IUCN-ICMM
ROUNDTABLE ON RESTORATION OF LEGACY SITES

Roundtable Report

2-3 March 2008
The Old Mill Inn
Toronto Canada

CONTENTS

Introduction

At the World Summit on Sustainable Development in Johannesburg in 2002, the World Conservation Union (IUCN) and the International Council on Mining and Metals (ICMM) launched a joint dialogue on mining and biodiversity[1]. The overarching aims of the dialogue are:

- To improve the performance of mining industries in the area of biodiversity conservation, with a focus on reducing the negative impacts of the industry's operations and enhancing the industry's positive contribution to biodiversity; and
- To raise mutual awareness and understanding between the conservation community and the mining industry, so that both can contribute to improved outcomes for conservation and development in areas where they interact.

Over the period 2004-2009, the dialogue aims to contribute to the following objectives:

- Performance of the mining industry in biodiversity conservation is enhanced.
- Potential for more strategic, integrated and participatory approaches to planning and management at the landscape and seascape level as a tool for achieving balanced development and conservation outcomes explored.
- Mining industries' contribution and support to further strengthen the IUCN Protected Area Management Categories System, as a credible global standard harnessed.
- Options for addressing the related issues of restoration (of legacy sites), prior informed consent, and empowerment of the indigenous peoples and local communities are explored, and pursued as mutually agreed.

[1] For more information on the IUCN-ICMM dialogue, please visit: http://www.iucn.org/themes/business/mining/index.htm

To further the discussion relating to the restoration of legacy sites, the Post-Mining Alliance[2] was engaged by ICMM and IUCN in 2007 to organize and develop materials for an international roundtable of experts in this field in March 2008. The main outputs to date have included: establishing an Organising Group (ICMM, IUCN and Alliance) and an international Advisory Group made up of government, private sector, and NGO representatives.; the Alliance, working with the Organising Group and the Advisory Group developed and distributed an international survey aimed at canvassing thoughts and opinions from legacy mine practitioners and stakeholders to better understand mining legacy, best practice, and possible solutions for addressing legacy mines. A background paper was developed on the basis of the survey and international research for information leading into the convening of a Roundtable meeting on the topic.

The international roundtable on mining legacy sites was held in Toronto Canada on 2-3 March 2008. A total of 47 individuals representing the private sector, government, non-governmental organizations, indigenous peoples groups, and research and academia participated and discussed their perspectives on mining legacy. A list of the roundtable participants can be viewed in **Appendix A**. The overarching goal for the roundtable was to:

> Identify the next steps and recommendations to address issues and challenges related to legacy mines specifically concerning funding and finance, legislation, partnerships, and knowledge sharing.

To address this goal, the Advisory Group developed the following objectives for the roundtable:

1. Develop a shared understanding of the scope and scale of the problem of regenerating legacy sites, paying attention to the differences in approach required for abandoned versus orphaned sites.
2. Develop an understanding of the complexity and urgency of the problem.
3. Explore options that deliver successful post-mining regeneration at legacy sites.
4. Explore how current good practice in mine closure can be used to develop new solutions for legacy sites, with particular attention to improving dissemination to developing countries.
5. Recognize and promote the critical - and often overlooked - importance of community engagement in dealing realistically with mining legacy.
6. Explore options for appropriate on-going dialogue on this issue that ultimately leads to action on the ground.

The roundtable sought to take a forward-thinking and constructive approach, building on the examples of good practice in mine closure and post-mining regeneration projects identified in the survey, to determine how lessons can be transferred and developed for

[2] The Post-Mining Alliance is an expert group established to provide an independent perspective and convening power on post-mining issues. The Alliance is based at the Eden Project, in Cornwall UK.

wider benefit. The meeting set out to gather knowledge and facilitate sharing of opinions and suggestions from the diversity of backgrounds and experiences of the participants and did not aim to achieve consensus on a particular approach or topic. As such, the roundtable served as a stimulus for improved understanding and trust-building among key stakeholders and provided a valuable initial forum for dialogue amongst all of those involved with legacy site restoration.

The meeting was facilitated by Michael van Aanhout and rapporteured by Michael Gullo of Stratos Inc. This report provides a summary of the key messages and points of discussion over the course of the roundtable from the rapporteur's notes as well as corrections and clarifications submitted to the PMA. The report summarises the roundtable discussions on the four topics: funding and finance; legislation and regulation; partnership approaches and local community participation; and knowledge sharing. The agenda for the roundtable can be viewed in **Appendix B**. In addition to this roundtable report, the various components of the roundtable process will be integrated into a report to be published by the Post-Mining Alliance on the restoration of legacy sites including a coherent discussion paper for government and mining companies, a framework for addressing community issues, and various public outreach materials and activities.

1 Overview of Day One

The first day of the roundtable provided an overview of the preparatory work that had been completed by the Post-Mining Alliance on mining legacy, including a brief summary of the background paper and the global survey undertaken in advance of the meeting. Day One also provided delegates an opportunity to articulate their perspectives on legacy sites, explain their expectations for the roundtable, and identify constructive practical suggestions for moving forward.

1.1 Introductory Presentations & Background

Michael van Aanhout welcomed the delegates to the roundtable and introduced Glenn Nolan of the Missanabie Cree First Nation, who provided an opening prayer. Following Mr. Nolan's opening prayer, members of the roundtable's organizing group, Caroline Digby, Director of Post-Mining Alliance, and Chris Copley, Programme Director of ICMM, presented an overview of the IUCN-ICMM Dialogue and past events related to legacy site restoration, including the role of the Post-Mining Alliance and the roundtable's Advisory Group. Each member of the Advisory Group introduced each of the delegates seated at their respective table.

Members of the Advisory Group presented a brief overview of the background paper prepared on legacy mines and highlighted several major issues related to the physical and political challenges experienced when addressing these sites. The background paper prepared for the roundtable can be viewed in **Appendix C**.

Dave Richards of the Advisory Group presented an overview of the major physical challenges to regeneration identified in the background paper. These are:

- The legacy mine site problem is enormous and complex and consists of a number of human health, safety, environmental, socio-economic, and reputational risks;
- Legislation and funding mechanisms to address legacy mines are not in place in most countries where legacy mines exist;
- Regeneration can be the returning concept that provides a framework for identifying and driving solutions that address social, environmental, and economic issues;
- Social impacts related to legacy sites are not as well documented or understood as environmental impacts;
- Communities affected by legacy sites are often powerless and are limited in terms of their ability to articulate themselves throughout the regeneration process;
- The environmental problems associated with legacy sites are well known and include contaminated land and water, dust, large volume wastes, loss of biodiversity, infertile soils and unstable ground;
- Site treatment costs usually refer only to environmental cleanup, underestimating the true costs to legacy sites which include negative socio-economic impacts; and
- Effective regeneration of areas requires an enhanced understanding of how the affected community finds new identify, purpose, and cohesion.

Allan Comp of the Advisory Group presented an overview of the political challenges identified in the survey. These are:

- Virtually all survey respondents regarded mining legacy issues as either very or fairly important when compared to other major issues related to sustainable development;
- All stakeholders in the mining sector (i.e. governments, companies, and civil society) have played some part in the creation of today's legacy sites;
- Governments have inherited responsibility for orphaned and abandoned mines and these agencies are searching for ways to maximize regeneration efforts;
- The NGO community is sceptical about the mining industry's real commitment to restoring landscapes and preparing mining communities for life after mining;
- Today's mining companies are concerned about the environmental and social performance of their existing operations;
- There is a need to introduce the concept of regeneration early in the planning stages of project to ensure that regeneration is addressed prior to mine closure; and
- Legacy mines require brave solutions for remediation which pass surpass the level of effort put forward by government.

In light of major physical and political challenges presented above and in the background paper, members of the Advisory Group emphasized that the definitions of "regeneration" and "good practice" as presented in the survey have been widely accepted (80% consensus) as a means for addressing legacy sites and their respective environmental, social, and economic issues.

Definitions used for Roundtable Discussions:
Regeneration in the context of mining legacy as: *activities that enhance post-mining landscapes for the benefit of the environment and affected communities.*

Good practice in post-mining regeneration as: *an approach that empowers the local community in meaningful decision-making; provides ongoing support for local communities, even after closure; provides ongoing commitment for environmental impact management mitigation and long-term monitoring; and transparency in reporting.*

1.2 Facilitated Discussion of Participant Interests and Perspectives

Participants were provided an opportunity to offer their perspectives on the legacy mine issue and related challenges that they experience within their jurisdictions and organizations. This discussion is summarized below.

There are capacity issues in both developing and developed countries
Participants commented that the lack of capacity to address legacy sites, particularly the prevention of legacy sites, in developing countries is a significant issue that warrants concern from the international community. It was noted that while some developed countries are leading the way in key aspects of progressing legacy site rehabilitation, not all developed countries are as proactive in seeking out good practice case studies to benchmark their own progress. Participants also highlighted that employees working in either developed or developing country governments are hard pressed to influence their governments to address legacy sites when the issue is not included in a high level policy or strategic document. In the absence of real drivers to address legacy sites, this problem is exacerbated due to the number of experienced individuals retiring within government agencies. Also, it was noted that communities need to be involved in the legacy site process so that they can better understand issues and challenges within their communities and respective jurisdictions.

Not all legacy site issues are negative
Participants highlighted that not all of the issues related to legacy sites are negative. For example, some former or existing mining communities maintain that legacy sites are part of their heritage and that these sites are providing a way living for their people. Furthermore, the potential to reopen mines may eventually foster economic opportunities and existing legacy sites can provide habitat for flora and fauna.

Community representation is essential
Representatives from Indigenous Peoples organizations underlined the importance of including and engaging representatives from local communities when addressing legacy site issues. It was noted that over time the politics of marginalization has caused communities to feel angry and powerless, and has led to a breakdown of confidence and

trust with respect to working with the mining industry to address legacy sites. Furthermore, participants stated that local communities were reluctant to attend the roundtable because they feel that they are being used by the mining industry to help "green" mining companies.

Lack of an appropriate regulatory framework to address legacy sites can hinder progress
The lack of legislation to address legacy sites at the national and international levels allows a number of issues to persist. For example, the absence of legislation and regulation at the national level highlights a risk for existing legacy mines to reopen and for their environmental problems to worsen. Similarly, the absence of a legislative framework at the national level can lead to the continued development of legacy sites. Finally, lack of alignment for addressing legacy sites within government can result in situations where the desire by one government department to regulate another can hinder progress with rehabilitation. Participants highlighted that the international community needs to look to developed countries to share knowledge with respect to lessons learned, provide guidance on how to move forward and develop legislation and key elements to jumpstart initiatives to address legacy sites.

Funding for remediation needs to become a priority
Participants highlighted that a sustainable level of funding for addressing legacy sites is essential. Participants acknowledged that some mechanism that allows for the transfer of funds from developed to developing countries is required. Low cost programs for reducing risk at legacy sites were also encouraged. For example, the US Department of Environmental Protection's Stay Out and Stay Alive Program[3] was referenced as a low to no cost solution to reducing health and safety risks at legacy sites. Several participants also emphasized that the mining industry needs to take a more proactive role with respect to addressing legacy sites and their financial requirements. An industry levy to address existing legacy sites was proposed.

Richard Fuller of the Blacksmith Institute provided a brief overview of the organization's Polluted Places program as a mechanism for addressing legacy sites.

Introduced in 1999, the Polluted Places program operates in developing countries where pollution is at its most severe - especially in areas where women and children are affected - and implements projects to clean up the problem. The program's methodology includes a process for online identification, site assessment and planning as a prelude to enacting successful remediation activities. The program focuses on addressing polluted sites that are likely to achieve significant health impacts, strong local champion and partners, and reasonable, cost-effective prospects for successful pollution remediation.

