altering activities**,** *sharing resources, risks and responsibilities plus enhancing each other's capacity* for mutual benefit and to achieve synergies beyond a common goal. The qualitative difference to cooperating is that organisations and individuals are willing to learn from each other to become better at what they do. It requires a substantial time commitment, and significant sharing of control as organisations share risks, as well as responsibilities and rewards. Companies adopt an iterative and interdependent approach to partnering with participants. For example, the mining company Vale Inco collaborated with the Vegetation Enhancement Technical Advisory Committee[33] (VETAC) and local communities in reclamation of the Sudbury region affected by mines (magmatic copper-nickel sulphide deposits) and smelters. It has been estimated that a total of 15 million trees have been planted over the past 30 years by VETAC, the industry and the community. 'Greening of Sudbury' is one of the largest re-greening participatory projects in the world. Community members can participate, not only as volunteers, but through the re-greening App, taking virtual tours and YouTube viewing of activities. Some dozen collaborating partner organisations contribute time, funding, energy, staff, supplies and resources.
- **Ceding control** can be the culmination of collaboration in the lead up to relinquishment. This involves handing over operations and administrative structures to a fully independent or autonomous subsequent owner or operator consistent with regulatory requirements. This may be a gradual transition potentially accompanied with an agreed scaling down of company involvement and contributions. This can be appropriate for foundations, trusts and for infrastructure that may have been shared during operations and remains valuable to the community once production ceases. This type of participation provides the opportunity for participants to self-mobilise, independent of the company. For example, the assets of Iron Ore Company (majority venture partner Rio Tinto) include processing plant and transport infrastructure as well as their mine in Northern Quebec/ Labrador, Canada. They sold a railway at a nominal sum to a company owned by three aboriginal groups which now operate a passenger and freight service on the line. Such a transfer can occur during operations or as the end of production approaches.

The participation panorama also illustrates actions requiring a low level of trust such as information sharing to a very high level of trust needed for collaborating; and increasing degrees of interdependence between partners, or those participating in closure, as the locus of control and influence shifts from company to community bodies.

The ways of participating and participants' degree of 'voice' will vary according to the complexity, uncertainty and value ambiguity of the decision-making context, the function expected of the participatory processes, and the type and number of participants.

Many processes, including some of those profiled in this report, can be used in different ways, by adjusting the extent and nature of sharing that occurs and the degree of power or influence exerted by various participating community groups and organisations. Considering a sequence of issues helps align the purpose of participatory processes with the context of transition to closure. Figure 5 illustrates decision pathways to determining the appropriate type of participation. For example, open communication of intentions may be sufficient where local acceptance is not critical, but in most cases, greater interdependence is warranted and other levels of participation are required.

[33] Greater Sudbury (2018 Regreening Program

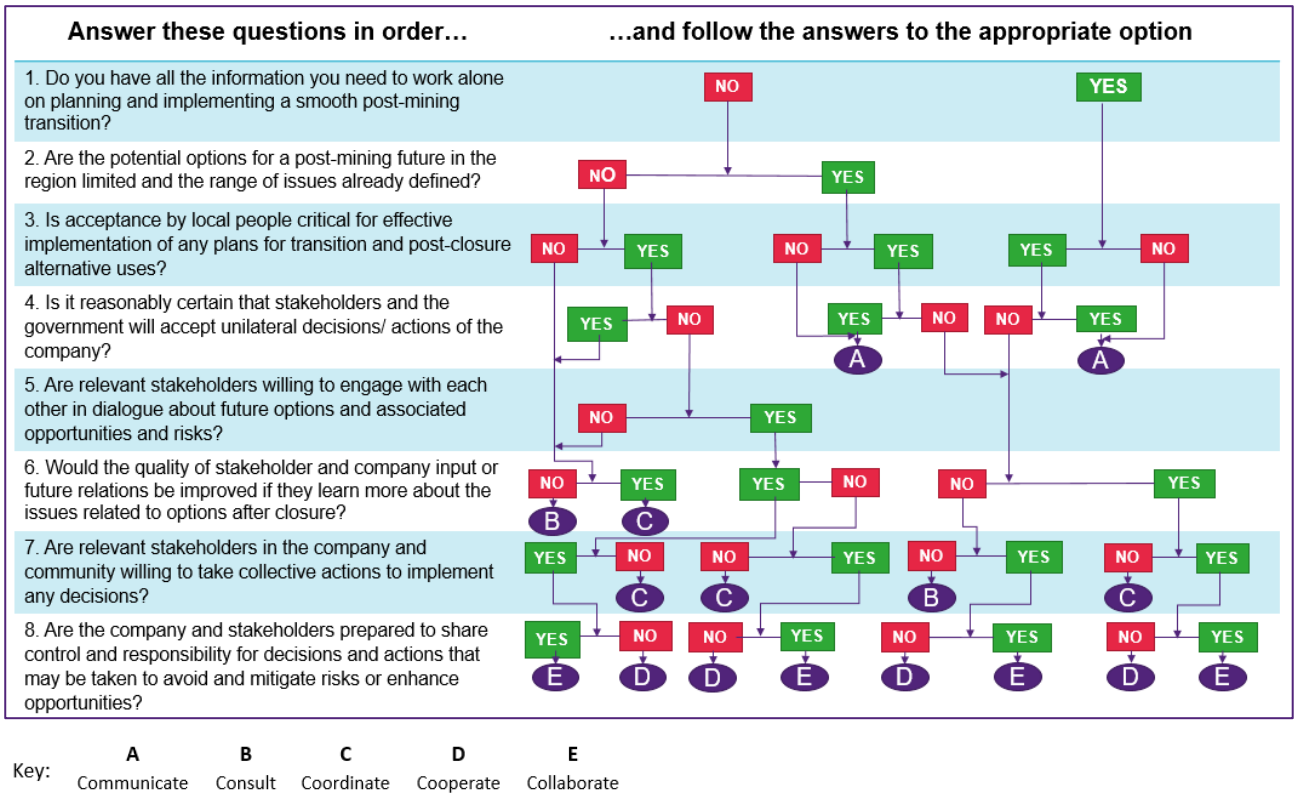

Figure 5: Pathway to deciding participation in decisions and activities about mine closure transitions

7.4 Mine life-cycles and closure transitions (*when* to participate)

Nowadays optimising mine planning and investment throughout the life-cycle to result in enduring value and resilience in a geographical area and fostering community relationships are becoming features of mining companies' operations. However, many current mines were developed prior to modern obligations and requirements that are now placed on mining operations under legislation. Hence retrofitting these processes will be necessary for some time. Different stages of the mine life-cycle will be conducive to different participatory processes and, indeed, to different attention to and detailed discussion about the closure transition. There is no direct alignment between a type of participation and a stage of the mine's journey towards closure. It is understandably difficult at the outset, when attention is on realising the opportunities arising from mine operations, to discuss closure with local communities. Nevertheless, raising awareness of the mine's finite life and eventual closure is important. Stakeholder participation in issues related to closure should therefore be considered as early as possible in the mine life-cycle and continued through to the closure process. This respects people's right to participate in the way closure impacts are addressed in their communities and gives them plenty of time to prepare for the post-closure situation of the community. Involving stakeholders early also strengthens the effectiveness of social investment programs and strategies during the operation phases and positions them to leave a positive post-closure legacy.

Depending on the regulatory jurisdiction and company policy, the many topics raised during the Social Impact Assessment for permitting may include anticipated mine-life, potential post-mining land uses, likely residual risk and proposed rehabilitation measures. Such matters are often referred to as conceptual closure planning. By capturing closure risks and opportunities from the outset and proactively considering closure in the mine design, business plan, and operational plans, residual

risk is likely to be minimised. However, such details may not be available for various reasons including failure to transfer during ownership changes.

Some of the processes profiled for this study (Appendix A) are suited to encouraging on-going participation by external stakeholders. For example, community reference groups and impact and benefit agreements often involve long-term commitments over the life of the mine though their focus on the transition to a post-closure scenario may become more detailed as time progresses. Others are more appropriate for a point-in-time participation about a specific issue. For example, future visioning and the Towns transition tool are finite processes that will often be scheduled some years in advance of the anticipated end of production as detailed mine closure planning is undertaken. On-going processes have the advantage of strengthening relationships and building trust as well as commitment. However, they can be slow to bear fruit and pose difficulties maintaining motivation and continuity. On the other hand, a more rapid process may appeal to achieve a decision in a short time frame and allow prompt action. However, without an established trusting relationship, it may not be effective and any decisions reached may not have widespread support.

Another argument for early initiation of participatory processes and discussions of closure and post-mining options is to maximise options. It will be too late to start building the trust and relationships to achieve the most effective participation about social transitions in the final year or two before planned closure. As well, details of mine design, operational practices and progressive rehabilitation activities will have narrowed the range of available options considerably without early attention and conscious planning. The earlier that risks and unknowns are identified and reduced with the participation of stakeholders, the greater the potential for meeting specific closure objectives. In addition, early understanding and agreement about shared closure objectives of company and community need not be inflexible and constraining. In fact, they allow resilience to the turnover of personnel and other inevitable changes and ensure well-aligned institutional planning throughout mine life-cycle transitions.

Some participation in social aspects of mine closure planning and activities are appropriate at every stage of the mine life-cycle, for example:

- During *Exploration*: assembling a knowledge base to inform a broad closure vision
- During *Approvals and Development*: early closure design and risk and opportunity analysis
- During *Production*: progressive rehabilitation towards closure goals and updating closure plans
- During *Closure*: planning of post-mining land uses related to local values and visions
- During the *Post-closure* period: monitoring and responding to unpredicted, slowly emerging risks that may initially be invisible or undetectable.

8. Conclusion: Optimising participatory processes

8.1 It's not what you do, but how you do it

Most of the processes profiled in this report can encourage participation across the multiple aspects of the management cycle – understanding, planning, implementing and monitoring (see Table 1 and section 7.2). They can also be adopted, in different ways at different stages of the mine life-cycle (see section 7.4). Companies typically evaluate public participation using quantitative measures such as the number, type and frequency of public participation events, the number of participants, and social media statistics. Process is not ideally evaluated with such quantitative measures. Instead, consider qualitative measures that assess what people think and provide insights as to 'how,' 'how well,' and 'why' the participation was (or was not) effective. Qualitative data collection approaches and indicators are especially relevant with hard-to-quantify intangibles such as the

fairness and competence of a process, and the trust, capacity, sense of ownership, relationships and perceptions that are integral to participatory processes. Useful qualitative information includes whether the participatory processes:

- used suitable and effective techniques
- were conducted efficiently
- gave everyone access to comprehensive, intelligible and trustworthy information
- were cost-effective and timely
- had an impact on decision-making and if so, in what way.

Other information could include whether:

- all participants and people from all participant groups felt that they were listened to and could defend and challenge claims
- all interested and affected people and groups perceived they had suitable opportunities to participate
- parties developed greater trust in each other and respect for the knowledge, experience and views of each other.

While qualitative data is not always collected as often as quantitative data, it is invaluable in the context of evaluating public participation at any stage of the mining life-cycle. Qualitative information can be collected through various methods including interviews, focus groups, open-ended survey questions or community scorecards.

8.2 A panorama of participatory processes

As indicated in section 7.3 many processes can be implemented to suit different agendas, stakeholders, communities and closure objectives. These types of participation characteristically involve different approaches adopted by the company, predominant patterns of communication and groups whose voices are heard and participation is enabled. Table 2 indicates differences between processes in key respects.