Mr. Fuller highlighted the following lessons learned for successful program implementation:

- A local champion is mandatory; they should create a stakeholder group.
- A stakeholder group must be developed and needs to include representation from all relevant parties, including funding groups. The group should work collaboratively and move forward on consensus basis.
- There needs to be a long-term component for monitoring and management.
- Stakeholder groups need to recognize environmental impact assessment processes.

Additional information on the Blacksmith Institute's Polluted Places program can be obtained from: http://www.blacksmithinstitute.org/pp.php

A strategic plan to address legacy sites is required

There is a need to develop a strategic plan to address legacy sites at the international level. The plan should outline the path forward for discussing legacy sites and the key issues and challenges. It should clearly establish goals, objectives, and a reporting structure. One recommendation to be further explored is the use of the US Land Bureau's Management Plan as a potential model.

Investigate potential for legacy remediation through an offset program

Participants recognised that regeneration of legacy sites may be facilitated through the development of an offset program, similar to that of the emerging biodiversity offset initiatives encouraged by the IUCN and ICMM. Under these initiatives, companies invest in the creation of new conservation areas to "offset" the impact of current or proposed mining operations. It was suggested that a similar program of incentives for companies to adopt rehabilitation projects at their current sites or at existing legacy sites could be created. This might be a useful approach given that the biodiversity offset mechanisms have already proven to be attractive to legislators and companies. However, much work would be required to understand the implications of making these offsets in various jurisdictions.

2 Overview of Day 2

On the second day of the roundtable, Advisory Group members provided brief presentations on four topics: funding and finance; legislation and regulation; partnerships and local community participation; and knowledge sharing. Following these presentations, delegates were assigned breakout groups and were asked to brainstorm on each topic for 45 minutes and answer the following questions:

1. What examples of success or best practice can be identified?
2. What new ideas and / or challenges exist?
3. What recommendations or next steps can you provide?

Each group appointed a rapporteur to record thoughts and ideas and a group leader to present the group's information in plenary.

2.1 Funding and Finance

Allan Comp of the US Office of Surface Mining and Sven Renner of Germany's Federal Institute for Geosciences and Natural Resources provided a brief overview of the funding and financing section from the background paper, which was informed by the survey. The presenters highlighted that traditional approaches to funding legacy site remediation projects are not dependable and that new innovative and creative approaches to providing funding are required to produce better results. For example, the Fonds Restor-Action Nunavik project is bring together mining and exploration companies currently active in northern Quebec with the provincial government and local Inuit people to restore orphaned exploration sites. Similarly, the US *Surface Mining Control*

and Reclamation Act was flagged as a successful example of a levy being placed on production to fund legacy site regeneration. Participants were asked to identify alternative funding mechanisms to address legacy sites within their respective jurisdictions and at the international level.

Summary from plenary

Participants provided the following comments with respect to funding and finance:

- A permanent income of funds is required so that government and non-government can plan multi-year remediation projects or socio-economic or environmental studies.
- The most likely sources of funding are governments, industry, and philanthropic enterprises.
- Funding models can vary from country to country. Suggestions of successful models include:
    - Canada's National Orphaned/Abandoned Mines Initiative (NOAMI) provides an excellent model of leadership achieving significant results and mobilising resources to address problem sites in the absence of central funding.
    - The Zambian Copperbelt Environment Project currently funded by the World Bank, Nordic Development Fund and the Zambian government is a good example of a collaborative partnership to address legacy sites in Zambia.
    - The European Union's tax on consumption of primary resources, originally as an incentive for recycling, may be a basis from which a fee on metal consumption that does not impact competitiveness of individual producers could be placed into a fund that is designed to support state funded legacy site remediation initiatives.
    - Canada's Qualified Environment Trust system provides a mechanism for a company to provide an assessed amount of funds for remediation of environmental liabilities. While the mechanism is useful in that in encourages companies to get involved in clean-ups that might otherwise threaten their solvency, there are questions around its merit as a 'successful model' as it does not ensure full remediation of legacy sites.
- The public sector can play an important role in addressing legacy sites. For example, conditions to address legacy sites can be applied to pending licensing and permitting processes.
- A global inventory of funding protocols and legacy sites needs to be developed to assess the level of funding required to address the remaining legacy sites at the global level
- A transparent process that allows countries with limited or no resources to address legacy sites is required. The World Bank and the ICMM were proposed as potential host organizations for this process.

- Tax levy systems are susceptible to the commodity boom and bust cycle. As such tax levy systems may not provide a consistent level of funding to address legacy sites, however, opportunities to capitalise on existing taxes on mining activities as well as 'boom' year tax schemes should not be overlooked.
- Partner funds between government and industry require a transparent management mechanism. Any type of system that involves industry should ensure that funds and contributions provided by industry are tax deductible.
- There was concern that funding is predominantly available to address biophysical/environmental issues and not socio-economic issues.

Recommendations

The discussion on financing and funding led to the following recommendations:

1. A focused inventory of international legacy sites is important to guide international financing of priority remediation opportunities; and
2. A position paper on funding and financing issues and opportunities should be written and submitted to the next World Mining Ministries Forum (2010).

2.2 Legislation and Regulation

Gilles Tremblay of the National Orphaned and Abandoned Mine Initiative (NOAMI) and Alberto Saldamando of the International Indian Treaty Council provided a brief overview of the material on legislation and regulation in the background paper. The presenters commented that legislation and regulation issues in the context of legacy sites are complex and that the roundtable should look to share best practices and knowledge for developing realistic and effective legislative frameworks to address legacy sites. NOAMI's jurisdictional review of all relevant domestic and international legislative requirements was flagged as a reputable approach for understanding the incentives, barriers, and opportunities for administering a voluntary clean-up program[4]. Similarly, the Good Samaritan amendments to Ontario's *Mining Act* provide a good model to allow mining and exploration companies to voluntarily rehabilitate specific abandoned mine hazards without incurring any additional liability caused by existing conditions.

Summary from plenary

Participants provided the following comments with respect to legislation and regulation:

- From a legislative perspective, legacy sites are a relatively new subject. In this way, implementation of new legislation designed to address legacy sites needs to consider capacity problems within the regulatory and private sector communities.
- There is a need to inventory existing guidelines that address legacy mines and identity methods for applying them in a global context.

[4] Additional information on Canada's National Orphaned/Abandoned Mines Initiative can be obtained from: http://www.abandoned-mines.org/intro_e.htm

- Multilateral institutions that play a critical role in developing mining legislation in developing countries need to become more familiar with issues related to legacy sites and should take on greater responsibility to ensure that best practices are reflected in their projects and programs.
- A number of non-regulatory voluntary programs were referenced as good models for addressing legacy mines:
    - Global certification processes such as the Forestry Stewardship Council can provide a model to encourage responsible stewardship.
    - Internationally recognized principles such as the Equator Principles should be encouraged as a means to preventing new and old legacy mines from being developed
    - Canada's draft Environmental Code of Practice for Metal Mining is an example of a non-regulatory policy-based instrument available to governments.
    - Though not directly related to legacy mine restoration, ICMM's report on Integrated Closure Planning (to be released in May 2008) will provide best practice guidance for addressing mining activities from the exploration phase to mine closure to prevent future negative mining legacy sites.
- Several legislative approaches to address legacy mines and promote best practice were referenced:
    - Peru's Mine Closure Law (enacted in 2005) was noted as a piece of legislation that can prevent legacy mines from being developed by implementing a system that rewards good performers for remediating legacy sites.
    - Portugal's tax incentive program to reuse mine waste at legacy sites.
    - Use of Qualified Environmental Trusts in Canada to reclaim mine sites.
    - The US *Surface Mining Control and Reclamation Act* was highlighted as a successful levy-driven program to address legacy site remediation in the US coal industry.
    - Promoting 'Good Samaritan' laws was encouraged as a means to address legislative gaps in countries where no specific legislation or regulations for rehabilitation of legacy sites exist.

- Delegates provided the following comments on regulatory and non-regulatory approaches to addressing legacy sites:
    - Tax incentive program that encourage responsible companies to remediate legacy sites should be explored. These programs should not discourage companies from remediating a portion of a legacy site.
    - Mechanisms to address legacy sites do not have to be legally binding. Softer mechanisms such as sustainable development indicators specifically for legacy sites should be explored.
    - An offset approach rooted in domestic or international legislation can provide incentive for companies to remediate legacy sites.

    - A best practice guide to conducting risk assessments at legacy sites should be developed. The guide should be flexible to address regional issues and challenges.
    - Closure certificates need to be explored as means to ensuring that legacy sites are not created.
- New programs need to consider the following criteria: mechanisms for establishing and maintaining funds for remediation activities; eligibility criteria; administrative and governance mechanisms to ensure program implementation and support; guidelines or standards for remediation; reporting and accountability structures; and mechanisms for reopening.
- There is a need to identify the potential risks to remediating legacy sites. Aboriginal concerns (e.g. land claims) and heritage values associated with legacy sites were referenced as possible points of conflict that may need to be addressed throughout the reclamation process.

Recommendations

The discussion on legislation and regulations led to the following recommendations:

1. The World Bank should convene a meeting on legacy sites and discuss the possibility of incorporating specific regulatory and non-regulatory measures that address legacy sites in their projects and programs; and
2. A best practice guide for developing regulatory and non-regulatory programs to address legacy sites should be developed.

2.3 Partnership Approaches and Local Community Participation

Glenn Nolan of the Missanabie Cree First Nation and David Richards, formerly of Rio Tinto, provided introductory remarks on approaches to developing partnerships and enhancing local community participation. The presenters emphasized that strong community engagement is integral for the successful implementation of rehabilitation projects. In addition to strong community engagement, the presenters highlighted that rehabilitation projects need to ensure that benefits from the rehabilitation process are brought into communities.

Summary from plenary

Participants provided the following comments with respect to partnership approaches and local community participation:

- The goals and responsibilities of legacy site remediation projects should be shared with local communities early so that communities can develop a better understanding of the project and its purpose.
- Mining legacy is heterogeneous and we need to recognize that there are number health and safety, environmental, and socio-economic issues to be addressed.

- Transparency and openness needs to be a fundamental component of all community based-partnership approaches.
- The Eden Project in Cornwall, UK, has demonstrated that a creative approach to remediating legacy sites can break down mistrust between stakeholders and foster strong communication and cooperation.
- It is important to recognize that indigenous communities have a strong sense of self-governance and can inform the remediation process from design through to implementation and monitoring.
- Complicated technical issues need to be communicated clearly so that communities can better understand the situation and their role with respect to remediation activities. Parties facilitating participation processes need to recognize that individuals with technical backgrounds may not be best suited to explain technical problems or the humanistic aspects of legacy mines.
- Tools exist to better inform community participation processes. ICMM's Community Development Toolkit[5], NOAMI's Guiding Principles for Community Involvement[6], and the First Peoples Worldwide Social Investment Screen[7], were referenced as good tools for assisting individuals or organizations with community participation processes

Recommendations

The discussion on partnership approaches and community participation led to the following recommendations:

1. There is a need to conduct a comprehensive analysis on community participation approaches and tools and their relevance to legacy mine remediation projects.

2.4 Knowledge Sharing

Assheton Carter from Conservation International introduced the topic of knowledge sharing to the group. This topic was discussed in open plenary.

The ensuing discussion focussed on identifying major sources of knowledge and how this knowledge can be disseminated to interest individuals and organizations. Below is a summary of the key points raised from the discussion.

- Industry generates a vast amount of economic and environmental literature for projects and operations. These reports typically remain within the mining company but would be of value to the general public. Industry should take steps to ensure that their reports can be made available to the public.