A process-focused evaluation would focus on the ‘How’ dimension of the various types of participation identified in Figure 4 and would consider the differences in the three key respects illustrated in Table 2:

- The main objective or goal of the process
- The overall closure agenda and focus
- The promise to participants and opportunity for participants

Table 2 also illustrates that different types of participation involve increasing complexity, effort, trust and interdependence. It shows some techniques that can be used in the different types of participatory processes by way of example, but they are not developed further in this report.

Table 2: Panorama of participatory processes showing characteristic differences between types[34]

Communicate	Consult	Coordinate	Cooperate	Collaborate	Cede control
Goal or main objective of the participatory process					
To assist the community to understand the alternatives, challenges and opportunities	To exchange knowledge, experience and views with the community and obtain feedback on our plans and activities	To develop shared understanding of activities, concerns and goals and identify potential alignment	To work closely with the community, to consider and respond to concerns and learn from each other	To partner with the community share risks as well as responsibilities and rewards/ benefits	Relinquishing to a self-sufficient community (or alternative subsequent owner)
Closure agenda and focus					
A community fully informed of company intentions	Company options for site rehabilitation	Company options for aligning footprint rehabilitation plans with regional plans	Joint options for mitigating negative impacts and optimising opportunities	Community options for a positive regional legacy and resilient future	Community control of a thriving post-mining future
Company's promise to the participants and opportunity for them					
We will provide you with balanced, objective and authoritative information	We will listen to & acknowledge your concerns, aspirations and contributions and provide feedback on any related changes	We will involve you in integrating information and aligning our activities with yours for mutual benefit	We will share information, knowledge, and resources and alter activities to work together for common purposes	We will partner to exchange information and resources, alter activities, learn from you and enhance your capacity	We will let you control actions, decisions, agreed resources, responsibility and risk.
Some suitable techniques (though many techniques can be implemented for multiple processes)					
Fact sheets, Websites, Newsletters, Advertisements, Public displays, Media releases	Focus groups, Surveys, Public meetings, WhatsApp, Hotlines / grievance mechanisms	Workshops, Brainstorming, Tours, heritage surveys and field trips, Deliberative dialogue	Working bees, Joint ventures, Advisory committees Taskforces	Learning circles, Wiki, Communities of practice, CD initiatives, Institutional strengthening	Delegated authority, Controlling board, Majority equity.

[34] Adapted from International Association for Public Participation. 2006. IAP2 Public Participation Available at https://iap2.org.au/wp-content/uploads/2019/07/IAP2_Public_Participation_Spectrum.pdf & Himmelman (2001) On Coalitions and the Transformation of Power Relations: Collaborative Betterment and Collaborative Empowerment. *American Journal of Community Psychology*, 29(2): 277-284.

Appendix A – Profiles of selected participatory processes

A-1 Community reference group (CRG)

Characteristic	Details
What is it?	A Community Reference Group (a.k.a. Community Consultative Committee) is a group of interested and affected parties convened as a forum for information sharing and a conduit between company and community. They discuss community expectations, issues of concern and options for their resolution in advance of decisions and actions.
Why use it for the social transition at closure?	To give community leaders and most affected parties a voice in planning for a post-closure future and the pathways to it. A CRG provides for: • open dialogue between company and community representatives and leaders about shared and contradicting views and values about current and future options • sharing expertise, interests, concerns and perspectives and aligning anticipatory activities. • continual advice to inform planning of the eventual transition post-mining.
Opportunities for participants to discuss or act on closure	• Potential and preferred post-closure land uses – advantages and disadvantages of options. • Involvement in setting and providing feedback on the closure vision, objectives, measures and criteria. • Assessment of mine closure plans, progress towards objectives and achievement of success criteria. • Risk and opportunity discussions including about management strategies and responsibilities.
Who participates?	By invitation, a selection of ~6-12 volunteers from the host (or affected) community who are representative of, and familiar with community aspirations, and with local and regional assets, circumstances and plans (e.g. from agriculture, business, governments, Indigenous groups, essential services, perhaps unions). It should extend beyond elected community leaders and ideally involves company representation of the MD, social performance and environment teams. Often there is an independent (and remunerated) chair and members have rolling fixed terms to give continuity and renewal. Members' expenses may be met, or, less often, sitting fees paid.
When does participation re social aspects of closure occur?	CRGs are usually standing committees that operate for the life-of-mine with regular opportunities to highlight social risks of options, assess the community's degree of socio-economic dependence on the mine, and identify measures and social investments that would build community resilience and prepare for a viable post-mining future. Attention to closure issues would become more focused as (planned) closure approaches. During the final five years of production it would be a CRG's major focus.
How often and for how long is there participation?	CRG's have a regular schedule of meetings and potentially the closure plan (including aspects related to the social transition) is annually reviewed with the CRG. Meeting frequency is determined by members (e.g. quarterly). They may become more frequent in line with number and complexity of issues warranting attention. Another alternative is a time-limited CRG for a specific task or project as for the Ensham RV example see section 6.1.

What is participated in and what purpose does the participation serve?	Participation in a CRG serves multiple closure-related purposes. It can be considered as comprising the full **management cycle**, since, to varying degrees it: • Develops rich knowledge and **understanding** of the project, the context and key issues. • Informs **planning** of potential closure options and their relationship to existing or potential assets available in the community, and to other relevant projects and plans. • Reviews rehabilitation activities, social investments and community capacity-building during **implementation** as contributions to smooth social transitions during mining. • Involves the community in **monitoring and evaluating** progress towards achieving closure criteria potentially including social criteria.
How do people participate? **The type of participation.**	This forum for discussion, exchange and establishing good working relationships is advisory, not decision-making. Participation is mostly **communicating** and **consulting** – though some will involve **coordinating** community activities and plans with the company. The CRG may identify opportunities to **cooperate** on activities where there are shared objectives leading to **collaborative** initiatives.
Process followed	A CRG usually has formal terms of reference and follows meeting procedure. Community representatives participate in structured and minuted meetings. A variety of techniques including expert/ guest presentations, briefings and field visits are used to elicit the full diversity of views and to encourage two-way flows of information. The format allows for a variety of regular agenda items and documents to be provided to members. In some cases the meeting schedules, agendas and minutes are made public.
Data used	CRGs consider multiple layers of qualitative and quantitative data – including baseline understandings of the community, impact assessments, demographic and socio-economic projections for the area. They also contribute and consider data on the views, concerns, aspirations, efforts and knowledge of internal and external stakeholders.
What works? Benefits and enablers	The major **benefit** of a CRG is that it offers a venue for life-of-mine participation by multiple stakeholders in planning for the long-term sustainability of their community by: • Developing a shared vision of the future at any stage of mining through open exchange of data, plans and priorities. • Ongoing cultivation of respectful and enduring company-community relations. • Communicating, validating and aligning rehabilitation and closure plans, performance criteria for the social transition and completion goals of company and stakeholders. • Informed discussion of challenges, risks and opportunities associated with closure and of the likely advantages, disadvantages and feasibility of various options. • Identifying and coordinating shared responsibilities for initiatives and infrastructure. • Becoming ambassadors for social learning around the closure/transition process. • Responding to changing circumstances and knowledge over multi-year participation. Participation of CRG members is enabled by: • Providing a committee secretariat and/or annual budget (e.g. to cover expenses but also allow for commissioning expert advice/ studies). • Training and induction of CRG members to the ways the CRG works and an understanding of the company and the operation.

	• An effective chair who resists manipulation and ensures all members have the opportunity to speak, ask questions and express and explain their views.
What doesn't work? Drawbacks and barriers	• Having considerable confidential information and not fully informing CRG members or restricting information they share. • Relying on CRG members to disseminate information to the community and speak for the broader community. • Operating the CRG in standard meeting formats and ignoring local cultural conventions and protocols. • Focussing on immediate risks and impacts during construction and operations to exclusion of early consideration of the longer term and closure. • Community representatives experiencing 'consultation fatigue' and multiple demands and having difficulty separating (or effectively synthesising) cumulative impacts.
Challenges in aligning this process with principles of participation	**Inclusively** capturing the full diversity of community views and impacts including for vulnerable and marginalised groups as participation requires capacity and resources. Non-local interests are not represented. Ensuring fairness and **equity** for under-represented groups is difficult given the limited numbers in a CRG. In recognition that some individuals or groups may be able to benefit disproportionately from matters they are advising on, CRGs often require declaration of a conflict of interest. As most CRG members participate in a voluntary capacity, it is important for the company to provide in-kind and other **resources**.
Potential for this to work with other participatory processes	CRG members could form the core of participants in a number of other processes such as a **Rapid Appraisal, Towns tool** or **Visioning** exercise, or **Participatory Monitoring**. As a conduit and liaison between company and community, the CRG can **advise** on suitability of various processes and appropriate participants.

A-2 Visioning

Characteristic	Details
What is it?	Visioning is a process and a product: the process brings people together to express their perspectives and build a shared vision for their community; the product is a vision statement that is a basis upon which to build plans and projects. Like many participatory activities, the process, and how it happens is more important than the product.
Why use it for the social transition at closure?	• Visioning can be used early in a closure planning process to facilitate wide participation in the building of a shared objective for the future of a community post closure. • Involving people from the outset of any process for change will help generate a sense of ownership and commitment to making change successful. • Visioning as a process can help build or strengthen social capital, build leadership capacity and improve communication as people work together. These capacities will enhance the success of subsequent planning and implementation of actions.
Opportunities for participants to discuss or act on closure	Because visioning is future-focused, it can be used as a process to deal specifically with closure. Visioning enables participants to reflect on what they would like the future of their community to be as the company withdraws and the legacy it can leave.
Who participates?	Visioning needs strong facilitation by people who can shepherd the process, ensuring the widest participation possible from the community. It is important to hear different voices to build the vision: business owners, youth, parents, seniors, and education and health service providers, will all have different perspectives, but they all live together in the town or community. The company places itself in this process as a participant, not the leader. It can participate until it leaves, but the community is building a vision for their future without the company.
When does participation re social aspects of closure occur?	Best practice recommends to consider post-closure scenarios from the outset of a project. This may influence technological choices with regard to disposal of waste and processing technology for instance. Investment in capacity building and local business enhancement may also be aimed ultimately at diversification and post closure opportunities. However, these will not be front of mind while operations are in full swing. As **closure approaches** the company and the community need to turn specifically to what the community aspires to be post closure. Visioning is best used as far in advance of closure as possible so that company support can be leveraged to more pro-actively build alternative prospects for the community, reducing dependency on the company. Addressed too late, the prospect of mine closure can generate a sense of doom, be demotivating, paralysing action as the prospect of existing without the support of the company seems insurmountable.
How often and for how long does participation occur?	Used early, a visioning process can serve as both a starting point for planning, and a yardstick to revisit regularly to measure progress and to readjust. The visioning process itself can be iterative, taking place in a series of workshops over two to three months with progress communicated widely and regularly. It can be revisited at intervals such as every five or ten years with readjustments integrated into the planning process.