[5] For more information on ICMM's toolkit visit: http://www.icmm.com/library_pub_detail.php?rcd=183

[6] For more information on NOAMI's Guiding Principles for Community Involvement visit: http://abandoned-mines.org/NOAMI2.pdf

[7] For more information on the First Peoples Worldwide Social Investing Screen visit: http://uniqueorn.com/firstpeople/corporateabout.shtmlb

- Currently the Post-Mining Alliance maintains a library (and website connections) of best practices that are available to the public, and also maintains a diverse network of professionals and practitioners who are experts in legacy site issues.
- There are a number of additional online resources that maintain valuable information for legacy site practitioners. ICMM and the Good Practice websites[8] were flagged as good websites for trustworthy information.

Friedrich Wellmer, former President of Bundesanstalt für Geowissenschaften und Rohstoffe (BGR) gave a brief presentation of an initiative led by the Germany's federal government to decommission and rehabilitate the liabilities left behind by the former Soviet-German uranium ore mining operations in Saxony and Thuringia. Mr. Wellmer highlighted that in 1991, after the unification of Germany, the German government provided €6.2 billion to Wismut GmbH to conduct a widespread clean up of the countries uranium production liabilities. This involved a wide array of complex clean activities dismantling and demolition of structures and buildings, remediation and stabilisation of waste rock piles and tailings ponds, treatment of mine and seepage water, and extensive monitoring programs. As of December 2007, 68% of all contaminated areas have been remediated.

Additional information on the Wismut remediation project can be obtained from: http://www.wismut.de/sanierung/stand_der_sanierung_e.php

- US Federal agencies are currently working on a website on abandoned mines that is aimed at providing breadth and depth of information on abandoned mines for public users. For example, it will provide spatial data on abandoned mines in an easily accessible format. This website will be available to the public in the near future.
- Currently research related to legacy site remediation is carried out in a partisan way. Greater attention needs to be paid to what the role of the research community is and how it can be applied to legacy mines.
- There is a need for a one-stop forum that points to information on specific topics (e.g. community consultation) and provides demonstrable examples for organizations or concerned citizens. This forum should also provide a synthesis of existing initiatives (e.g. NOAMI, The Blacksmith Institute, etc.) and their relevancy to legacy sites.
- Existing networks such as the Uranium Mining Remediation Exchange Group[9] have the potential to provide valuable and credible materials and information for interested parties.
- The Blacksmith Institute has developed "cheat sheets" to assist its staff and relevant stakeholders with identifying requirements for remediation projects. These cheat sheets provide a good model for legacy site restoration projects.

[8] For more information on Good Practice visit: http://www.goodpracticemining.org/

[9] For more information on the Uranium Mining Remediation Exchange Group visit: http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=1035

- Although there is value in documenting key success factors and lesson learned in case studies, participants highlighted that some case studies do not address issues fairly and that information may not be accurate in all cases.
- Capacity building is required to better inform the general public as well as individuals currently working in the mining industry about mine legacy issues. Government and industry need to carefully consider the development of training modules for individuals working at existing mine sites.

Recommendations

The discussion on knowledge sharing led to the following recommendation:

1. The Post Mining Alliance assess the possibility of developing a user-friendly webpage that assists organizations, practitioners, and concerned individuals with finding credible information on key legacy site issues (e.g. best practices for community consultation.)

3 Overall Recommendations and Conclusions

The roundtable was not intended to obtain agreement on opinions expressed, or to resolve various approaches, but rather to gather ideas from the assembled participants, each of whom had valuable experience to apply to the solutions. The following summary presents overall impressions and general ideas and suggestions expressed after the more detailed discussions from the previous sessions and, while they reflect components of progress on common understanding, they do not necessarily have the agreement from all participants.

In the final closing sessions, participants discussed what they felt are the necessary next steps for building on the work completed and progress by the IUCN-ICMM roundtable and the respective Advisory Group and Organizing Committee. They were then asked to provide a final key message on the Roundtable and its themes.

Overall, the participants emphasized that the roundtable has provided an opportunity for all relevant stakeholders to meet and work together on the major issues facing legacy sites and that these types of forums are valuable for finding solutions to difficult problems and should be maintained. That being said,

Requirements for building on the IUCN-ICMM roundtable

Delegates commented strongly that there is a need for an organization to formally address and lead discussions on legacy site issues at both national and international levels. The organization needs to ensure that legacy sites are well placed in the international environmental agenda so that industry and governments will recognize the significance of legacy sites throughout both the developed and developing world. Furthermore, the organization should act as a lead agency for raising awareness, identifying priority sites; collecting and disseminating information on toolkits, best

practice, and funding mechanisms; and portal to exchange information among like-minded organizations and individuals. It was recommended that this group develop and make available the following tools to the international community:

1. A high-level strategy that and implementation plan can act as a roadmap to navigate next steps and collaborative decision making to address legacy site issues;
2. Guiding Principles for addressing regeneration of legacy sites;
3. A global inventory of legacy sites that can allow the international community to prioritize their remediation efforts. A risk assessment framework for prioritizing legacy sites should be included;
4. A clearinghouse for the sharing and dissemination of knowledge and information on best practice, guidelines, legacy mine toolkits, etc.;
5. Cheat sheets for addressing specific issues such as community participation and environmental, economic, and health impacts at legacy sites;
6. Education and outreach materials such as documentary case studies on examples of mining and posting mining projects; and
7. A communication strategy to inform and engage key audiences and relevant stakeholders.

Key Messages

In summary of the specific recommendations on the roundtable topics, the delegates offered the following closing comments:

- Efforts in restoration of mine legacy need to ensure that global, regional, and local aspects are accounted for. Ensuring that an appropriate balance of effort is put forward in the developed and developing world will be a challenge.
- Building capacity in both developing and developed countries on legacy site restoration needs to be addressed.
- A consistent and dependable stream of funding to remediate legacy sites is required. It is likely that the required funding will not come from the private community; thus potential bilateral and multilateral donors should be identified immediately.
- All governments need to recognize the immediate benefits derived from voluntary remediation programs that provide tax incentives or other benefits (e.g. Good Samaritan legislation) for industry. All governments should recognize good practice regardless of whether the initiatives are led by local companies or not.
- Communities need to be engaged at all levels. Their participation is required at the international, regional, national, and project levels to ensure that their concerns are heard and that feasible solutions are identified and implemented.
- International processes, like this Roundtable, need to reach out to communities and indigenous peoples organisations to overcome scepticism of mining interests by identifying practical tangible examples that promote good practice and focus on community engagement and good faith.
- The discussion initiated at this Roundtable needs a home. The outcomes need to be accessed and the dialogue moved forward in the future. The IUCN-ICMM

Dialogue is probably not be the right location and the Post-Mining Alliance is suggested as a good alternative facilitator and custodian for promoting an ongoing discussion on legacy sites.

4 Next Steps

It was expressed strongly by participants that talk, though valuable, needs to be translated to action and that each has a role in taking the recommendations and ideas from the dialogue into their own practice.

With regards to continuing a Forum, participants suggested that, if the process is continued, the next meeting should focus on developing a typology of sites and identifying specific solutions to address legacy sites at the international and national levels. This would help clarify the fact that some issues and the solutions may look very different for abandoned vs. orphaned sites, sites with vs. without potential for redevelopment, sites on private vs. public land, sites in populated vs. remote areas, etc. There was also a strong sentiment that the lessons learned on restoration of legacy sites should inform dialogues, networks, and guidelines to prevent future negative legacy sites.

Participants also suggested that the results of the IUCN-ICMM roundtable should be communicated at the World Conservation Conference in Barcelona, Spain[10] from October 5th-14th and the 3rd International Seminar on Mine Closure scheduled to take place in Johannesburg South Africa from October 14th-17th.

5 Closing Remarks

On behalf of ICMM and IUCN, Chris Copley and Tom Hammond thanked the participants for their thoughtful engagement over the two-day Roundtable meeting, noting that the IUCN-ICMM Dialogue was under review. Caroline Digby of the Post-Mining Alliance provided closing remarks, expressing the hope that the review process would conclude that both organizations would continue their involvement on the mining legacy issue. The immediate next steps are to synthesize the findings and results from the survey, background paper and roundtable meeting into a comprehensive report that will provide recommendations for moving forward and promote the results of the IUCN-ICMM process.

[10] For more information on this conference visit: http://cms.iucn.org/news/events/congress/index.cfm

To ensure that the relevant interested parties derive the greatest value from the Roundtable process, the Post-Mining Alliance will undertake to integrate its outcomes and recommendations, as well as evaluations from the participants, into the following future documents and activities for specific audiences:

- A coherent discussion paper on definitions, issues, suggestions for best practice, and case studies on the key constraints identified in the survey and discussed at the roundtable for governments and mining companies on the issue of addressing mining legacy;
- A framework and references to support practitioners to address community issues and find site-specific solutions;
- A summary aimed at informing the public on key issues and suggested solutions related to mine legacy site restoration; and
- A lessons learned document for organisers of any future dialogue event.

Annex A – List of Delegates

Surname	First Name	Organisation	Country
Aranda	Carlos	Southern Peru Copper Corp	Peru
Baker	Alan	University of Melbourne	Melbourne, Australia
Brehaut	Henry	consultant (ex-industry)	Toronto, Canada
Carrick	Peter	Namaqualand Restoration Initiative	South Afrrica
Carter	Assheton	Conservation International	Washington, DC
Chappius	Maria	former Peruvian Mining Director	Peru
Christie	Tara	Alexco	Vancouver, Canada
Comp	Allan	US Office of Surface Mining	Washington, DC
Copley	Chris	International Council on Mining and Metals	UK
Dalheimer	Manfred	Federal Institute for Geosciences and Natural Resources (BGR)	Germany
Danielson	Luke	Danielson Law	Colorado, USA
de Carvalho	Delfim	EDM	Portugal
Digby	Caroline	Post-Mining Alliance	UK
Fuller	Richard	Blacksmith Institute	New York, USA
Gardiner	Elizabeth	Mining Association of Canada	Canada
Gardner	John	Alcoa	Australia
Gullo	Michael	Rapporteur – Stratos	Ottawa, Canada
Hammond	Tom	IUCN World Conservation Union	Montreal, Canada
Hollands	Martin	WWF Laos	Laos
Johnson	Michael	University of Liverpool	UK
Lesufi	Niks	Chamber of Mines of South Africa	South Africa
Limpitlaw	Daniel	Limpitlaw Consulting	South Africa
Lindahl	Lars-Ake	Svemin (Swedish assoc.mines, mineral. and metal producers)	Sweden
Marçal	Henrique	EDM	Portugal
Martins	Luis	INETI	Portugal
Mead	Aroha	Victoria University of Wellington	New Zealand
Nahir	Michael	Dept of Indian and Northern Affairs Canada	Ottawa, Canada
Nolan	Glenn	Missanabie Cree First Nation	Ontario, Canada
Parsons	Andrew	AngloGold Ashanti	South Africa
Paterson	John	Skeleton Coast Park	Namibia
Polo	Cesar	former Mining Vice Minister	Peru
Renner	Sven	Federal Institute for Geosciences and Natural Resources (BGR)	Chile
Richards	David	Rio Tinto	UK
Saldamando	Alberto	International Indian Treaty Council	California, USA
Sheldon	Chris	World Bank	Washington DC, USA
Stewart	Gregg	BC Contaminated Sites Program	Vancouver, Canada
Stone	George	Bureau of Land Management, Department of the Interior	USA
Tremblay	Gilles	National Orphaned and Abandoned Mines Initiative	Ottawa, Canada
Unger	Corinne	consultant (ex-Queensland government)	Australia
van Aanhout	Michael	Facilitator - Stratos	Ottawa, Canada
Waggitt	Peter	The International Atomic Energy Agency	Australia
Wellmer	Friedrich	Former President BGR	Germany
Whitbread-Abrutat	Peter	Post-Mining Alliance	UK
Wiber	Maxine	BHP Billiton	Toronto, Canada

Annex B – Roundtable Agenda

Roundtable on Restoration of Legacy Sites
March 2-3, 2008
Old Mill Inn
Toronto, Ontario

Objectives:

1. Develop a shared understanding of the scope and scale of the problem of regenerating legacy sites, paying attention to the differences in approach required for abandoned versus orphaned sites
2. Develop an understanding of the complexity and urgency of the problem
3. Explore options that deliver successful post-mining regeneration at legacy sites
4. Explore how current good practice in mine closure can be used to develop new solutions for legacy sites, with particular attention to improving dissemination to developing countries
5. Recognise and promote the critical - and often overlooked - importance of community engagement in dealing realistically with mining legacy
6. Explore options for appropriate on-going dialogue on this issue that ultimately leads to action on the ground

Day 1: Sunday March 2nd

2:00 – 3:00 Registration

3:00 – 4:00 Welcome

- Opening Remarks
- Review of Roundtable Format and Process — Facilitator
- Roundtable Introductions — All
  - Participants at each table will be invited to introduce one another and to nominate a spokesperson who will introduce the table to the group and describe their expectations for the Roundtable

4:00 – 4:30 Overview of Background Paper — David Richards/ Allan Comp/Assheton Carter

4:30 – 6:00 Facilitated Discussion of Participant Interests and Perspectives — All

- Participants will be asked to provide specific perspectives on the issue of mining legacy

6:00 Adjournment

6:30 – 7:30 Reception

7:30 – 9:30 Dinner

Day 2: Monday March 3rd

8:30 – 8:45 Welcome and Summary of Day 1

8:45 – 10:30 Funding and Finance

- Introductory comments — Allan Comp/Sven Renner
- Discussion — Facilitator/all
  - Each table will have an opportunity to discuss in breakout groups and will present their perspectives in plenary

10:30 Break

11:00 – 12:30 Legislation

- Introductory comments — Alberto Saldamando/Gilles Tremblay
- Discussion — Facilitator/all

12:30 Lunch

1:30 – 2:30 Partnerships approaches and local community participation

- Introductory comments — Aroha Mead/Dave Richards
- Discussion — Facilitator/all

2:30 – 3:30 Knowledge sharing

- Introductory comments — Assheton Carter
- Discussion — Facilitator/all

3:30 Break

4:00 – 5:00 Next Steps — Facilitator

5:00 – 5:30 Roundtable Summary and Closing Remarks

5:30 Adjournment

Annex C – Background Paper for Roundtable

BACKGROUND PAPER
IUCN-ICMM ROUNDTABLE ON THE RESTORATION OF LEGACY SITES

Negative Legacy to Positive Inheritance

As part of the ICMM-IUCN dialogue on biodiversity and mining, a roundtable on mining legacy sites will be held in Toronto in March 2008. The meeting will convene industry, governments and civil society to discuss perspectives on mining legacy. It is hoped that the roundtable will start to explore new solutions for action at local, national and international levels. Future progress is likely to require consideration of new financial mechanisms to identify funds, enabling legislation, new partnership approaches and improved dissemination of knowledge about solutions on the ground.

This paper – prepared by the Post-Mining Alliance – is intended to provide a briefing for those attending the roundtable on some of the challenges surrounding mining legacies. It draws on the results of a survey by the Post-Mining Alliance in late 2007 of over 100 respondents from around the world. Survey respondents had an average of over 20 years experience in mining-related fields and covered a wide geographic and professional spread. The survey report is available as a separate document.

What is meant by mining legacy

The word legacy typically refers to a positive bequest. Indeed, there are many positive legacies associated with the mining industry (such as schools, medical centres, transport infrastructure, trained workforces and local business development). However, in a mining context, legacy is often used as a pejorative to describe the negative social, economic or environmental impacts of past mining activities; the positives of mining are not the cause of the controversy surrounding mining legacy, so this paper and the roundtable will address the negatives.

The negative legacy of orphaned and abandoned mines has proved to be one of the most intractable issues facing the mining sector. A distinction is drawn between abandoned – where the legal owner of the mine is known but, for some reason, is unable or unwilling to take the necessary remedial action; and orphaned – where the legal owner cannot be traced. In the survey, legacy issues were regarded virtually unanimously as fairly or very important, when compared to apparently much greater challenges such as climate change. Industry is understandably reluctant to pick up the liabilities for someone else's bad practice while at the same time others see some contribution to dealing with legacy as a prerequisite for continued licence to operate. Until recently mine decommissioning and closure activities were not obligatory in most countries. Poor closure practices by some companies continue to damage the reputation of the industry as a whole and keep the problem of legacy at the top of the critics' list.

The scale of the mining legacy challenge

The scale of the challenge has at least two dimensions. Firstly, there is the physical element: how prevalent is mining legacy? Where does it occur? What are its impacts on the environment and on associated communities? Who does it affect most?

Secondly, there is the political element: the challenge of finding a consensus on possible solutions and the way forward.

The physical challenge

The geographic scale of the problem is enormous and worldwide. Legislation requiring the rehabilitation of mines on closure has only been implemented in most mining jurisdictions in the last twenty-five years and in many places remains piecemeal. Centuries of inadequate or non-existent mine closure practice have left a legacy of many thousands of derelict mine sites and, often, impoverished communities.

Mining legacy is associated with a variety of negative impacts:

- human health risk (exposure of local communities to contamination)
- safety risks (open holes – pits and shafts, collapsing tailings, impoundments, etc)
- environmental risks (contaminated land and water, biodiversity loss)
- socio-economic impacts (communities left without livelihoods)
- economic risks for the country (that could be exposed to accusations of environmental dumping)
- reputational risks for mining companies as a whole (possibly affecting future licences to operate).

In the most recent list of the World's Most Polluted Places published by the Blacksmith Institute, mining legacy sites comprise five of the Top 10 and 10 of the Top 30. At these sites the immediate concern is with the public health risks where the local community is exposed to pollutants after mining activities have ceased. Exposure pathways include dusts and contaminated soils, surface water and groundwater. The first concern in any concerted effort to clean up legacy sites globally should be the mitigation of human health impacts.

The environmental problems associated with legacy sites are well known and include contaminated land and water (including surface and ground water), dust, large volume wastes, loss of biodiversity, infertile soils and unstable ground. There are no global statistics on the scale of the problem or the costs of dealing with it, but these will inevitably be substantial.

Site treatment costs usually refer to environmental clean-up alone – the funds required to rehabilitate the site to some acceptable level. This approach underestimates the true costs of mining legacy, which can include significant negative socio-economic impacts. Mines often act as the glue fixing the social and economic fabric of a community – shaping its cultural identity over generations. When a mine closes the impacts can devastate entire communities with one blow (although today, responsible mining sector actors – those governments, companies and civil society players involved in mining – work together during the earlier stages of a mine's life to plan more integrated post-mining environmental and socio-economic opportunities for the community). Gradual adaptation of social patterns and infrastructure around legacy sites may not be possible, although some of the past capabilities might return in a limited way. Effective regeneration of areas affected by such collapses requires sophisticated understanding of how the community finds new identity, new purpose and new cohesion.

Survey respondents were asked to rank the environmental and social impacts of legacy in order of importance. Acid drainage was the biggest environmental concern,

followed by contaminated land, public safety hazards, loss of biodiversity, visual impacts and dust. The biggest socio-economic concern was the impact on the local economy (unemployment, low wages, lack of inward investment), followed by education (lack of transferable skills, poor education performance), demographics (emigration of the young and skilled, aging population), public health (poor housing, unhealthy lifestyles), lack of leadership and crime and anti-social behaviour.

There is no single solution to mining legacy, but there are many examples of good practice. A constructive analysis of successful regeneration case studies and the barriers that prevent wider implementation of the relevant lessons would inform the discussion. More robust financial assurance requirements and a broader interpretation of closure planning embedded in legislation may help.

The political challenge

A second component of the legacy challenge is the task of reaching consensus on how to deal with the problem. There are several reasons why talking about mining legacy is tricky. Different groups come at the problem with very different perspectives and often the obstacles to progress are well-rehearsed by the major players involved in the debate.

All actors in the mining sector (as defined above) have played some part in the creation of today's mining legacies – the issue is often not as straightforward as, simply, poor past performance by a mining company. Indeed, previously, mines may have been closed in accordance with government-enforced standards of the time that are today no longer deemed acceptable, and may therefore now be regarded as legacy sites. Many legacy sites were created by state-owned mining companies where, now, the government is indisputably liable for clean-up (this is particularly true of old coal mining areas in Europe and former communist states).

The NGO community is sceptical about the mining industry's real commitment to restoring the mining landscapes and preparing mining communities for life after mining. At the same time, they realise that even if the industry behaved impeccably from now on, there remains a huge legacy of mining-scarred communities and landscapes that need attention. One of their main aims is to bring pressure to bear on today's mining industry and decision-makers to address the gaps in past practice.

Today's mining companies are concerned about the environmental and social performance of their existing operations. In recent years they have been striving to keep pace with changing expectations for higher mine closure standards. Better preparation and planning for mine closure are beginning to deliver better outcomes and these lessons, together with technical expertise, can be usefully applied to legacy sites. However, the industry is understandably disinclined to take the lead on addressing mining legacies and takes the view that government leadership is required to address the problems of the past because of liability risks involved.

Thus, today's governments have inherited responsibility for orphaned and abandoned mines, ranging from Bronze Age excavations to late 20th-century large-scale mines, where the owner has gone bankrupt and the mine abandoned. These agencies are searching for ways to maximise the regeneration return, often with very limited resources and capacity, by working with partners from other stakeholder groups who may be able to provide further resources, capacity and expertise.

Other important players in the regeneration of legacy sites are the community-based groups which are often successful at the local level in dealing with legacy problems. Often overlooked and largely absent from international discussions on this subject, these groups in most cases are too busy acting locally to share their experiences more widely. Bringing some of these community-based groups to the table may well pay dividends.

Objectives of the roundtable

1. To develop a shared understanding of the scope and scale of the problem of regenerating legacy sites, paying attention to the differences in approaches required for abandoned versus orphaned sites
2. To develop an understanding of the complexity and urgency of the problem
3. To explore options that deliver successful post-mining regeneration at legacy sites
4. To explore how current good practice in mine closure can be used to develop solutions for legacy sites, with particular attention to improving dissemination to developing countries
5. To recognise and promote the critical – and often overlooked – importance of community engagement in dealing realistically with mining legacy
6. To explore options for appropriate ongoing dialogue on this issue that ultimately leads to action on the ground

Many of the issues and arguments surrounding mining legacy are well known and have been rehearsed for years. The challenge for all is to be creative about finding solutions rather than becoming trapped in a cycle of apportioning blame for past wrongs. The roundtable seeks to take a forward-thinking and constructive approach, using the examples of good practice in mine closure and post-mining regeneration projects identified in the survey, to determine how lessons can be transferred and developed for wider benefit. At a minimum, it is hoped that the roundtable will act as a stimulus for improved understanding and trust-building and will establish a foundation for dialogue between all the stakeholders involved.

KEY ISSUES FOR THE ROUNDTABLE

What is understood by regeneration and good practice

Most of the survey respondents agreed with the definition of regeneration in the context of mining legacy as *activities that enhance post-mining landscapes for the benefit of the environment and affected communities.* Local communities, local government (as opposed to national, state/ provincial government) and mining companies were considered to be the three most important groups in planning for regeneration. Among the many types of local communities directly affected by mining may be indigenous peoples' groups and dispersed mining communities that may live hundreds of kilometres from the mine itself (residents may work on the mine, have water sources emanating near the mine, hunt animals that migrate past the mine, have sacred historical land on or near the mine, etc).