What is participated in and what purpose does participation serve?	In terms of management tasks, the visioning process is a first step in the closure **planning** process. Sharing perspectives and aspirations, participants can build a common **understanding** and vision to work towards. Participation in a visioning process also serves to generate intangible outcomes that will serve for **implementation** and activities in the future. These include improved communication in the community, increased social capital, greater public participation in decision-making and emergence of new leadership. All of which take the onus off the company to lead.
How do people participate? **The type of participation.**	Participation in a visioning process requires clear **communication** to inform people of the process and generate enthusiasm to encourage widest possible participation. Consultation to ensure appropriate means and times to build the vision is also important to ensure people can participate meaningfully. Ideally the company is an active participant alongside others, in workshops and group activities, such that **coordination** and **cooperation** are led by stakeholders rather than the company, generating a **collaborative** process for on-going planning and implementation that will enhance the resilience and success of the community after the mine closes.
Process followed	In terms of the process, it is important to be responsive to the community. Depending on how pro-active and motivated communities are, more or less time may be required to generate enthusiasm for the process and convene an initial meeting. In the case of mine closure, there may be negative reactions if people had not realised this was a future prospect. Ideally, a steering committee representative of a wide range of community stakeholders across the public, private and civil society sectors will lead the process. The process itself will require several meetings or workshops and activities, convened over a period of months. These can be community workshops, or future search conferences, for instance. This process will enable agreement of objectives, gathering of necessary information, analysis, and building of a vision and wide dissemination of that vision. This constitutes the foundation for agreeing next steps leading into a planning process. The earlier this process can be begun with regard to mine closure, the stronger the participation and benefits of that participation will be.
Data used	Stakeholders may bring to the workshops their own knowledge and data regarding their particular sphere of activity or interest. Gaps in information can be identified and between the different workshops further information gathered.
What works? Benefits and enablers	The **benefits** from this process for the social closure transition include: • Providing clarity around what closure will mean and generating shared and agreed objectives. • Building of social capital, leadership and communication to increase the potential for successful transition. • Taking the company out of the centre, paving the way for a gradual reduction of dependency on the company. Participation of those involved in the process in the social transitions of closure can be **enabled** by: • Developing participatory approaches supported by the company over the life of the mine, so that people are used to being actively involved. • Expert facilitation and convening to ensure inclusivity. • Good communication and appropriate channels and venues to ensure people are easily able to participate. Holding meetings during working hours or at meal times (unless providing food) is not conducive to widespread participation.

What doesn't work? Drawbacks and barriers	Some of the **barriers** to visioning processes include: • A lack of mobilisation or enthusiasm for participation by a reasonably representative group of stakeholders, leading to low acceptance of the vision statement. • Lack of trust or social capital within the community. • Strong differences of opinion. It is important to ensure everyone's voices are heard and recorded, building trust in the process. It can help to remember the vision is a high-level aspirational goal, not a detailed plan of how it will be achieved. • Large populations can make it harder to get information out and there may not be as much experience with community activities. • The process can be dominated by the loudest voices, so needs to be skilfully facilitated.
Challenges in aligning this process with principles of participation	Challenge, as with any activity that convenes people in a group, revolve around ensuring an open process. For example, ensuring wide-ranging participation, from the elderly to youth, women, men, indigenous people, business people, immigrants, government employees, retirees, company staff, unions and unemployed people. Skilled convenors and facilitators supporting the process can ensure it is **inclusive**. Communicating widely, holding several meetings and ensuring feedback all require the process to be **well-resourced**, this is something the company may invest in. Running the process over a few months with opportunities to gather information or invite feedback and reconvene at intervals will ensure it is **responsive**. The more the visioning process can align with the principles of participation, the more effective it will be and the more useful the product – the vision statement.
Potential for this to work with other participatory processes	A visioning process must start with a shared understanding of what the situation is and where opportunities may lie. Implementation of the **Town transition tool** process can serve to bring people together and get everyone on the same page in order to start building a vision. Existing participatory mechanisms such as **Community Reference Groups** can be a vehicle for coordination. The agreed vision statement provides guidance as to the objective of strategic plans (such as **strategic community investment**) or optimising opportunities within the **SIA** process.

A-3 SIA for closure

Characteristic	Details
What is it?	Social impact assessment (SIA) is a process to identify, assess, manage and monitor social, cultural and economic impacts - positive and negative, direct and indirect - of a project, or planned change or intervention.
Why use it for the social transition at closure?	• To identify, address and manage a broad range of social and economic issues/impacts. • To identify acceptable future uses/opportunities of infrastructure and land from the perspectives of different stakeholder groups. • To provide greater certainty in a period of pending change. • To predict the likely impacts (and can, at the same time gauge public acceptance) of a proposed closure plan before it is implemented. • To improve decision making processes and achieve sustainable and equitable outcomes from decisions.
Opportunities for participants to discuss or act on closure	Because SIA involves forward projection based on the collection of salient local knowledge, it is ideal for use prior to any proposed or foreseeable change such as the end of production. In providing a basis for designing management and monitoring of changes, it also gives the opportunity for the community to prepare for anticipated changes and assess their likely impact.
Who participates?	SIA is usually coordinated and conducted by an external consultancy or research organisation, with expertise in social science research. SIA practitioners then engage as broadly as possible with potentially affected groups in communities to understand their concerns and issues around closure. SIA aims to uncover and address the concerns of vulnerable groups and will target their participation as far as practicable.
When does participation re social aspects of closure occur?	SIA will often be conducted as part of an Environmental Impact Assessment for initial approval of the project, but in many cases the results may be redundant or inaccessible by the time of closure. SIA for closure would directly inform the mine closure plan, in that it involves collecting baseline data, understanding local context and values, assessing residual risks and developing strategies to achieve closure objectives. SIA for closure would be refined as the mine closure concept plan becomes more detailed and be repeated **approaching closure** before any final plans or decisions about closure are made. It would ideally be used early in closure planning or to evaluate and add detail to an initial proposed closure plan. SIA can also be the beginning point for an ongoing **post-mining** (participatory) monitoring program that evaluates the effectiveness of strategies in achieving desired outcomes.
How often and for how long does participation occur?	Because SIA is a process using a range of techniques, various levels of participation are required at different times. The whole process can last three to six months. The first steps of SIA are mainly desktop analyses of context and stakeholder relationships. Those likely to be affected by closure may differ from those affected by operations. Once stakeholder groups and dynamics are understood, widespread consultation with the different stakeholder groups will begin. This may last around 6-8 weeks. It will include active participation of key persons in each stakeholder group.

What is participated in and what purpose does participation serve?	Interviews, focus groups, town hall discussions, surveys and meetings are used to: • Increase **understanding** of how different groups within a community will be affected – both positively and negatively – by closure. • Increase **understanding** of their concerns and aspirations around closure and possible future outcomes. • Increase **understanding** of acceptable management strategies and desirable outcomes for each stakeholder group. • Enable informed **planning** of strategies to minimise harm and maximise benefits.
How do people participate? **The type of participation**	SIA engagement is a form of **consultation**, where stakeholders are asked to provide their views in order to capture the range of views held. The information is collated and analysed by SIA practitioners. Follow up consultation may occur with representatives from stakeholder groups, who may participate in **coordinating** and aligning effective strategies and planning.
Process followed	• Desktop stakeholder analysis, socio-economic profiling and baseline assessments. • Widespread engagement with affected stakeholder groups, targeting vulnerable groups to identify key values, concerns, aspirations, and how they are likely to be affected by closure. • Assessment of likely impacts by stakeholder group and the level of significance. • Key stakeholders participating in designing effective and acceptable mitigation/enhancement strategies, especially for any residual risks identified. • Report informs company decision making. • Design and initiation of a monitoring program to measure change from the pre-closure 'baseline' assessment.
Data used	**Quantitative –** Existing demographic and economic data, employment statistics, cost of living and wellbeing measures. Existing community plans can be used to identify values and goals and household surveys may be conducted if statistical data is unavailable. **Qualitative –** Stakeholder groups are asked about their concerns, aspirations, what they see as the impacts and opportunities presented by mine closure, their values and priorities for change and preferred strategies and actions to ensure a resilient and viable post-mining future.
What works? Benefits and enablers	**Benefits** from this process for the social closure transition include: • Effectively identifies a range of stakeholder groups and communities and articulates differences in how they may be impacted by mine closure. • Effectively informs decisions (and predicts responses) before they are made. • Demonstrates procedural fairness that builds trust and acceptance. Participation of those involved in the process in the social transitions of closure is **enabled** by: • A proactive mine operator who has established good relations with neighbouring communities. • Expert SIA practitioners.

What doesn't work? Drawbacks and barriers	Factors inhibiting participation in an SIA process to address social transitions: • Social baseline and trend-line statistics may not be readily available. • Consultation fatigue among stakeholders if heavily engaged. • Conflict arising between stakeholder groups.
Challenges in aligning this process with principles of participation	For SIA to be **inclusive** and **equitable**, it needs to be **well-resourced** in both finances and time in order to reach all community groups. The main challenge is that it is a finite process and therefore only **iterative** to the extent it is regularly repeated as the closure SIAs at Century and Waihi mines were. The expert SIA practitioners are usually engaged on a short contract and the community will most likely not see them again. The participatory approaches therefore may not build long-term relationships unless there is a hand-over process to possibly a Community Reference Group or other organisation. SIA in itself is also not **responsive** unless there is an ongoing monitoring program or SIMP attached to it. This is a challenge because there could be a significant time lag between when the SIA is conducted and the closure plan is implemented and circumstances could have changed.
Potential for this to work with other participatory processes	SIA fits well with **Rapid Appraisal** using indicators, which could be used to establish baselines with ongoing monitoring, and with **Participatory Monitoring**. SIA could be aligned with future **Visioning** to enable discussion of the impacts and benefits from different scenarios. SIA could also help identify new members of a **Community Reference Group** suited to the closure phase.

A-4 Foundations and trusts

Characteristic	Details
What is it?	Foundations, future funds and trusts are discrete legal philanthropic entities that companies establish to collaboratively share the benefits derived from mineral production with communities through community investment and various payments now or in the future.
Why use this process for the social transition at closure?	Various models provide a strong development commitment to beneficiary communities. • Create permanent endowments for intergenerational distribution of benefits. • Use project experience and investment earnings on the endowed fund to build capacity within the community to address local needs and opportunities in post-production years. This capacity development is evident in the Fundación Inti Raymi case (see section 6.1). • Accumulate or source substantial funds from which to make grants to local groups and organizations that give priority to equitable and enduring benefits and have potential to be self-sustaining beyond closure. • Enable community participation through representative governance structures, co-financing and project generation.
Opportunities for participants to discuss or act on closure	Foundation activities relevant post-closure that offer community opportunities to participate: • Design of both administrative structure and operational arrangements of the Foundation including criteria for funding and eligibility of grantees, types of projects. • Governance – Participation as a board member/ trustee in administering the fund and selecting projects • Project proposal and implementation – Participating in designing initiatives and implementing those funded • Co-financing – Other parties can supplement company funds with cash or in-kind contributions to expand the resources and capacity of the Foundation or Trust and achieve advantages of scale. • Public monitoring and reporting of investment outcomes – independent parties can be involved in project evaluations or regular communication about the Foundation's operation.
Who participates?	Jurisdictions have various requirements. Implementation can be through a separate legal entity of the company, a third party as trustees (e.g. NGO), or the company itself. There is usually a governing body (board of management or board of trustees) with representatives of multiple stakeholders including communities, the company and often governments as well. The process for regularly determining board members should be inclusive, and transparent.
When does participation re social aspects of closure occur?	While usually established after mining has commenced, ideally the Foundation or Trust will be established **early in the life-of-mine** to accumulate funds and develop capacity throughout the asset's productive life. A future fund aims to continue operating beyond the mine's operation. Distribution of funds is likely to occur during operations but restrictions may preserve an investment for the **post-closure** transition and period. For instance, the fund may retain the capital and distribute only interest earned, or a proportion of it, in any year. With such arrangements it serves as a 'futures fund' in perpetuity.
How often and for how long does participation occur?	Some Foundations have operated for decades and the potential for them to 'outlive' the mining operation is a key attraction. Some examples employ both an endowed fund (or 'long-term fund') and a development fund intended for immediate use with the ultimate goal of continuing to use the long term fund for a minimum of some decades post closure of the mine. Those participating as trustees may have a