Good practice in post-mining regeneration is described as: *an approach that empowers the local community in meaningful decision-making; provides ongoing support for local communities, even after closure; provides ongoing commitment for environmental impact management mitigation and long-term monitoring; and transparency in reporting.* A very large majority of respondents agreed with this definition.

While survey results suggested a long list of examples and models of good practice from around the world, most of these were of technical environmental solutions; very few dealt with the negative social impacts. Asked what could be learned of wider relevance from the examples provided, local community involvement was the most important lesson, followed by partnership/ stakeholder approaches and government involvement. Respondents' comments with an environmental focus also emphasised the possibility of environmental regeneration as a means to community/ socio-economic regeneration. Some categories, such as government involvement, hide a range of different sub-categories such as public funding for regeneration, development of new legislation (e.g. Good Samaritan legislation) or the enforcement of existing legislation. Only two respondents explicitly mentioned leadership, although the need for leadership is implied in the many comments on the need for government involvement. Institutions taking a lead are primarily based in the EU, North America and Australia.

Barriers to action in the regeneration of legacy sites

Respondents were asked to suggest three topics for inclusion in the roundtable and the majority of suggestions can be summarised under four headings: funding and finance; legislation and regulation; partnerships and local community participation; and knowledge sharing (of technology, processes, and other success factors). These are not mutually exclusive, but it is useful to look at each in turn. The considerations for the roundtable provided in each section are informed by the survey responses.

1. Funding and finance

Responsibility for funding the regeneration of legacy sites and the often prohibitive cost of clean-up are huge challenges. It should be noted that there are many examples of post-mining regeneration projects that have successfully tapped into funding sources outside the mining sector – related to urban renewal, regional development, contaminated site remediation, habitat protection, and other interests. Creativity and expertise in fund-raising need to be encouraged, as there are funding sources that may be applied to mining legacy problems using the right approach and adapting to specific funding criteria. Often the mining sector considers its challenges to be unique, which may put it at risk of missing valuable opportunities for funding from unusual sources.

Recent work

There is relatively little publicly available literature on the various approaches to funding the regeneration of legacy sites. A notable exception is the 2003 NOAMI-commissioned report, *Potential Funding Approaches for Orphaned/ Abandoned Mines in Canada*, which was followed by a multi-stakeholder workshop on *Assessing Liabilities and Funding Options* in 2005 that further developed funding approaches and related issues for legacy sites. A third study followed in 2006 entitled: *Rehabilitating Abandoned Mines in Canada: A Toolkit of Funding Options,* illustrated with case studies. Although the NOAMI work is specifically focused on Canada, its findings apply more broadly to legacy funding elsewhere.

The source of the funds and the desire to find partners to share in the costs has led NOAMI to review five principal government funding options:

1. direct government funding from general revenues
2. government funding through tapping existing revenue streams generated by mining, e.g. mining tax/royalties

3. government funding through the imposition of a levy on current and future mineral production
4. federal and provincial cost sharing arrangements from general revenues
5. government-industry partnerships

Government funding

In most developed country mining regions, there is some ongoing public funding to deal with mining legacy. In Canada, provincial regeneration programmes are underway in Ontario, British Columbia, Manitoba and Quebec. For example, the Ontario Abandoned Mines Rehabilitation Program started in 1999 and spending is approximately US$10 million a year to 2012. The federal Department of Indian and Northern Affairs Canada (DIAND) has set aside funds for the clean-up of contaminated sites located north of the 60th Parallel and includes mines such as the Giant and Colomac gold properties and the Port Radium uranium mine in the Northwest Territories. There are also cost-sharing projects between federal and provincial government for shared responsibility sites such as the uranium mines in Northern Saskatchewan and the Sydney Tar Ponds in Nova Scotia.

The world-renowned regeneration of Sudbury, Ontario's 10,000+ ha of 'barren' smelter-affected landscape over the past 30 plus years, began as a city authority scheme to create environmental improvement jobs for unemployed miners. City and provincial authorities have been the main driving (and funding) forces behind the regeneration, which has planted over 10 million trees. Today, the city is cleaner and healthier, and the community is more environmentally active, with many spin-off initiatives underway and a rapidly diversifying economy.

In Europe, particularly following the collapse of state-owned coal operations in the UK and Germany and also in France, Portugal and Spain, public sector programmes have had some success in rehabilitating the land and rebuilding communities. In Australia, state governments in Queensland, New South Wales, Victoria and Western Australia all have allocated funds from general revenues for mine clean-up. Particular projects highlighted in the survey include clean-up of the enormous communist-era Wismut uranium mine in eastern Germany costing in the region of US$10 billion, and Australia's Mount Morgan gold mine.

However, there are huge challenges ahead even to begin tackling mining legacy issues in China, India, Russia and other former communist states. Equally in Africa, concern is increasing about the scale of the problem and the lack of action on, for example, acid drainage in gold mines around Johannesburg and the legacy sites of the Zambian Copperbelt and in the Democratic Republic of Congo.

Levies on mineral production

One of the few successful large-scale examples of a levy on production to fund legacy site regeneration is the USA's Surface Mining Control and Reclamation Act (1977). A levy imposed on the coal industry, based on annual production, is combined with other appropriated grants to fund abandoned coal mine clean-ups in various states. No such legislation exists for hard rock mining. Some abandoned mines fall under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) – the so-called Superfund sites – but there have been limitations to the successful implementation of this act, largely because much of the funding has been diverted to legal work at the expense of clean-up.

Another example of a levy programme is found in Australia – Tasmania's Rehabilitation of Mining Lands Trust Fund, a tariff of 1% on mining companies operating in Tasmania administered since 1995 by Mineral Resources Tasmania of the Department of Infrastructure, Energy and Resources. It is overseen by a committee of government and industry representatives. Focusing primarily on environmental and public health and safety issues, it has distributed US$5m in the first decade.

One suggestion for raising funding at a global level is to place a levy on all users of primary mineral commodities and metals. This would have the added advantage of encouraging recycling of metals. Inevitably, there will be a series of problems associated with who could own and administer such a tax and negotiations over the terms, eligibility and boundary conditions. The scheme could be linked to third party certification, using a sliding scale levy depending on certification status could make the dirty pay more. Another suggestion, discussed recently by ECLAC – UN Economic Commission for Latin America and the Caribbean, has been to raise a tax on transactions on the metal market comparable to a Tobin tax.

International assistance

Several countries and international agencies, such as the World Bank and the United Nations Environment Programme, run initiatives to provide technical assistance and expertise in dealing with mining legacy to developing countries. For example, Germany's Federal Institute for Geosciences and Natural Resources (BGR) is working to assist Chile and Peru. The Zambian Copperbelt Environment Project is being funded by the World Bank, Nordic Development Fund and the Zambian government to implement a programme of environmental and socio-economic regeneration over 10,000 ha of Copperbelt legacy sites. The World Bank is also supporting mining legacy regeneration programmes with the governments of Poland, Romania and Russia.

So there is some work underway and some experience to draw from, but the sums of money involved are still relatively small given the scale of the problems.

Public-private funding

The Fonds Restor-Action Nunavik project is bringing together mining and exploration companies currently active in northern Quebec with the provincial government and the local Inuit people to restore orphaned exploration sites. This recent initiative is attempting to raise sufficient funds for the restoration of the worst 25 (mainly exploration) legacy sites in Nunavik. The Quebec government has confirmed that it will match each dollar spent by the industry. The Kativik regional government is also offering in-kind support.

Trust funds

Despite the enormous financial figures mentioned when legacy sites are discussed, significant environmental improvements can be achieved with comparatively little cost based on the principle that some clean-up is better than none. Blacksmith Institute's experience has shown that practical interventions can be undertaken at far less than Superfund price-tags, which can reduce the highest exposures and risks, while setting in motion a process of longer term clean-up. For many developing countries, this model is far more appropriate than attempting major regeneration when neither human nor financial resources are available. There is significant value in an external agency that precludes liability issues while channelling expertise and funding to deal

with agreed priority sites. The recently announced Global Pollution Remediation Fund to provide medium levels of funding in poorer countries is a good example (www.gprfund.org) of a not-for-profit trust fund. Partners include Blacksmith Institute, UNIDO, World Bank and Green Cross Switzerland.

Considerations for the roundtable

- Are all mining legacy issues the same? Is there a difference between developing and developed world abilities to address the issue?
- How can sites be prioritised for funding?
- What are the models of successful funding approaches around the world – large and small – and how applicable might these be in other contexts and regions?
- What is the prospect for establishing a system of independent trust funds, funded by public and private donors, that removes the immediate link to liability for a specific site?
- What international funds could be developed for the regeneration of priority sites in developing countries?
- Is there a possibility of establishing a tax on production or transaction that could be channelled into an international fund?
- Are there lessons and new approaches to be learnt from other sectors – such as contaminated land?
- Who needs to be involved?
- What is the role of international financial institutions such as the World Bank?
- How can environmental clean-up be linked with socio-economic regeneration through funding incentives?
- What is the role of local grassroots projects in mobilising larger funds and broader action? What do these groups need in terms of support?
- Are carbon trading projects a way of financing regeneration?

2. Legislation and regulation

Enabling legislation and regulation have a significant role to play in delivering more effective regeneration. The issues of funding and legislation are closely linked in various ways and at many levels. Legislative considerations affect action on legacy in a variety of other ways too: through implementation of existing legislation; introducing new legislation with regard to changing expectations and good practice; laws dealing with liability, which have a significant disincentive effect; tax and other fiscal incentives and a whole range of policies at international, regional, national and provincial levels that can help or hinder regeneration efforts.

There has been much debate about the efficacy of applying the Polluter Pays Principle in the case of mining legacy to assign legal liability for environmental damage. One argument is that this principle works well for acts of negligence but seems less appropriate when it is applied to accepted practices and processes that were approved by authorities at the time. This argument is strengthened as it becomes less appropriate to judge the acts of yesterday by the standards of today.

An alternative principle may need to be framed along the lines of Beneficiaries Pay. This would recognise a model of shared responsibility that includes not only mining companies, but also: host country governments that regulated the industry; the countries that benefited from under-priced minerals (because the true environmental and social costs were externalised); and the societies that benefited from economic growth based on these under-priced mineral resources. In this model of shared responsibility, all beneficiaries are expected to contribute to the resolution of mining

legacy. Opinion varies on whether dedicated new legislation is needed or whether existing legislation can be amended or used in creative ways to incorporate this type of model.

The fear of unlimited liability is an enormous stumbling block to today's mining companies or other third parties providing the technical capacity and know-how to avoid or correct environmental and social legacy. All companies have legal departments to ensure that the company is not left with continuing liabilities once it exits and does not get involved in any site that might have additional liability attached to it. In many jurisdictions, legislation hinders action by transferring liability for clean-up to the party in question.

Recent work

In the USA in particular, the Superfund and other laws based on joint and several liabilities stipulate that a financially viable company can be billed for the entire clean-up even if it is only a minor contributor. Prior to the establishment of the US federal Good Samaritan Clean Watershed Act in 2007, the Clean Water Act held responsible anyone involved in even a partial clean-up with the full liability for the remaining contamination. The introduction of Good Samaritan legislation has helped volunteer groups such as the USA-based Trout Unlimited clean up mine-water-affected trout streams in the western USA. In this case they do not own the properties in which they are working nor are they responsible for the property's environmental conditions.

Canada's NOAMI has recently completed a review to examine existing legislative requirements in Canada and selected international jurisdictions. It investigated the regulatory and institutional barriers, liability disincentives and collaborative opportunities regarding the voluntary clean-up of legacy sites. Particular emphasis was placed on four approaches: 'Good Samaritan' legislation; permit blocking; allocative versus joint and several responsibility; and non-compliance registries.