	fixed term, with board renewal provisions and a regular schedule of meetings. Recipients of grants will participate, especially by reporting and monitoring, for their project's duration. Depending on the relevant constitution/ charter projects may be short or longer-term.
What is participated in and what purpose does the participation serve?	• A foundation engages in processes for **planning** and **implementing** community investment, development project approvals and payments. • Funding mainly assists **implementation** of transition to closure initiatives and projects. • While **understanding** the context will provide an important basis for the planning, and the implementation specified will be flexible enough to improve as a result of **monitoring** and evaluation, understanding and monitoring are not always integral to the structure and operation of the foundation or trust itself.
How do people participate? **The type of participation.**	High levels of participation ground the Foundation or Trust within a community and enhance its sustainability through capacity building and a sense of shared ownership. Eligible beneficiaries are **consulted** about their preferred representatives and receive **communications** about the possibility of grants and the activities of the Foundation. After establishment, there is ongoing **collaboration** among board members for grant assessments. Grant holders **coordinate** with the Foundation objectives and processes.
Process followed	• The company and potentially other donors contribute cash, or other assets (e.g. property) to the fund. Amount invested may be a percentage of revenue or expenditure or a production-based sum. • A Charter, Trust deed or Constitution defines the geographic and social reach, the purpose or goal, governance and administrative structures of the foundation or trust. • A collaborative process with a wide range of stakeholders participating identifies the needs of the beneficiary community and develops processes and criteria for funding proposals to address those needs. Often an initial emphasis on basic infrastructure, health and education programs evolves to business development, supporting alternative livelihood projects and a focus on capacity building as the Foundation matures and a long term focus develops. • Trustees or the board allocate Community Development Funds and award grants to initiatives, giving priority to those that meet the criteria, provide equitable and enduring benefits and have potential to be self-sustaining beyond closure. • Grant applicants or holders engage in project planning, implementation, reporting and evaluation – sometimes alongside Foundation staff/ board.
Data used	• Sound knowledge of the community — its institutions, dynamics, relationships and also existing development activities (and gaps therein) • Capacity building of local authorities and community based organisations • Sound knowledge of company/owner priorities and community investment portfolio. Needs analysis of intended beneficiaries particularly in areas that are commonly the focus of development projects supported by Foundations in the mining sector: • Local economic and business development • Health and wellness • Education and vocational training

	• Basic infrastructure • Employment and income generation • Environment.
What works? Benefits and enablers	Foundations and Trusts have **benefits** for the social closure transition because they: • Are suitable for remote and mineral-rich areas of impoverished countries, where government services and economic alternatives may be limited, and the impact footprint of mining development (e.g. on land-based livelihoods) may be significant. • Serve to transition communities and regions towards a sustainable development path beyond the life of the mine. • Offer the Foundation independence from the funder, to seek alternative external financing, to serve a broader population than might strictly be defined as the project affected community and to extend time horizons for the Foundation's life. • Establish a formal, professional and systematic approach to collaborative development. • Support long-term, multi-year development projects without necessarily being tied to annual company budgeting cycles. • Endowed funds can provide secure financial support for development independent of production at the mine and of the boom-bust cycle of mining investments. • Are a participatory, transparent and accountable mechanism for investment of revenues in development, particularly in situations where there may be high levels of corruption or distrust of public and private institutions. Funds that effectively contribute to social transitions at closure are **enabled** by: • Strong institutions and development capacity in local community organisations. • Pairing technical with financial assistance to add a capacity building dimension • Providing assistance with grant applications. • Making funding commitments in advance for long-term planning and projects. • Having dual strands – one for immediate projects and the other an endowment fund for later use, including beyond mine closure. • Partnering with NGOs, governments or local development actors to harness additional resources and complementary skills and expand the potential scope of projects.
What doesn't work? Drawbacks and barriers	Drawbacks can be: • Poor governance or financial controls, exorbitant administrative costs or corruption. • Operating a transparent Fund without protecting the confidentiality of grantees. • Mixing compensation and community investment funds instead of maintaining clear distinctions/ separation (e.g. managing and tracking different funding streams of an integrated benefits package). • Delaying setting up endowment funds until mine is profitable or relying on annual budget allocations. Such arrangement makes the fund vulnerable to commodity cycles and less conducive to long-term projects and availability after mining. • Tight control of the Fund by the company ('owner') or company insistence on branding, and direct control of the projects with limited community input to projects.

	• Focusing only on immediate development needs or philanthropic projects and not on the transition to closure or sustainability beyond mine production. **Barriers** to Fund effectiveness and causes of community disaffection can be: • Ill-defined or disputed funding criteria, and components of project financing, social and geographic boundaries of beneficiaries. • Lack of or discussion about sustainability, local ownership, and exit or handover is a recipe for community frustration and disaffection. • A short time between endowment and total reliance upon the interest to fund projects. • Administrative costs and development projects resulting in a small pool of funds. • Communities' resistance to deferred receipt of benefits if company is very profitable.
Challenges in aligning with principles of participation	As a formal organisation, a Foundation or Trust restricts the most intensive and empowered participation to a small number of board members so may not seem fully **inclusive**. Representation of relevant interests is possible with conscientious design. Disaffection is often about perceived **inequity** or lack of **transparency**, but these are also avoidable with conscious attention. Although entities may not automatically comply, the concept of Foundations and Trust is wholly consistent with the principles.
Potential for this to work with other participatory processes	**Agreements** often set up Foundations or Trusts. Some Foundations involve extensive strategic visioning exercises and hence may, at times, employ mechanisms such as the **Towns transition tool** or **participatory GIS**. Sometimes, the Trust board works with a **community reference group** in assessing projects for funding. As well, to ensure their selection criteria are aligned with community needs and aspirations, **rapid appraisal techniques** might routinely feed into flexible adjustments of the Foundation or Trust execution.

A-5 Impact and benefit agreements (IBAs)

Characteristic	Details
What is it?	Impact and Benefit Agreements (IBAs) are also known as. Community Agreements, ILUAs, Good Neighbour Agreements. A closure agreement is a specific purpose, formal contractual arrangement for the proponent to provide benefits to First Nations, Indigenous rights holders or local communities who will be affected by the closure project in recognition for their support of the project and use of the territory during operations.
Why use it for the social transition at closure?	To allow many affected people to have a say and participate on an equal footing in relevant discussions and activities for the outset. To address broad development aspirations of an affected community and region. To express mutual obligation and an intent to ensure there is broad-based (*and long-term*) benefit from a period of mining in affected communities by taking a long time horizon.
Opportunities for participants to discuss or act on closure	Agreement – related activities (and inclusions) relevant to the closure phase: • Implementation of rehabilitation and progressive rehabilitation • Cultural heritage management and restoration • Assistance to suppliers to upgrade capacity and to diversify their client base • Environment, water and land monitoring and co-management • Setting closure criteria, and exit conditions and determining decommissioning options • Arrangements for exit strategy and the post-economic yet pre-relinquishment phase
Who participates?	The full diversity of people who can demonstrate connection or impact, through their legitimate representatives. Importantly, these include rights-holders (such as landowners including Indigenous people). Representatives of rights-holders, stakeholders and relevant community should be systematically and transparently selected/appointed and consideration given to avoid potential exclusion of minority or vulnerable groups. Legal and other advisors will often participate as well.
When does participation re social aspects of closure occur?	Negotiation of an agreement is often a protracted process. Agreements negotiated with a specific focus on closure and post-mining may be scheduled into agreements about the operational phase. They can cover social, cultural and institutional issues as well as economic and environmental issues. Defining an agreed 'expiry date' of any agreement would be important if a separate closure agreement is not envisaged. Explicit attention to post-mining considerations should be a focus of interactions at all stages, not left until closure is imminent. Many of the 'benefits' flow during production – e.g. employment, training, supply chain business opportunities and financial flows in 'royalties' or to community investments. Closure agreements must recognise impacts on all these areas and alternative options available to ensure community sustainability. The ongoing participation throughout mine operation scheduled according to (joint) governance arrangements established in agreements for operating mines may provide the basis for post-production arrangements. In some cases a less complex committee structure may be appropriate post-mining and other parties to the agreement may be appropriate (e.g. local economic development agencies or land councils).

How often and for how long does participation occur?	There may be regular participation of a cross-section of community members in mining activities throughout the mine life-cycle, as specified in the Agreement. However, agreements need triggers for parties to anticipate the future and the post-mining situation rather than be retrospective or focused on short-term benefits.
What is participated in and what purpose does participation serve?	Participation during agreement making and implementation serves multiple closure-related purposes. It can be envisaged as comprising all management tasks, since, to varying degrees it: • aids understanding of expectations about closure conditions and of existing or potential resources of the parties • aids planning to utilise available assets in delivering long-term aspirations of parties • governs and guides the ongoing coordination and cooperation of parties throughout implementation and monitoring during the mine's life-cycle.
How do people participate? **The type of participation.**	The majority of agreement-related participation would coordinate and cooperate on decisions and activities of the company and other parties to the agreement, though some processes will mainly consult and others fully collaborate.
Process followed	Specifications in the agreement, will ideally be implemented in ways that foster active participation by varying numbers of people. Agreements offer an opportunity to use a variety of techniques to canvas a broad range of views in context-appropriate ways. The process of negotiating and implementing can range from legalistic negotiations, formal organised committees and joint venture board meetings, to public meetings, field offices, hotlines, working bees and informal small group conversations.
Data used	Agreements are usually negotiated in the context of planning and approvals so they use the baseline understandings and projections that feed into feasibility studies, EIAs and SIAs. There can be a tendency to focus especially on economic data and monetising benefits which can downplay some important social considerations. Ideally this provides a comprehensive qualitative and quantitative understanding of the context on which to base implementation and monitoring.
What works? Benefits and enablers	Agreement-related activities that benefit the social closure transition include: • Setting up a foundation or trust as a kind of 'futures fund' or capital fund to provide an independent income beyond closure/ in perpetuity. • Ensuring training and employment benefits, and small business capacity building are targeted to 'fit' with a diversified regional economy rather than limited to specific mining roles and inputs. • Fostering the capacity and resilience of institutions to allow phased transition of infrastructure, programs, and joint ventures to local management. • Using the agreement as a basis for continuity through transitions (of owners and operators as well as mine life-cycle stages and market fluctuations). Participation of agreement parties in the social transitions of closure can be enabled by: • A sound understanding of the local context • Interacting proactively, early and often

	• Listening actively to community views • Communicating openly about the company, its proposals and intentions • Providing adequate resources (internally and to stakeholders) for participation • Adopting multiple and varied techniques appropriate to the context • Maximising alignment with local plans (e.g. regional plans, economic development plans) and government processes • Official requirements for agreements, and for them to cover the life-of-mine • Contextual factors such as the level of organisation of community interests, and other aspects of the available social capital, human capital, manufactured and environmental capital in the vicinity.
What doesn't work? Drawbacks and barriers	Factors inhibiting participation in agreement activities addressing social transitions: • Legalistic processes suited to a business culture rather than attuned to locally appropriate participatory practices • Provisions concentrated on the short-term and neglecting future generations and post-mining possibilities that cultivate dependency rather than autonomy • Rigid, inflexible agreements that cannot adapt to changing circumstances and priorities • A narrow focus on specific benefits to a limited pool of people without connection to broader aspirations and the whole affected community • An agreement when there is no established relationship between the company and the community • Unclear regulator expectations and lack of clarity about land titles and other rights. • Severe community divisions • A limited range of options • Contrasting values attached to efficiency and accountability versus flexibility and autonomy or to different categories of benefit.
Challenges in aligning this process with principles of participation	Being inclusive and determining legitimate representatives in specific contexts (e.g. with weak institutions, complex land rights/ titling, divergent values, and legacies). A closure-related agreement seeks achieve distributive and retributive justice by specifying equitable benefits. They need to ensure current and future benefits are fair and not directed at or monopolised by a narrow group of 'beneficiaries' but also flow to marginalised groups. Like many participatory processes, agreements notoriously involve well-resourced companies alongside communities and stakeholder groups with fewer resources in terms of finances, skills, information and time. Providing training and supplementing resources of under-resourced parties to participate fully throughout the agreement making and implementing process need not compromise their positions. Maintaining an iterative process in a legally contracted relationship creates challenges of balancing certainty and obligation with flexibility across an extended timeframe and changing conditions. Ongoing participation ensures agreement provisions and implementation are responsive to the local context as well as the values and concerns of relevant stakeholders. Sometimes disputes arise about fulfilling the spirit and intent of certain provisions rather than more 'literal' 'tick-box' approaches to implementation.

Potential for this to work with other participatory processes	Some agreement-related committees can act as a CRG. Parties to the agreement may participate in post-mining monitoring and evaluation and in regular rapid appraisal exercises. They may also be involved in a Towns transition tool workshop or future visioning processes as closure approaches and the mine closure plan becomes more detailed. There are frequently strategic community investments or trusts associated with agreements (see Appendix A-4).

A-6 Strategic community investment

Characteristic	Details
What is it?	Strategic Community Investments are "'Voluntary contributions or actions by companies to help communities in their areas of operation address their development priorities, and take advantage of opportunities created by private investment—in ways that are sustainable and support business objectives' (IFC, 2010: i). These investments can be designed from the outset with the thought of closure in mind, focusing on building capacities and infrastructure in such a way that benefits will outlast the mine.
Why use it for the social transition at closure?	• To take the company out of the centre of relations and focus on empowering other stakeholders. • To empower local government and civil society organisations during the presence of the company so they are better equipped to find alternatives after the mine closes. • To build social capital (the ability of stakeholders to collaborate and work towards shared goals) through effective investment and so enhance the sustainability of solutions. • To focus on generating post-closure economic and social returns while the mine is providing initial funding and support.
Opportunities for participants to discuss or act on closure	Companies will usually make some investments in community and will often seek to do so in ways that avoid creating dependency and can eventually be sustained without their input and active involvement. This will benefit from community involvement in prioritising and contributing to investments that are themselves participatory and future focused (education, training, building capacity of local service providers to maintain and operate any infrastructure investments, participatory monitoring). Communities thereby develop autonomy and resilience in the face of mine closure.
Who participates?	The involvement of the appropriate stakeholders and institutional strengthening is vital. Local authorities are supported to provide services, without usurping their role in delivery and without providing free goods and services. The company enables without replacing the legitimate providers of infrastructure or services. Beneficiaries can be involved in identifying actions, planning and implementation, benefitting both from the action and also learning from the process of participation. The skills and capacity built through this participatory approach will mean stakeholders are better equipped to continue activities beyond the presence of the company.
When does participation re social aspects of closure occur?	Ideally, the issue of closure is addressed from the outset, as construction and production choices are made with an understanding of when closure may take place. Strategic community investment that focuses throughout the mine life-cycle on empowering the local stakeholders, lays a foundation for addressing the issue of closure as it approaches. However, in reality, initial focus will centre on mine-related opportunities (e.g. employment, local procurement, and local infrastructure investment). Nonetheless, the earlier projections are made around the desired vision for the post-closure economic and social landscape, the more time there is to benefit from company support to prepare.

How often and for how long does participation occur?	Participation in strategic investment activities should be on-going with planning, implementing and monitoring done in collaboration with the appropriate stakeholders. Activities focusing on the prospect of closure should be continuing in this vein, and by closure, should be well under way, with a diminishing need for company support. As well, companies will realign their investments as MMG did for its training investments in the Lower Gulf region affected by Century Mine where diverse, regionally relevant skills we emphasised (see Section 6.1).
What is participated in and what purpose does participation serve?	• Participatory community investment mirrors the full gamut of management task. • They develop understanding of community needs and what the mine is about. A focus on closure, as it approaches brings shared understanding of what that involves. • Involvement in planning activities builds the capacities of local institutions and organisations to do so without the support of the company and ensures they shape the post-mining outcomes. • Participation in implementation and benefitting from improved infrastructure or enhanced capacities builds resilience and the ability to continue these activities and pursue alternatives beyond the presence of the mine. • Participatory monitoring of strategic investment initiatives, builds critical appraisal capacity and the tools and skills to monitor and improve.
How do people participate? **The type of participation.**	Strategic community investment for closure will be most effective if communities and stakeholders are empowered to be able to cooperate and collaborate in the actions that are benefitting their community and future generations. They will be responsible for continuing these actions into the future.
Process followed	• Strategic community investment is a broad and iterative process requiring: • Assessing the local context • Engaging communities • Investing in capacity building • Setting principles and parameters and aligning company and community priorities to evolve and, as closure approaches, align with closure consultation and planning • Selecting implementation models • Measuring and communicating results
Data used	Strategic community investment draws heavily on an understanding of the context through detailed stakeholder analyses, institutional mapping, baselines, local, national and global contexts to identify opportunities and activities that will be relevant and sustainable beyond the life of the mine. For example, investment in an economic project that relies on power generated by and supplied by the company may not be sustainable if there is no affordable alternative source of energy.

What works? Benefits and enablers	**Benefits** from this process for the social closure transition include: • Community resilience from enhanced capacities to work together, participation in economic or community projects and new or diversified skills. • Diversified local economies less dependent on mining. • Skills training and capacity building over the whole life-of-mine. Those involved in the process are **enabled** to participate in the social transitions of closure by: • Leveraging strengths in existing structures, capacities and assets including expertise in local development, participatory processes and capacity building. • Demonstration that the company's long-term commitment can be trusted. • Ensuring appropriate and accessible procurement and employment processes. • Developing the capacities of local authorities and institutions. • Open dialogue about budgets, criteria, cost-sharing and priorities. • Multi-party implementation with local authorities, NGOs or development actors.
What doesn't work? Drawbacks and barriers	• Top-down decision making processes about social investment. • Complex procurement or employment processes that do not offer any support. • Investment in projects that will not be able to exist/ continue without company support. • Companies implementing themselves rather than helping ensure it is implemented.
Challenges in aligning this process with principles of participation?	Strategic investment must align with all the principles of participation to be effective. Over the entire mine life-cycle it considers the potential impacts and opportunities posed by the company. Different projects and activities based on a dialogic and responsive approach can involve and support different stakeholders in appropriate ways to ensure it is inclusive and equitable. Monitoring processes can ensure it is responsive to changing needs in an iterative process of continuous improvement.
Potential for this to work with other participatory processes	Strategic community investment should occur throughout the life of the mine. The planning of closure-specific investments can support or draw on other participatory processes. For instance, investment criteria can be aligned with priorities identified in visioning processes or participatory SIA or GIS processes or with IBAs. Participatory monitoring can be used to track progress of investment activities. A community investment strategy may evolve into a Foundation or Trust to ensure longevity.

A-7 Participatory geographical information systems (GIS)

Characteristic	Details
What is it?	Participatory Geographical Information Systems (PGIS) is a participatory mechanism that combines a variety of geo-spatial information management tools and methods to represent peoples' place-specific knowledge and values, capturing the human geography of an area and also qualitative aspects of culture.
Why use it for the social transition at closure?	• To improve a company's understanding and planning by integrating different knowledge types, perceptions and values into mine closure planning. • To incorporate scarce locality specific data with geo-spatial location into closure planning (e.g. culturally important places incorporated into final land use plans). • To collect, analyse, share, and visualise geospatial data and hard to capture values data. • To enhance capacity building and social learning of participants and facilitators through closure and relinquishment processes.
Opportunities for participants to discuss or act on closure	Stakeholders' contribution is essential in providing perceptions and values relevant to planning and assessments of various aspects of closure; in particular post-mining landscapes and livelihood options. For example one study demonstrated Inclusive planning for post-mining use of land by graziers in Central Queensland. Stakeholders identified their preferred post-mining land use options using paper GIS maps (see section 6.1).
Who participates?	A plurality of stakeholders can participate in the creation of final geo-spatial output. Any stakeholder group with demonstrated connection to mine closure impacts should be involved. Numbers of participants in PPGIS vary considerably e.g. from 30 interviewees in a study on Vancouver Island, Canada to 3745 respondents in an online PPGIS survey for Helsinki, Finland. The final composition of participants depends on the aim of the participatory process.
When does participation re social aspects of closure occur?	A PGIS process is typically designed and run **before construction** when life-of-mine planning, including closure planning takes place. A PGIS process should not be left until **closure is imminent**. It would cause distrust in local communities and significantly decrease their willingness to participate. Refreshing the exercise with progressive geo-spatial changes can accompany increasingly detailed closure planning.
How often and for how long does participation occur?	An on-going and iterative process with intensive data collection episodes throughout closure planning stages is an ideal solution. An agreement often expresses long term commitment to support the participatory process from initial phases to implementation of the results (including moral, financial and informational support).
What is participated in and what purpose does participation serve?	In closure planning, PGIS is primarily used to build complete **understanding** of the local environment and to gather a wide range of relevant data from local communities. Once there is a shared understanding, participants produce an informed closure **plan** and post-mining and relinquishment options.