Canadian junior miner Alexco Resources Corporation has proposed the use of Qualified Environmental Trusts (QET) to reclaim mine sites. This would require changes to Canadian tax provisions that make it more attractive for private companies interested in re-mining old legacy sites to assist government clean-up programmes.

One survey respondent recommended that the involvement of mining companies in legacy clean-up globally could be facilitated by establishing a stand-alone business separating the clean-up from the ownership of the liability. This might be done through a multi-lateral agency such as the World Bank or UNEP, by a trade body such as ICMM, or possibly a consortium of engineering consultancies. Though this solution may work for environmental legacy issues (land, biodiversity, water), it would be more difficult to apply to socio-economic regeneration.

A recurring concern in the survey responses was the need for effective planning legislation and practice to be introduced in countries with poor environmental records.

Considerations for the roundtable

- What, and where, are the legal barriers to dealing with mining legacy and is there sufficient progress on legal issues in the key jurisdictions?

- What needs to be done to allow responsible mining companies to partner in ‘regeneration’ projects without taking on undue liability or unrealistic expectations?
- What revisions of liability concepts associated with abandoned mines are needed?
- What other legal barriers to voluntary action exist in dealing with legacy sites and communities?
- Is there a need for an international push to improve the legislative provisions for dealing with mining legacy?
- Are changes required in legislation to encourage re-mining or re-processing of old tailings and dumps?
- What legislative/ financial assurance requirements are necessary to ensure that the current industry does not add to the current body of legacy sites?

3. Partnerships approaches and local community participation

The roundtable aims to explore an approach to shared responsibility for regeneration. In some cases this will require a considerable shift in the positions of key players and will require a better understanding of their business case benefits.

Almost all the success stories in post-mining regeneration demonstrate the value of multi-stakeholder collaborations. These groups work together in an environment of increasing trust and understanding, bringing different experiences and skill-sets to the table. The time required to build effective partnerships should not be underestimated – along with an understanding that the partners will need to be willing to share knowledge and experience, be generous in providing support and have commitment from the top of their organisations. Partnerships are best created as early as possible in the planning process, particularly if there are significant trust issues to overcome.

There are many examples where mining in an area may have ended generations ago, but the community still defines itself as a mining community, even when the ending of operations has been poorly executed to the detriment of people and the environment. It is important therefore to be sensitive to the issue of cultural identity often accompanied by an independent spirit – that is, how a community regards itself and its links to it forebears. There is a growing interest in mining heritage, particularly in Europe, North America and Australia, that could be utilised as a vehicle for regeneration.

An essential characteristic of successful regeneration projects is a strong will for community participation from the outset. Creativity, leadership and commitment exist in many post-mining communities, as shown by the breadth of local initiatives developed to deal with the legacy issues in their own backyards. Facilitating the emergence of local community groups to take responsibility for action is an important part of community engagement work.

Recent work

Located in the Appalachian coal country in the eastern USA, the AMD&ART project is an environmental reclamation and community enhancement initiative that has brought broad public participation to the design and construction of acid drainage treatment systems. Working with the local community and a series of AmeriCorps volunteers over a ten-year period, the AMD&ART team of scientists and artists transformed an old colliery site into new wetlands and recreational space for the

community while creating a large scale passive water treatment system. The underlying premise of this approach is that it is the combination of good science with good design and historical perspective that brings community understanding and support. This approach is now being applied at other legacy sites in the USA.

In Cornwall in the UK, a significant post-mining region, several communities have successful tapped into regional regeneration and structural funds and matched public-private funds to undertake projects on legacy sites. Many projects have been opportunistic, taking advantage of specific time-bound funding streams and adapting proposals to ensure eligibility. A striking example is the Eden Project - where the Post-Mining Alliance is based - an environmental education centre built in an old mine pit that attracts more than 1 million visitors a year. Eden raised more than US$250 million in a mixture of public grants and private loans to construct its iconic architecture and landscape and transform this 160 year old mine site. It now acts as an engine for regeneration in the surrounding region. Key to its success has been its expertise in fund-raising from diverse sources and its partnerships with local community groups, organisations and suppliers.

An interesting example of conflict resolution related to mining legacy is demonstrated in the work of the Keystone Center, who mediated a protracted 18-month negotiation between Papua New Guinea's Ok Tedi Mine Limited, the government, several NGOs and affected communities along the highly impacted Fly River system. The aim was to increase redress for the people affected by the damage caused by the mine. The negotiations were considered a success and offer a template for a pragmatic approach to dealing with such issues elsewhere.

Transvaal and Delegoa Bay Colliery, Mpumalanga, South Africa, was abandoned in 1953. The site suffered from acid drainage, spontaneous combustion and unstable ground, but was well-used by the local community to scavenge for coal or walk to work. During 1999-2004, the national government initiated a public participation process to raise awareness of the dangers of the site and to seek site-users' feedback on issues and concerns. The mix of residential and migrant populations and literacy issues required a variety of participatory approaches to ensure openness, trust and grass-roots involvement. In 2001, the Kwa-Guqa Environmental Forum of local people was formed, assisted by the relevant government bodies, to oversee the environmental protection of the area. The community engagement process was regarded as a success with many areas of potential knowledge transfer to other projects.

An example from South America is the trust fund (FONAM) that has been established and receives equal contributions from an association of three mining companies and the central government to remediate the most urgent legacy sites in the Cajamarca Valley, Peru.

ICMM has produced a *Community Development Toolkit*, which addresses many of the issues around community engagement and participation; although not from a mining legacy perspective, many of the principles outlined within are valid. Canada's NOAMI has also produced a summary of 11 guiding principles for community involvement in *Best Practices in Community Involvement: Planning for and Rehabilitating Abandoned and Orphaned Mines in Canada*.

Considerations for the roundtable

- How can the enabling conditions for a successful partnership be created where they do not exist? Who should be responsible for initiating this process?
- How can existing partnerships and initiatives be brought together to share experiences and lessons learnt in dealing with similar issues?
- What are the most successful examples of community-based and community-led regeneration and how transferable are they?
- What are the most important post-mining considerations for communities?

4. Knowledge sharing

Many respondents to the survey expressed the need for improved access to useful models and case studies and the means for appropriate knowledge transfer to help build projects in other areas. There is also a strong demand for sharing successful methodologies, ranging from developing practical tools and technologies to establishing expert multi-stakeholder groups and exchanging personnel who can lead projects in the field and create pilot projects. One respondent stated, 'Training and communications skills are a must in South America, Asia and Africa.'

Several respondents suggested knowledge transfer related to re-mining as a vehicle for action on mining legacy sites, including the improved dissemination of examples combining clean-up and regeneration with permits for re-mining old workings, dumps and tailings. Such cases would need to be accompanied by appropriate fiscal incentives and a reduced liability to offset the associated financial risk. These models could also be applied to artisanal mining activities on legacy sites in a regulated way.

Available information on the examples of good practice submitted by survey participants is of variable quality – often simply telling a story rather than examining the reasons for their success and opportunities for transferring such knowledge. On-line resources and information are widely dispersed and usually present the information through a particular lens – either positive or negative – but rarely considering different perspectives. Large mining companies, international agencies and governments are well-resourced to promote their work domestically and internationally; community-led projects usually have a very low profile in comparison, yet offer some of the most creative and successful approaches, with much to teach others. Also, most of the examples put forward as good practice focus solely on environmental clean-up. While this is important, the socio-economic aspects of legacy are at least as important, if not more so, and are often more difficult to address.

Considerations for the roundtable

- What are the most useful aspects of good practice that need to be promoted and disseminated more broadly? What are the most useful channels for dissemination?
- What options are there for a clearing-house for case studies that have been widely accepted as good practice and disseminating the relevant information to key audiences?
- What options are there for drawing on professional expertise from one project to another and one region to another?
- What work is being done on showcasing low-cost rehabilitation techniques?
- What work is being done on looking at the options for re-mining as a method of dealing with legacy?

THE ROUNDTABLE AND BEYOND

There is a limit to what can be achieved at the roundtable in just a day and a half. Earlier efforts, by UNEP and others to start an international process were judged to be largely unsuccessful. As one respondent remarked, 'We've been here before with little to show.' Many of the survey respondents hoped that the event will be more than simply a one-off box-ticking exercise, costing time and money but achieving little. They hope that it will be the starting point of an ongoing process of building trust and understanding leading ultimately to real action. To accomplish this, participants will need to think creatively beyond the conventional ways of looking at the issue of mining legacy and consider what new arrangements might work.

The five main areas of outcomes emerging from the survey were to:

- Improve understanding and trust-building among different interests
- Explore new funding options
- Clarify the responsibilities of different interests
- Develop methodologies to deal with mining legacy more effectively
- Commit to further dialogue/ follow-up action

Additional suggestions included:

- Consider the roundtable to be the start of the process and request participants to come with two or three key ideas for moving the debate forward
- Raise support for developing an international system to continue dialogue on successful initiatives and sharing good practice
- Highlight the work of other organisations and share experiences and approaches to encourage further action
- Identify suitable institutions to champion the work going forward
- Build on the successful outcomes of the two roundtables on indigenous peoples

IUCN, ICMM and the Post-Mining Alliance have worked together over the last year to bring this group of experts from around the world to Toronto for this roundtable. It is to be hoped that it will be successful in moving the agenda forward to a resolution of the problems of mining legacy.

References and web-based resources:

AMD&ART. (2006): www.amd&art.org
Blacksmith Institute. (2007). *World's Worst Polluted Places.* www.blacksmithinstitute.org/get10.php
Adler, P., Brewer, J and McGee, C. (2007). *The Ok Tedi Negotiations – Rebalancing the Equation in a Chronic Sustainability Dilemma,* Keystone Center, Colorado. www.keystone.org/spp/documents/FINALOk%20Tedi%20Negotiations-TKC-08-24-07.pdf
Limerick, P.N., Ryan, J.N., Brown, T.R. and Comp, T.A. (2005). *Cleaning Up Abandoned Hardrock Mines in the West: Prospecting for a Better Future.* Center of the American West. www.centerwest.org/publications/pdf/mines
IIED. (2002) *Breaking New Ground - the Report of the Mining, Minerals and Sustainable Development Project.* www.iied.org/mmsd
Post-Mining Alliance. (2007). On-line survey on mining legacy sites www.postmining.org [to be posted April 2008]
UNEP and Cochilco. (2001). *Abandoned Mines: Problems, Issues and Policy Challenges for Decision Makers*. www.mineralresourcesforum.org/workshops/abandoned/index.htm
Whitbread-Abrutat, PH (2004). A radical approach to post-mining regeneration – case studies from Cornwall, UK. In: In proceedings of SPILM: International Conference on Post-Industrial Land Management. 2-4 November 2004, Krakow, Poland
Zambian Copperbelt Environmental Project: www.cepzambia.org.zm

Various NOAMI documents (all available at: www.abandoned–mines.org):

Castrilli, JF. (2002). *Barriers to Collaboration: Orphaned/Abandoned Mines in Canada.* Final report submitted to the National Orphaned and Abandoned Mines Initiative.

Cowan Minerals Ltd. (2006). *Rehabilitation of Abandoned Mines in Canada: A Toolkit of Funding Options.* Final report submitted to the National Orphaned and Abandoned Mines Initiatives.

(2003). *Potential Funding Approaches for Orphaned/ Abandoned Mines in Canada*.

(2003). *Lessons Learned* on *Community Involvement in the Remediation Orphaned/ Abandoned Mines Case Studies and Analysis.*

Best Practices in Community Involvement [pamphlet].