How do people participate? **The type of participation.**	PGIS can be applied in different decision-making contexts, from awareness raising to priority setting and instrument design. It involves people in an inclusive, **coordinated** and democratic approach to decisions about mine closure. PGIS helps communities and stakeholders articulate and **communicate** spatial knowledge and values to the company. A key goal of a PGIS process is to **collaborate** with participants in company decisions and activities related to mine closure. As well, participants in PGIS can **coordinate** and **cooperate**, to produce the maps and data, to develop alternatives and prioritise solutions.
Process followed	1. The most common techniques for PGIS are face to face interviews and workshops, involving a facilitator. Internet surveys and interactive online maps may also be used. 2. A geo-spatial component such as a paper or digital map or aerial photo is a platform for information gathering and exchange. 3. Mapped information is validated and analyzed with other stakeholders and the company. 4. The findings are communicated to participants, decision makers and other target audiences so all understand the range of perceptions and salient issues. 5. The final product informs planning, strategy and methods for mine closure.
Data used	PGIS works with qualitative geo-spatial data as it is based on people's knowledge, opinions and perceptions. PGIS is especially suitable for capturing ecological and socio-cultural values as well as instrumental and relational values related to quality of life in an area transitioning through mine closure.
What works? Benefits and enablers	**Benefits**: • PGIS maps effectively demonstrate how a community values, understands and interacts with space - information that may otherwise be difficult to capture. • Enhancing community cohesion by integrating shared ideas and visions. This can potentially reduce conflicts and create new relationships among stakeholders through closure relinquishment processes. • Participating stakeholders are empowered to create and deliver summaries of the information, suggest next steps, and perform other outreach and communication. • Maps and data produced using PGIS communicate information about values and meanings easily, convey a sense of authority and are often very convincing. • Providing scarce geographical data on various social dimensions related to mine closure (e.g. places important for local and/or indigenous communities, preferred local land use). • Mapping areas where spatial data is unavailable. **Enablers**: • Relatively basic GIS skills and broadly available GIS software and devices. • An interest in integrating local spatial knowledge and understanding to mine closure planning. • Providing adequate resources (financial, human, technological and informational) for participatory activities. • Selection of most suitable PGIS technique, considering local conditions, and maximising alignment with local plans (e.g. regional plans, economic development plans) and government processes.

	• Interacting proactively, early and equally with all relevant stakeholders, listening actively. • Transparent communication about the company, its proposals and intentions
What doesn't work? Drawbacks and barriers	**Drawbacks**: • PGIS can be time consuming and cost intensive • An absence of timely planning and communication with primary stakeholders on the PGIS process. • The larger the number of topics to be included in PGIS mapping, the more complex the maps will be. To address this, use several maps, with one issue/indicator per map. • Lack of necessary resources such as a computer, a printer, and GIS software. In many remote communities, a limiting factor can be an access to the electricity and costs. **Barriers**: • Demanding on community or stakeholders to engage in a PGIS process. • An inadequate level of support from the company. • Lack of long term commitment to the participatory, mapping process from initial phases to implementation of the results. • An absence of established relationship between the company and the community or stakeholders.
Challenges in aligning this process with principles of participation	A key challenge in applying PGIS to mine closure is being **inclusive**, **equitable**, and **responsive** given the complexity of community systems. Mining regions and mining communities are complex adaptive systems that combine spatial, temporal, social, and cultural processes and structures in unique ways. This complexity is difficult to capture with any single PGIS approach. Although PGIS is able to combine 'soft' (e.g., knowledge, values and preferences) and 'hard' data (e.g. demographic profiles, landscape features) place-based information, it can be difficult to integrate behaviour and lived experience with planning and design of closure. Additional challenges occur where there are limited **resources** including money, time, expertise, and motivation. As well there are constraints on the **dialogic** design of the PGIS process by participants – especially if complex technical techniques are used.
Potential for this to work with other participatory processes	PGIS can contribute to any processes that benefit from collected qualitative geo-spatial data as a basis for further decisions. In particular, PGIS could be a significant component of **Participatory monitoring and evaluation** due to similar rationale behind these two processes. As well, **future visioning** is enhanced by having visualised data that has been cooperatively produced.

A-8 Participatory monitoring and evaluation

Characteristic	Details
What is it?	Participatory monitoring and evaluation (PME) is a collaborative process of collecting and analysing data, and communicating the results, in an attempt to identify and solve problems together.
Why use it for the social transition at closure?	PME is a process through which participants at various levels: • engage in monitoring or evaluating a particular project • share control over the content, the process and the results of the monitoring activity • engage in taking or identifying corrective management or mitigation actions. As a process, PME can be applied to the transition to mine closure. The most common PME processes related to mine closure are participatory water monitoring, monitoring of impacts of extraction, monitoring of habitats including flora and fauna, and monitoring of mine rehabilitation progress (see examples of studies in section 6.1).
Opportunities for participants to discuss or act on closure	Stakeholders' contribution is essential in providing perceptions and values relevant to planning and assessments of various aspects of closure; in particular post-mining landscapes and livelihood options. For example one study demonstrated Inclusive planning for post-mining use of land by graziers in Central Queensland. Stakeholders identified their preferred post-mining land use options using paper GIS maps. (see section 6.1)
Who participates?	Traditionally, companies and agencies initiate and undertake monitoring. While they still may lead the PME process, a variety of people can be involved in the different stages at different levels depending on the overall aim. PME focuses on the active participation of primary stakeholders. It can aim to build trust, or ultimately to empower local communities to undertake the activities in the absence of a company after completion. In the Sudbury example, the process is now community controlled under the auspices of VETAC and can continue without specific company involvement.
When does participation re social aspects of closure occur?	PME processes should ideally be integrated as early as possible in mine closure planning to establish a very clear picture of the initial situation, manage expectations around impacts and involve key stakeholders from the outset. Ideally, establishing of PME in initial phase of mine life-cycle can easily be turned to address issues arising from the prospect of mine closure. It is much more effective if established enduring construction or operations, enabling participants to understand the baseline context and gradually build familiarity with the company, its activities and the impacts they are monitoring.
How often and for how long does participation occur?	PME is not a new process to employ at the closure stage of the project cycle. Rather, it is part of a holistic approach to development and planning. As such, PME should be an integral part of the entire closure process during the mine life. It involves diagnostic activities and baseline data collection at the planning stage, regular monitoring and evaluation throughout the project lifespan, and ex-post evaluation upon completion as well as its use in on-going monitoring during operations and beyond closure.
What is participated in and what purpose does participation serve?	In managing the closure transition, PME is an integral part of the closure **planning** process and, at the same time, is a process for community involvement and building mutual **understanding**. PME improves trust between company and stakeholders, empowers communities, and helps build community members knowledge of key environmental and social issues related to an extractive project. By learning from mistakes *en route*, it can lead to timely corrective action. By highlighting the successes of people's efforts, it can increase motivation.

How do people participate? **The type of participation.**	The PME process aims to enable people to **collaborate** and **cooperate** in company decisions and activities related to mine closure, as it gives a technical understanding upon which to base their contribution. In particular, it is possible to share resources and work together on data collecting activities. Participants can also be involved in **coordinating** the process, depending on the extent to which the company empowers external stakeholders in the monitoring and evaluation actions.
Process followed	In practice, there are no fixed rules or steps for doing PME. The PME planning and implementation process is closely aligned to the overall project process and generally involves: • Determining objectives and indicators. • Gathering and analysing data. • Sharing and discussing data with a planning team (stakeholders and the company). • Building a plan of appropriate actions. • Agreeing a timeline and milestones, ensuring all stakeholders understand the timeframes involved.
Data used	PME works with qualitative and quantitative data, as it is based on environmental and social monitoring and evaluation (e.g. monitoring of water, habitats, vegetation, fauna etc.). The information provided by PME should answer the initial goals of monitoring and evaluation, and be readily accessed and easy to understand.
What works? Benefits and enablers	**Benefits**: • The extractive company, stakeholders and communities can easily review progress of mine closure (transparency of PME), gain information and insights and act on these. • Problems and their causes related to mine closure and mine rehabilitation can be identified early. • Adjustments or develop solutions to problems are supported by the community and more likely more effective. **Enablers** of participation in monitoring and evaluation: • Commitment to participation, structured in a way that ensures it is meaningful. • Capacity building as an objective of the process. • Adequate allocation of time and resources.
Challenges in aligning this process with principles of participation	Local circumstances or stakeholder needs vary depending on contexts and change over time, thus altering how the PME process will proceed. Instead it needs a systematic and disciplined approach during the PME design phase. Depending on intended outcomes, capacity-building efforts for PME must focus on the stakeholders' access and abilities to participate in a PME process. Access and ability are seen as inherently linked, so the company should be **inclusive** and **dialogic** in its approach. PME requires stakeholders and the company to be open and **transparent**. Beyond a willingness to listen to different points of view it must also be **responsive**, and recognise and give **equitable** voice to the knowledge and role of different participants. It must be **well-resourced**, to enable real capacity building, and reduce reliance on voluntary participation (see barriers above).

Potential for this to work with other participatory processes	The core of PME as a collaborative process of data collection, analysis and communication can benefit other processes such as, **impact and benefits agreements**, and **SIA** for closure. **Community reference groups** can provide a starting point for coordinating the process.

A-9 Rapid appraisal using indicators

Characteristic	Details
What is it?	Rapid appraisal with community indicators is a way of understanding collective impacts. Community indicator sets are useful for summarising large quantities of data, often from diverse sources and using different metrics, into succinct, synthesised and meaningful information.
Why use it for the social transition at closure?	• To assess and manage rapid social, economic and environmental change as can occur in relation to closure and transition. • To capture communities' own perceptions of their needs, priorities and trajectories. • To facilitate collaborative planning where there is shared responsibility for outcomes (such as for cumulative impacts associated with mine closure). • To provide reliable evidence of change and dispel 'myths' that can circulate in emotional and sensitive circumstances.
Opportunities for participants to discuss or act on closure	Participation of the community is needed for setting the post-mining goals; agreeing appropriate indicators; discussing trends and situations with respect to progress on those indicators; and in discussing and designing strategies to achieve desired outcomes. They also participate in data collection through interviews to support the interpretation and communication of indicator updates as well as in providing data on some indicators. For instance, a community may decide the closure transition will warrant close tracking of unemployment levels, school enrolment figures, real estate values, business viability and essential service levels. By agreeing indicators of these matters and strategies to contain the trends within acceptable levels, the community's resilience to the changes will be enhanced.
Who participates?	Community leaders and 'key informants', mine company(ies) management, state government (as planners and regulators and as service providers), local government economic and community development officers. The rapid assessment can be initiated by communities, government, NGOs or resource companies, but requires leadership and capacity. The process is often facilitated by an independent organisation such as a university or NGO.
When does participation re social aspects of closure occur?	Rapid assessments using indicators can be used to gather and establish baseline information related to transitions throughout the mine life-cycle. Rapid assessment **before construction** begins provides a starting point for monitoring **during production** and **post-mining**. Rapid assessment can be used to track conditions in indicators **during transition** to watch for thresholds in acceptance and unforeseen impacts. Using a commonly agreed set of indicators (shared measurement) enables all partners (government, community organisations, and the mine) to align their efforts and to be reporting change and impacts on a common platform.
How often and for how long does participation occur?	Indicator sets are often the foundation for participatory monitoring and evaluation therefore participation is ongoing, ideally throughout a transition and certainly for a minimum of 3 to 5 years. During this period, indicators can be updated at intervals depending on data availability and relevance. Potentially, some indicators could be updated on an annual basis and the data on routine tracking publicly reported to support responses drawing on the collective capacity of the community.