(2003). Legal and Institutional Barriers to Collaboration Workshop

(2005). Workshop on Assessing Liabilities and Funding Options

APPENDIX 1: Background to the Roundtable Process

In 2002, the World Conservation Union (IUCN) and the International Council on Mining and Metals (ICMM) agreed to convene a series of discussions under the auspices of the Dialogue on Mining and Biodiversity – on critical issues relating to mining and biodiversity. The Post-Mining Alliance at the Eden Project was invited to co-convene a roundtable on the restoration of legacy sites, drawing on its experience in post-mining regeneration. An Organising Group from the three organisations was established and is guided by a nine-member Advisory Group. The main objective of the process is to convene an international roundtable on this subject.

Advisory Group members

Three ICMM representatives:

- David Richards, Chief Adviser – Mine of the Future, Rio Tinto, UK
- Helen Macdonald, Director – Community Relations and Social Development, Newmont Mining, USA
- Peter Coombes, Group Head of Environment, Anglo American, South Africa

Three IUCN representatives:

- Alberto Saldamando, General Counsel, International Indian Treaty Council, USA
- Assheton Carter, Senior Director - Strategic Planning, Center for Environmental Leadership in Business, Conservation International, USA
- Aroha Mead, IUCN Councillor, Victoria University of Wellington, New Zealand

Three government representatives:

- Gilles Tremblay, Program Manager - Special Projects, Natural Resources Canada, Canada
- T Allan Comp, Office of Surface Mining, US Dept. of the Interior, USA
- Sven Renner, BGR bureau in Chile

Organising Group members

- Christine Copley, Program Director, International Council on Mining and Metals (ICMM)
- Andrea Athanas. Senior Programme Officer, Energy, Ecosystems and Livelihoods, Business and Biodiversity, The World Conservation Union (IUCN)
- Caroline Digby, Post-Mining Alliance, Eden Project
- Peter Whitbread-Abrutat, Post-Mining Alliance, Eden Project

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MINING LEGACY SURVEY

INFORMING THE BACKGROUND PAPER

Post-Mining Alliance
New landscapes new lives

SUMMARY

This survey was undertaken to inform the background paper for a roundtable on mining legacy to be held in March 2008. The roundtable forms part of the ICMM-IUCN dialogue on mining and biodiversity. In preparation for the roundtable, participants are requested to read the **background paper** as a priority. This survey paper is provided as further information for the interested reader.

The survey was organised by the Post-Mining Alliance and was completed by people from diverse mining backgrounds with over 20 years' experience on average.

A summary of the survey results showed:

- General agreement that mining legacy is an important issue and that environmental issues dominate; while socio-economic issues are important, there are relatively few initiatives dealing with these globally,
- Key stakeholders in planning for regeneration should include local communities, local government, mining companies (depending on whether orphaned or abandoned mines are being considered),
- Respondents suggested many examples of good practice in the regeneration of legacy sites, almost all were environmentally-focused; nevertheless, good practice appears to be surprisingly common given the preoccupation with the negative aspects of legacy!
- Respondents recommended that the roundtable should focus on what constitutes good practice and on mechanisms to transfer lessons from good practice examples to where it is needed. Key elements of good practice, including: 'local community involvement', 'partnership/ stakeholder approaches', 'government involvement',
- The top three topics for inclusion in the roundtable were 'funding/ finance', 'partnerships and stakeholders', 'legislation'. Others included: 'case studies and knowledge transfer' and 'leadership issues',
- Key outcomes required in order to consider the roundtable a success included: 'developing methodologies', 'further dialogues/ follow-up action'; generally these were related to building trust and understanding between different groups,
- When asked to comment freely on anything else of relevance to the roundtable, the vast majority of respondents were positive – many urging roundtable participants to take a forward-thinking approach and to use the roundtable to develop an on-going process for further dialogue and action.

INTRODUCTION

Negative mining legacy is one of the most controversial and long-running issues affecting the global mining industry. This legacy affects the reputation of the entire mining industry, building distrust and stifling debate between key stakeholders and therefore progress on other aspects of its environmental and social performance.

In 2002, the World Conservation Union (IUCN)[1] and the International Council on Mining and Metals (ICMM)[2] agreed to convene a series of discussions – the Dialogue on Mining and Biodiversity[3] – on critical issues relating to mining and biodiversity. One of the three major issues chosen for discussion in the process was the restoration of mining legacy sites. As part of this process, a survey was commissioned to garner opinion and current thinking on issues surrounding the vexing issue of mining legacies in order to inform the background paper for an international, multi-stakeholder roundtable event, to be held in Toronto in March 2008.

This report is based on survey results received by 1000 GMT, 18 December 2007. By this time we had received completed responses representing 56% of those who started the questionnaire. The questionnaire was sent to a minimum of 350 contacts plus an unknowable number of people who received the link to the questionnaire through forwarded emails to various individuals' networks. To some extent, those who completed the questionnaire are a self-selecting group who have an interest in legacy issues from a wide variety of perspectives. The anonymity of all respondents is observed in this report.

[1] www.iucn.org
[2] www.icmm.com
[3] www.iucn.org/themes/business/mining

The survey consisted of five sections, namely:

- About you
- Your understanding of mining legacy
- What regeneration means
- Exploring regeneration good practice
- What should the roundtable consider

This report discusses the results under these section headings. An extended summary of the survey results is provided in the appendix.

1. ABOUT YOU

This section was devised to explore respondents' backgrounds and experiences as they pertained to other results of the survey.

Geographically, most respondents were based in the five major English-speaking countries of the world reflecting the locations of most of the world's mining expertise, including the headquarters of most of the worlds major mining companies, consultancies, NGOs and academic institutions. More importantly, when asked where respondents spend most time working, the results are spread over a much wider geography; and when analysed regionally, a relatively even mix of the world regions are represented. Arguably, it is this last point that is the most significant in the development of a respondent's experiences with respect to mining legacy.

About half the respondents came from a broadly-defined 'industry' stakeholder group, with a substantial number of responses from government and NGO stakeholders. Not surprisingly, this was reflected in the large proportion of organisations with a policy or position on mining-related issues.

Respondents were, in general, very experienced in mining industry matters (according to the mean, mode and median years of involvement all showing 20 years or more). This suggests that respondents had gained real experience on the ground or at a policy level and had had time to form their own opinions to the survey's questions, rather than those based on second hand knowledge newly-acquired through the media or very recent formal education. One caveat though: experience of mining industry matters does not necessarily transfer directly to experience of mining legacy issues.

The type of experience - or expertise - of respondents was again very broad. The commonest type of expertise was 'environmental science', which included a broad range of disciplines from acid drainage to ecological restoration, and 'regulation/ policy'. This was to be expected considering that these types of expertise are generally where negative mining legacy issues impinge most. Not expected, however, was the very broad range of expertise from different disciplines, each of which scored relatively high response counts. This latter statement was even more apparent when 'interests' rather than 'expertise' were considered, illustrating that very often people in a specific role with a specific expertise also have a genuine interest (and often some experience) in issues that they do not use on a regular basis. This has some implications when considering invitees to the roundtable event. It is quite straightforward to categorise people according to stakeholder group or professional role in attempting to produce a balanced event, but many – if not all – the individuals involved will have interests and genuine experiences outside their designated 'boxes'. A roundtable process that takes this into consideration and that encourages the expression of such interests could be very useful in building understanding and trust.

When given the opportunity to add any comment of relevance to the roundtable, relatively few respondents took it. However, those that did generally welcomed the opportunity that the roundtable should bring to move forward on mining legacies and were even encouraging.

To summarise, it is very encouraging that such a large number of experienced people from very diverse backgrounds, expertise and interests took the time to complete what was quite a long and involved questionnaire. While this makes analysing the results a little more challenging, it illustrates a genuine interest in the subject and willingness for involvement. Such attitudes and the range of perspectives involved can only be positive to the mining legacy debate.

2. YOUR UNDERSTANDING OF MINING LEGACY

Section 1 above shows that respondents came from a diverse variety of backgrounds and their understanding of 'mining legacy' was explored in this section. The definition provided in the survey to invite response was: *mining legacy is defined as a site where a poorly-closed mine continues to impact negatively on the environment or associated communities. Legacy sites can be broadly divided into two kinds: those that are 'abandoned' – where the legal owner is known but, for some reason, is unable or unwilling to take the necessary remedial action; and 'orphaned' – where the legal owner cannot be traced.*

Nearly three quarters of respondents agreed with this definition, but it also sparked many comments, many of which were based on an apparent misunderstanding of the definition as provided. Many commented specifically in relation to the negative connotations of mining legacy as presented in the definition. However, as explained in the preamble to the definition in the questionnaire, while positive impacts of mining legacy are relevant, in the context of the roundtable discussions, it is not the positive impacts that have initiated decades of controversy and stifled multi-stakeholder debate on improving mining industry environmental and social performance. Hence the definition here focuses on the negative aspects of mining legacy as it is the alleviation of these that will be at the heart of the roundtable debates. Taking this into account, many of the comments also suggested valid amendments to make the definition more robust and some of these have been incorporated into a slight re-definition (amendments are underlined):

<u>Negative</u> mining legacy is defined as <u>the impacts of</u> a closed mine that continue to negatively <u>affect</u> the environment or associated communities. Legacy <u>impacts</u> can be broadly divided into two kinds: those <u>where the mine was</u> 'abandoned' – where the legal owner is known but, for some reason, is unable or unwilling to take the necessary remedial action; and 'orphaned' – where the legal owner cannot be traced.

This new definition identifies 'negative' mining legacies as distinct from mining legacies in general, which many respondents noted can be positive, and moves away from the site focus of the previous definition which inherently tends to stress environmental impacts more than social ones when in fact both apply.

Virtually all respondents regarded mining legacy issues either very important or fairly important when compared to other major sustainable development issues facing the mining industry.

The most important environmental legacy issues were acid drainage, contaminated land and public safety hazards (or, in other words, health, safety and environment). The key socio-economic legacy issues were identified as the local economic situation (the key issue by far), with poor education and training, population issues and public health issues all considered relatively important.

In terms of the implications of this section for the roundtable process, it should be noted that there are already many initiatives around the world dealing with the environmental issues highlighted in this survey; however, the same cannot be said for the socio-economic impacts, so this should be a key consideration for the roundtable.

3. WHAT REGENERATION MEANS

'Regeneration' in the context of mining legacies was broadly defined in the survey as *activities that enhance post-mining landscapes for the benefit of the environment and affected communities.* The reason for such a broad definition was explained briefly in the survey. Over 80% agreed with this definition.

The top three key stakeholders generally considered to be key for planning for regeneration were identified as: 'local communities', 'local government', and 'mining companies'. There are many caveats that can be associated with this question. In many cases 'local communities' will either consist of, or include, indigenous peoples' groups. Also, inherent in the question is the notion that local communities related to mines in sparsely-populated regions many live hundreds of kilometres from the mine itself, but may be affected by it nevertheless (residents may work on the mine, have water sources emanating near the mine, hunt animals that migrate past the mine, the mine may be on or near sacred historical land, etc).

The five key stakeholders who should be involved in taking the lead on dealing with abandoned mining legacies were identified as 'local government', 'local communities' (which may include indigenous peoples' groups although this was included as a separate category), 'state government', 'national government' and 'mining companies'.

The five key stakeholders identified as being best placed to take the lead in the regeneration of orphaned legacy sites were the same as for abandoned sites, although the order differed: 'local government', 'state

government', 'national government' and 'local communities'. 'Mining companies' were fifth by a substantially lower response count than 'local communities'. 'Industry associations' were very close to 'mining companies' in terms of the response count.

In both cases, in practice, it should be noted that those who "are best placed to take the lead in initiating and driving regeneration activities" will depend on the community/ state-province/ national government jurisdiction, and that governments will try to resolve issues with the owner of abandoned mines before taking steps on their own.