What is participated in and what purpose does participation serve?	Rapid assessment is primarily a **monitoring** tool but also enables: • **Understanding** of local priorities and concerns. • **Understanding** thresholds of acceptance for change in indicators. • **Planning** for collaboration and role responsibilities. • **Monitoring** and reporting of change in a simple, unified way so all stakeholders are 'on the same page'.
How do people participate? **The type of participation.**	• Community leaders and all stakeholders participate in workshops/meetings to identify priority changes to track and **cooperate** in the choice of accessible and meaningful indicators of those. • Key community informants are regularly **consulted** through [annual] interviews to 'ground-truth' the indicator updates and provide contextual information. • Certain stakeholders may **collaborate**, as data 'stewards' can be engaged to collect data and update a single indicator, which is useful where formal data is lacking.
Process followed	1. Identify a common goal or post-mining outcome and engage relevant stakeholders. 2. Choose a set of relevant 'agreed' indicators. 3. Populate indicators with time series data. 4. Present and discuss indicator data in terms of long and short term changes, interactions and strategies towards achieving the common goal and desired post-mining future. 5. Identify opportunities for collaborations and partnerships on strategies to achieve shared goals that use available local assets.
Data used	Data can be from a wide range of sources depending on availability. Many developed nations have central statistics agencies, which can provide social, economic and demographic data by region. Local organisations – police, schools, hospitals, local government and local chambers of commerce are often other valuable sources. Where such statistics are not available, indicator data can be collected by the stakeholders involved. Household surveys may be used in rapid assessment and, increasingly, logging of data on a range of matters from rainfall, to air quality, incident reports and rental occupancy rates to a web-based repository is possible.
What works? Benefits and enablers	**Benefits** from this process for the social closure transition include: • Indicators give a good quick overview of change and conditions – and allow for deeper dives if there any issues that emerge. • Effective for demonstrating collective impact. • As a non-judgemental process, this does not infer causal relationships or attribute blame for impacts and changes – this can be helpful in a contested space. • Creates a space to discuss shared responsibility and collaborative strategies for outcomes, fostering collaboration. • Respects local voices. Narratives of the 'lived experience' are used to 'ground truth' indicator trends and data. • Allows community to articulate prioritised outcomes and needs. • Communities gain a sense of 'ownership' of the indicators.

	Participation can be **enabled** by: • Strong leadership in a local government or local community, or by a company. • A sense of urgency for change or collective action towards a shared vision. • At least one anchor funder who will support the initial efforts to plan the collaboration and mobilise others.
What doesn't work? Drawbacks and barriers	• Some social phenomena associated with mine closure do not lend themselves to quantitative measurement, such as psycho-social and mental health effects and social cohesion. • The samples used in regular interviews are not representative, so the selection of key informants must be justified.
Challenges in aligning this process with principles of participation?	Issues monitored and participants can be biased toward the more powerful and connected people in communities and not be **inclusive** of vulnerable groups. Sustained funding post-closure can be difficult so the process may not be **well-resourced.**
Potential for this to work with other participatory processes	Rapid appraisal using indicators can complement **participatory monitoring and evaluation** or **participatory GIS**, helping to build a baseline of agreed indicators to be used to assess the project over time. The effectiveness of **strategic community investment** projects or **agreements** can also be monitored in this way. **Community reference groups** are a potential starting point for coordinating participation in the process.

A-10 Town transition tool

Characteristic	Details
What is it?	The Town Transition Tool is a diagnostic tool for building collective understanding amongst stakeholder groups about the current state and possible future options for a mining town. It provides a baseline for planning for transition. The Town Transition Tool was developed by CSRM with initial funding from Rio Tinto.
Why use it for the social transition at closure?	This tool was specifically designed as a starting point for bringing stakeholders together in a two stage process to discuss their understanding of the state of dependency of the town on the mine and the opportunities to reduce that dependency. It is not a planning tool itself, but provides a diagnosis of the situation that is agreed through a participatory process.
Opportunities for participants to discuss or act on closure	Specifically designed to address transitions around mine operations, it could be used to initiate a participatory process to discuss closure based on relationships fostered by convening relevant community groups. There is specific opportunity for wide participation by a range of community and stakeholder groups is in the second workshop. This allows participants to review the initial assessment of current assets and agree on the degree of dependency and the potential opportunities moving into a closure transition.
Who participates?	Either the mining company or the government under whose jurisdiction the town currently functions could initiate the process. Potentially, the mining company and the government may do so jointly. An independent expert facilitator is utilised to ensure equal participation in the workshops. Usually the company and/or local government personnel participate in the first stage. The second stage opens up to include a multi-stakeholder group with as broad a representation of the local community as possible. Local authorities are key participants in terms of current and future governance, and local stakeholders in terms of their role in the local economy, community and society.
When does participation re social aspects of closure occur?	The process could be used at any stage **during production** to initiate discussions about dependency on the mining company and opportunities for the future. Being designed to build a shared understanding of these issues, it is a useful tool for opening up discussion as **closure approaches** around a future transition, especially in situations where early future-focused dialogue on this matter has not occurred.
How often and for how long does participation occur?	The two-stage process can be implemented over two or three months with a targeted group of stakeholders. The result is intended to provide the basis upon which to begin a wider visioning and planning process. The questions it asks may be used to frame the focus for future action. It could be revisited periodically to see how dependency and local opportunities have evolved. It contains a strategic planning timeframe prompt, whereby stakeholders could commit to revisiting the process. Alternatively, the tool could be used periodically as part of monitoring and evaluation of any subsequent plan.
What is participated in and what purpose does participation serve?	Implementation of the Town Transition Tool aims to build a shared **understanding** of the degree to which a region or town is dependent upon the presence of the company. Rather than a scientific calculation, it is intended to build consensus and a realistic shared understanding of the situation based on the pooled knowledge and experience of a variety of participants. Although not a planning tool, it is intended to give an initial shared view of where potential for future development may lie to guide **planning**. It could also guide selection of indicators for **monitoring** to be built into a subsequent social closure transition plan.

How do people participate? **The type of participation.**	Participation in the workshops could provide an opportunity for the different stakeholders to **consult** each other and exchange specialist knowledge and experience. They could synthesise and align their shared knowledge and joint resources into a **coordinated** perspective of the current state and the way forward.
Process followed	1. Convening by mining company or local authorities. 2. Appointment of the independent expert facilitators. 3. The first workshop with company and maybe local government staff carries out an initial preliminary review. 4. Workshop results are shared with a wider stakeholder group invited to join a second workshop. 5. The second workshop participants review the initial assessment and agree on the degree of dependency and the potential opportunities. 6. The tool generates a report that can be shared more widely and used to agree future actions such as commissioning studies to fill any gaps in knowledge or convening a visioning process.
Data used	Stakeholders would bring to the workshops their knowledge and data regarding their particular sphere of activity or interest. They would be given advance notice of the questions to be asked to assist in bringing relevant data and information. Where requisite data is unavailable, the tool encourages comments noting the further information required.
What works? Benefits and enablers	**Benefits** from this process for the social closure transition could include: • Bringing a variety of stakeholders together to share their understandings of the context and appreciate the range of perspectives. • Clarifying where information is lacking, identifying points for further study. • Building a collective understanding of the situation such that everyone is on the same page when starting a visioning or planning process. • Starting a participatory process around closure if this has not been discussed hitherto. Participation in the process and in the social transitions of closure could be **enabled** by: • Strong coordination and facilitation of the process by an independent expert who is able to judiciously identify stakeholders and convene a productive process. • Strong local stakeholder relations between parties to help the process maintain an opportunity focus and avoid being hijacked to air grievances. • Stakeholders who are active in the local community context, respected and trusted and who are able to build from this process to a longer-term strategic planning process.
What doesn't work? Drawbacks and barriers	• Weak facilitation and a lack of clear definition for participants about the desired objective. • Embarking on the process very late in the project cycle meaning less time to plan for maximising any opportunities identified. • Mistrust of stakeholders leading to the restriction of participation. The wider the participation the more effective the tool.

Challenges in aligning this process with principles of participation	• The level of **inclusiveness** would be highly dependent upon the initial organisation of the workshops and the people invited to participate. The role of the facilitator is crucial to ensuring an appropriate representation of the community. • The facilitator is also pivotal in running the workshops with small group work and plenary consensus building to ensure everyone understands and can contribute **equitably**, keeping the company a participant like the others and not the central player. • The process seeks to identify opportunities. How these are **responded** to will depend on how the results of the workshop are used to continue considering the social aspects of closure.
Potential for this to work with other participatory processes	Participation in the Town transition tool assessment is a starting point, particularly if closure has not been addressed through other on-going participatory mechanisms. It builds a shared understanding of the situation and helps clarify people's understanding of closure and joint focus on the issue. The tool may work with other processes like **PGIS** to supplement shared data. Similarly it complements **rapid appraisal** as perhaps a more focused process on some core indicators that could be supplemented with the context-specific ones collectively agreed in rapid appraisal. Participants' experience of participating in this process could be built on to move into subsequent participatory mechanisms such as **future visioning** and planning, or **SIA for closure**.

Appendix B – How-to-guides to processes and techniques

Numerous useful references provide additional information or guidance about tools and techniques of participatory processes and engagement. This list is by no means exhaustive. Most of these resources, and many others are available through the Social Aspects of Mine Closure e-library at https://www.mineclosure.net/.

AccounAbility (2015) AA1000 Stakeholder Engagement Standard (SES).

Anglo American (2013) Socio-Economic Assessment Toolbox (SEAT). Available at https://www.angloamerican.com/development/social/community-engagement/~/media/Files/A/Anglo-American-Plc/siteware/docs/seat_toolbox2.pdf

Community Places (2014) Community Planning Toolkit. Available at https://www.communityplanningtoolkit.org/sites/default/files/Engagement.pdf

Davis, D., Meyer, J., Singh, A., Wright, M. & Zykofsky, P (2013) *Participation Tools for Better Community Planning*. 2nd Edition. California: Local Government Commission.

DFID (Department for International Development) (2003) Tools for Development—A Handbook for Those Engaged in Development Activity. https://webarchive.nationalarchives.gov.uk/+/http://www.dfid.gov.uk/pubs/files/toolsfordevelopment.pdf

DITR (Department of Industry, Tourism and Resources) (2006). *Community engagement and development*. Leading practice sustainable development program for the mining industry, Commonwealth of Australia.

DRET (2012) *Social Responsibility in the Mining and Metals Sector in Developing Countries*. Australian Government Department of Resources, Energy and Tourism. (p.60 - Participatory planning). Available at: http://www.industry.gov.au/resource/Documents/LPSDP/DEPRES.pdf

Gray, C. (2007) Stakeholder Engagement – A toolkit. Working towards more effective and sustainable brownfields revitalisation policies. Revit. Available at: https://www.envpmsolutions.ca/images/27_stakeholder_engagement_a_toolkit-2.pdf

ICMM (2019) *Integrated Mine Closure: Good Practice Guide*. 2nd Edition. Available at https://guidance.miningwithprinciples.com/integrated-mine-closure-good-practice-guide/

ICMM (2006) *Community Development Toolkit.* Available at https://www.icmm.com/en-gb/publications/mining-and-communities/community-development-toolkit

ICMM (2015) *Understanding Company-Community Relations Toolkit*. Available at https://www.icmm.com/en-gb/publications/mining-and-communities/understanding-company-community-relations-toolkit

IDS (Institute of Development Studies). Participatory Methods, Available at https://www.participatorymethods.org/ e.g. Monitoring and Community scorecards.

IFC (International Finance Corporation) (2007) *Stakeholder Engagement.* especially pp.151 'Downsizing, Decommissioning, and Divestment'

IFC (International Finance Corporation) (2010). *Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets*. Washington DC: IFC, World Bank Group.

IFC (International Finance Corporation) (2010) *International Lessons of Experience and Best Practice in Participatory Monitoring in Extractive Industry Projects*.

International Association for Public Participation (IAP2) (2006). Public Participation Toolbox. Louisville, CO: https://www.iap2.org.au/Resources/

IPIECA (2013) *Stakeholder engagement.* Available at http://www.ipieca.org/focus-area/social-responsibility

IPIECA (2006) Partnerships in the oil and gas industry. Available at http://www.ipieca.org/resources/good-practice/partnerships-in-the-oil-and-gas-industry/

IPIECA (2017) Creating successful, sustainable social investments. Available at http://www.ipieca.org/resources/good-practice/creating-successful-sustainable-social-investment-2nd-edition/

IRMA (Initiative for Responsible Mining Assurance) (2016) *IRMA Standard for Responsible Mining*,

Chapter 2.8 Community and Stakeholder Engagement. IRMA-STD-001, Draft v2.0, April

Kusek, J., Rist, R. (2004) *Ten Steps to a Results-Based Monitoring and Evaluation System. A Handbook for Development Practitioners*. The World Bank. Washington D.C.)

Lamb, K. & Coakes, S. (2012) Effective social planning for mine closure. In A.B. Fourie & M. Tibbett (eds) *Mine Closure 2012*. Perth: Australian Centre for Geomechanics.

Miranda, M., Chambers, D. & Coumans, C. (2005) Framework for Responsible Mining: A Guide to Evolving Standards. Center for Science in Public Participation (CSP2) and the World Resources Institute (WRI) Available at www.frameworkforresponsiblemining.org

O'Faircheallaigh, C. (2013). Community Development Agreements in the Mining Industry: An Emerging Global Phenomenon. *Community Development*, 44(2), 222–238.

PDAC (Prospectors and Developers Association of Canada) (2009). Excellence in Social Responsibility e-toolkit Available at https://www.pdac.ca/priorities/responsible-exploration/e3-plus/toolkits/social-responsibility

Planning NSW (2003) *Community Engagement in the NSW Planning System: A Handbook*. Available at https://www.communityplanningtoolkit.org/sites/default/files/CommunityEngagementHandbookNewSouthWales.pdf

Renn, O., Klinke, A., & van Asselt, M. (2011). Coping with Complexity, Uncertainty and Ambiguity in Risk Governance: A Synthesis. AMBIO, 40(2), 231-246. doi:10.1007/s13280-010-0134-0

Rose, J. E. & Morgan, H. L. (2010). Tea and cake: Talking with communities about life after mining. In A.B. Fourie, M. Tibbett, & J. Wiertz (Eds.), Proceedings of the *Fifth International Conference on Mine Closure*. Australian Centre for Geomechanics, Viña del Mar (pp. 159-166). https://www.mineclosure.net/elibrary/tea-and-cake-talking-with-communities-about-life-after-mining

Sheldon, C.G., Casis, A.Z., Caspary, G., Selier, V. & RuizMier, F. (2013) Innovative Approaches for Multi-Stakeholder Engagement, in the Extractive Industries. World Bank. Available at http://documents.worldbank.org/curated/en/505541468340258421/Innovative-approaches-for-multi-stakeholder-engagement-in-the-extractive-industries

SHIFT (2013) Stakeholder engagement and the extractive industry. OECD. Available at https://www.shiftproject.org/resources/collaborations/oecd-stakeholder-engagement-extractive-sector/

UNDP (2017) Guidance Note on Social and Environmental Standards (SES): Stakeholder Engagement. Available at https://info.undp.org/sites/bpps/SES_Toolkit/SitePages/Guidance%20and%20Templates.aspx

Whiteman, G. & Mamen, K. (2002) Meaningful Consultation and Participation in the Mining Sector? A Review of the Consultation and Participation of Indigenous Peoples within the International Mining Sector. The North-South Institute. Available at http://metisportals.ca/MetisRights/wp/wp-admin/images/Meaningful%20Consultation%20in%20the%20Mining%20Sector.pdf

World Bank Multistakeholder Initiative. (2010) Towards Sustainable Decommissioning and Closure of Oil Fields and Mines: A Toolkit to Assist Government Agencies.

World Bank (1996) Participation Sourcebook. Washington DC: IRBD. Available at http://documents.worldbank.org/curated/en/289471468741587739/pdf/multi-page.pdf

Appendix C – Resources for specific processes

Participatory Process	Valuable resources and guides (not necessarily closure-specific)
Community reference group	NSW DPE Community Consultative Committee Guidelines https://www.planning.nsw.gov.au/Assess-and-Regulate/Development-Assessment/Community-Consultative-Committees Hydro Aluminium. (2014). Terms of Reference Community Reference Group, Hydro Kurri Kurri Redevelopment Project. https://www.hydro.com/Document/Index?name=Terms%20of%20Reference%20for%20the%20Hydro%20Kurri%20Redevelopment%20Project%20Community%20Reference%20Group&id=5627 Local Government Commission (2013) Participation Tools for Better Community Planning https://www.lgc.org/wordpress/wp-content/uploads/2013/07/Participation_Tools_for_Better_Community_Planning.pdf
Visioning	Charles A. French & Michele Gagne (2010), Ten years of community visioning in New Hampshire: the meaning of 'success', *Community Development*, 41:2, 223-239, DOI: 10.1080/15575330903446742 DFID (2003) Tools for Development. A handbook for those engaged in development activity Richard Parsons, Aleta Lederwasch and Kieran Moffat (2013) Clermont Preferred Future: Stakeholder Reflections on a Community Foresight and Planning Initiative, *Resources* 2013, 2, 528-554; doi:10.3390/resources2040528 Maine State Planning Office (2003), *Community Visioning Handbook* The Center for Rural Pennsylvania (2006), Planning for the Future: A Handbook on Community Visioning, Third Edition
SIA for Closure	Mancini and Sela 2018. Social impact assessment in the mining sector: Review and comparison of indicators frameworks https://www.sciencedirect.com/science/article/pii/S0301420717301484 NSW Department of Planning and Environment SIA Guidelines for Mining Projects Costa, S. (2015). Social impacts of mine closure: Engaging employees and host communities in planning for closure. In Andy Fourie, Mark Tibbett, Les Sawatsky and Dirk Van Zyl, *Proceedings of the Tenth International Seminar on Mine Closure*, Australian Centre for Geomechanics, Vancouver (pp. 797-804).

Participatory Process	Valuable resources and guides (not necessarily closure-specific)
Foundations and trusts	The World Bank Sourcebook IFC Community Investment Strategies Good Practice Handbook. Asia Pacific Social Impact Centre (2017) Philanthropy: Towards a Better Practice Model. Grant-making Foundations and Trusts: Impala Bafokeng Trust; Las Bambas Social Fund Project Implementation Foundations and Trusts: Ahafo Foundation, Rössing Foundation, Multi-strand funds for different objectives, population, spatial and temporal boundaries: Weipa (WACCT) and the Pilbara (The Rio Tinto WA Future Fund and General Gumula Foundation). Multiple companies donating to the same Foundation: Gladstone Foundation
Impact and benefit agreements	Rio Tinto & CSRM (2016) *Why agreements matter*. Gibson, G. & O'Faircheallaigh, C. (2015) IBA Community Toolkit The Gordon Foundation. ICMM (2019) Good Practice Guide to Indigenous People and Mining.
Strategic community investment	ICMM (2019) *Integrated Mine Closure* chapter on social transition and tool 11. IFC (2010) *Strategic Community Investment, A Good Practice Handbook for Companies Doing Business in Emerging Markets*, Washington DC Anglo American, (2015), *Socio-Economic Assessment Toolbox*, Version 3 Ana Maria Esteves, David Brereton, Daniel Samson & Mary-Anne Barclay (2010) *Procuring from SMEs in local communities. A Good Practice Guide for the Australian Mining, Oil And Gas Sectors*, CSRM ICMM (2012) *Community Development Toolkit*, London IPIECA (2017) *Creating Successful, Sustainable Social Investments*
Participatory GIS	Forrester, J., & Cinderby, S. (2014). A guide to using community mapping and participatory-GIS. NERC: Swindon, UK. Available at: http://www.iapad.org/wp-content/uploads/2015/07/Borderlands-Community-Mapping-Guide.pdf Corbett, J. (2009). Good practices in participatory mapping: a review prepared for the International Fund for Agricultural Development (IFAD). https://www.ifad.org/documents/38714170/39144386/PM_web.pdf/7c1eda69-8205-4c31-8912-3c25d6f90055 Participatory Avenues, the Gateway to Community Mapping, PGIS & PPGIS. The online resource for PGIS practitioners. Available at: http://www.iapad.org/ Public Participation GIS Portal. The corresponding online resources for PPGIS. Available at: http://www.ppgis.net/ Kivinen, S., Vartiainen, K., & Kumpula, T. (2018). People and Post-Mining Environments: PPGIS Mapping of Landscape Values, Knowledge Needs, and Future Perspectives in Northern Finland. *Land*, 7(4), 151.

Participatory Process	Valuable resources and guides (not necessarily closure-specific)
Participatory monitoring and evaluation	International Financial Corporation (IFC) (2010). International Lessons of Experience and Best Practice in Participatory Monitoring in Extractive Industry Projects; Guidance Note on Designing Participatory Monitoring Program, Common Ground Consultancy. Pareja, C., Honey-Rosés, J., Kunz, N., Fraser, J., & Xavier, A. (2018). What Participation? Distinguishing Water Monitoring Programs in Mining Regions Based on Community Participation. *Water*, 10(10), 1325. Onencan, A., Meesters, K., & Van de Walle, B. (2018). Methodology for participatory GIS risk mapping and citizen science for Solotvyno salt mines. *Remote Sensing*, 10(11), 1828. UNDP (2019). Participatory Environmental Monitoring Committees in Mining Contexts: lessons from nine case studies in four Latin American countries. https://www.undp.org/content/dam/undp/library/planet/environment/UNDP-CIRDI_Participatory_Environmental_Monitoring_Committees_in_Mining_Contexts.pdf Pareja, C., Honey-Rosés, J., Kunz, N., Fraser, J., & Xavier, A. (2018). What Participation? Distinguishing Water Monitoring Programs in Mining Regions Based on Community Participation. Water, 10(10), 1325. https://www.mdpi.com/2073-4441/10/10/1325/pdf Cumulative Environmental Management Association (CEMA) (2015) Traditional Knowledge Wildlife Habitat Reclamation Guidance: Final Report.
Rapid appraisal using indicators	Sustainable Seattle Project https://communityindicators.net/indicator-projects/sustainable-seattle/ The Community Toolbox produced by Kansas University https://ctb.ku.edu/en/table-of-contents/evaluate/evaluate-community-initiatives/examples-of-community-level-indicators/main. Uhlmann, V., W. Rifkin, J.-A. Everingham, B. Head, and K. May. 2014. Prioritising indicators of cumulative socio-economic impacts to characterise rapid development of onshore gas resources. *The Extractive Industries and Society* 1(2):189-199
Town Transition Tool	This is a custom-designed tool without publicly available resources or reports of past use. There is a detailed Facilitators guide held by CSRM. Mackenzie, S. & Everingham, J. (2019) Assessing social impacts of mine closure. IAIA19 Conference: *Evolution or Revolution: Where next for impact assessment*?

THE UNIVERSITY OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

Contact details

Dr **Jo-Anne Everingham**
T +61 7 **3346 3496**
M +61 **0401 727 648**
E **j.everingham**@uq.edu.au
W uq.edu.au

CRICOS Provider Number 00025B