The results for orphaned and abandoned sites were as expected. However, when the results from section 1 are considered, in which almost half the respondents considered themselves to be in the mining industry stakeholder group, then the relatively high position of 'mining companies' in these results requires some interpretation, as mining industry representatives regularly assert that the industry cannot be held responsible/ liable for orphaned legacy sites in particular. The two questions under discussion however did not ask about responsibility or liability, instead they refer to those who "are best placed to take the lead in initiating and driving regeneration activities". From a mining company perspective, to many respondents this could refer to companies who can provide in-kind support of some kind where liability issues have already been addressed.

4. EXPLORING REGENERATION GOOD PRACTICE

The survey used a definition of 'good practice' in post-mining regeneration to be: *an approach that empowers the local community in meaningful decision-making; provides on-going support for local communities, even after closure; provides on-going commitment for environmental impact management mitigation and long-term monitoring; and transparency in reporting.* Respondents were asked to comment on this definition and other aspects of good practice in post-mining regeneration.

Over 80% of respondents agreed with this definition, with only 17 comments provided and these were often conflicting.

When asked to provide examples of what respondents considered to be good practice in post-mining regeneration, a huge range of suggestions were offered in each of the three categories (environment, associated communities, and environment and associated communities). These responses will require deeper analysis to determine why they are considered 'good practice'; however, for the moment it is apparent that there are many examples around the world that people consider to be models of post-mining regeneration. This begs the question why, apart from a handful of high profile examples (eg Eden Project, UK; Bamburi, Kenya; Wismut, Germany, etc), if good practice is so common, those involved in dealing with mining legacy issues tend to concentrate on and become bogged down in the negative aspects of legacy; there is so much potential to learn from the positive examples identified in this survey. A recommendation emerging from this survey for the roundtable process is to focus on such positive examples, explore what works and why and to determine how the lessons learned can be applied elsewhere. The alternative is to focus on blame and responsibility and achieve nothing.

When asked what could be learned of wider relevance from the examples they provided, the results were a little unexpected. The categories which most closely fit the free form responses are not mutually exclusive. Nevertheless, 'local community involvement' was the most important lesson, followed by 'partnership/ stakeholder approaches' and 'government involvement'. Comments with an 'environmental focus' also emphasised the possibility of environmental regeneration as a means to community/ socio-economic regeneration. Some categories, such as 'government involvement', hide a range of different sub-categories such as public funding for regeneration, development of new legislation (eg 'Good Samaritan' laws) or enforcement of existing legislation. Surprisingly, only two comments explicitly mentioned 'leadership', although the need for leadership appeared to be implied through many comments on the need for 'government involvement'.

As with the response to the question on examples of good practice in post-mining regeneration, when asked to suggest organisations who were providing leadership in this area, it is very encouraging to see the number and range of organisations in this field. As expected most of the organisations mentioned were located in the EU, North America or Australia, possibly reflecting the enforcement of appropriate legislation, availability of public funding, and NGO pressure. Most of these leadership organisations and initiatives are government-led, with surprisingly few industry or NGO groups nominated as providing leadership in this area, although it is understood that they are often involved in multi-stakeholder programmes led by government (eg MEND, NAOMI). This is surprising as NGO groups and mining companies were two of the three largest stakeholder groups represented in the survey. Also there was a dearth of local community

groups represented, but this is most likely due to the fact that very few were involved in the survey, and much of the good practice delivered by local community groups is not necessarily well promoted as they often have few resources to spend on dissemination, which may not be a high priority in any case.

5. WHAT SHOULD THE ROUNDTABLE CONSIDER

Respondents were asked to consider what they would like to see discussed at the roundtable event and their hopes for the outcomes. When asked whether the roundtable should consider either abandoned sites or orphaned, or both, the response was approximately half for each. Many comments, however, suggested that abandoned sites should be given a greater emphasis as they should be 'easier' to deal with as, theoretically at least, the site owners are known.

Respondents were asked to suggest up to three topics that they would like to see included for discussion in the roundtable. When these free form answers were categorised, the three top themes for discussion were 'funding/ finance', 'partnerships & stakeholders' and 'legislation', with 'leadership' issues and 'case studies & knowledge transfer' also major areas suggested for discussion. Surprisingly few responses explicitly mentioned communities, although community issues were implicit in many comments in the 'partnerships & stakeholders' theme.

In order for respondents to consider the roundtable process a success, respondents suggested a variety of free form outcomes that were then categorised and analysed. 'Developing methodologies' was the largest category, which included a diverse range of suggestions including: developing tools and technologies for delivering best practice to establishing expert groups and the creation of trial pilot projects. 'Further dialogue/ follow-up action' focused mainly on the roundtable committing to maintain the momentum of the current process by continuing dialogue beyond the event and, eventually, translating this dialogue into action. Many respondents also realised the importance of the event for creating an environment where trust and understanding between different groups could be built. The roundtable, according to the survey results, should also consider clarifying responsibilities and the roles of the various players involved in the mining legacy debate. Again, as in previous questions, the possibility of exploring new funding options was mentioned.

When asked to comment freely whether respondents had anything else to add the content of the roundtable discussions, there was a broad range of comments, although only 25 respondents took the opportunity to comment here. Several comments, though, did emphasise the need for roundtable participants to take a forward-thinking approach in order to achieve progress. Notably, a leading member of a key mining industry association summed up the difficulty and potential opportunity of the roundtable stating: "A caution: this issue is complex, legally, financially, technically, environmentally and socially. The reputational benefit that can accrue to the industry to commit to doing the following two things: 1. not add to legacy sites; and 2. being a willing partner in solving the issue of legacy sites; is inestimable."

APPENDIX: RESULTS OF THE QUESTIONNAIRE

A detailed analysis of the results of the survey by question now follows, based on the key sections of the survey. The sections in question are:

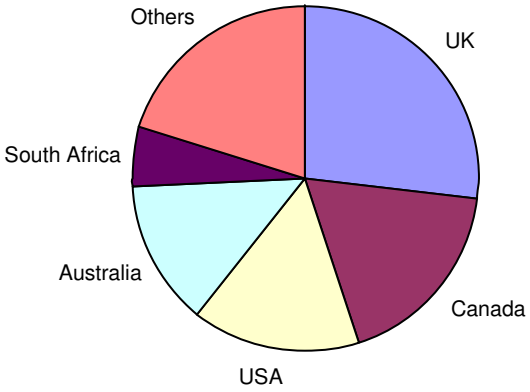
- About you
- Your understanding of mining legacy
- What regeneration means
- Exploring regeneration good practice
- What should the roundtable consider?

Where possible, and relevant, summary statistical analyses are provided. Free form responses are included where a comment is particularly relevant to the rest of the document or the roundtable process in general.

ABOUT YOU

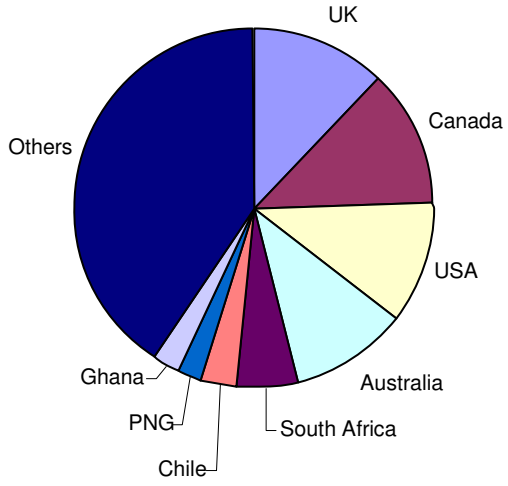
In this section we were trying to determine the relevant background and experience of respondents in order to help with the interpretation of other sections.

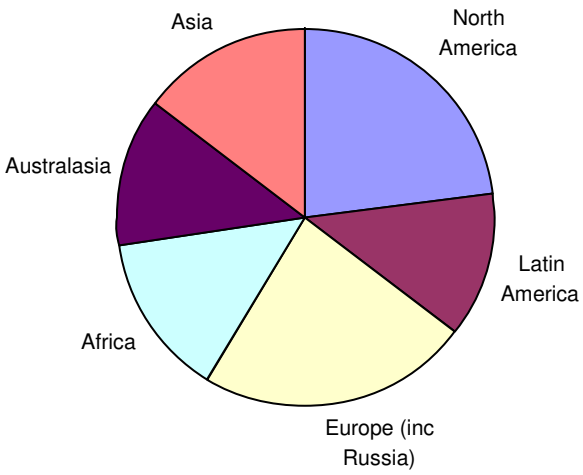
Q: In which country are you based?
Answered by 89 respondents from 20 different countries.



'Others' included: Austria, Belgium, Botswana, Brazil, Chile, France, Greece, Ireland, Netherlands, Peru, Portugal, Sweden, Switzerland, Thailand, Turkey.

Q: Please name (up to) three countries in which you spend most time working.
Answered by 79 respondents with mining-related experience in 51 different countries.
By country, this breaks down as: By region, this breaks down as:



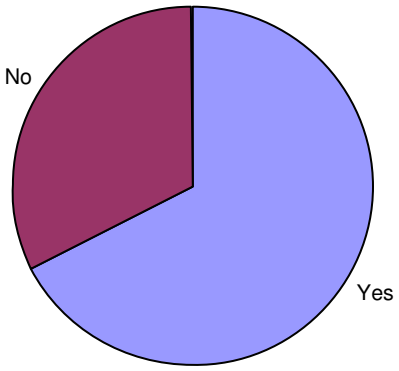


All the countries in which respondents had worked are included here:

Africa	Botswana, DRC, Ghana, Mali, Namibia, South Africa, Tanzania
Asia	China, India, Indonesia, Iran, Kazakhstan, Pakistan, Philippines, Tajikistan, Thailand, Turkey, Turkmenistan, UAE, Uzbekistan
Australasia	Australia, PNG
Latin America	Argentina, Bolivia, Brazil, Chile, Colombia, Dominican Republic, Honduras, Jamaica, Mexico, Nicaragua, Peru
North America	Canada, USA
Europe (inc Russia)	Albania, Belgium, Cyprus, Finland, France, Ireland, Italy, Norway, Portugal, Russia, Spain, Sweden, Switzerland, UK

Q: Does your organisation have a policy/ position on mining-related issues? If yes, what are the key points?

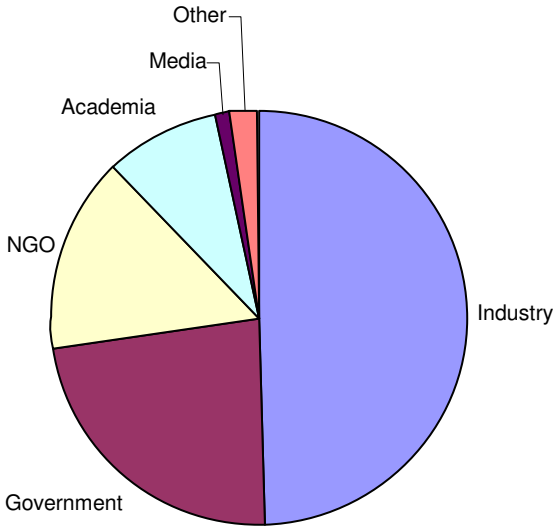
Answered by 77 respondents. 48 took the time to provide additional comments. Some of the more relevant ones are provided here.



In Canada - this is a matter of provincial jurisdiction and NOAMI is a federal/provincial/ territorial initiative
My employer has a commitment to adhere to all conditions related to site rehabilitation following closure
Mining should be allowed provided it is non-damaging and sustainable. Mining should be low impact and remediation should be value added
Financial assurances for current operations to keep us from more abandoned/ orphaned mines. Also, "polluter pays" principle and use of legal authorities aimed at getting responsible parties to pay for their clean-ups or contribute to them in other ways.
Rehabilitation of new projects must be funded up front; efforts must be made to get owners to clean up their abandoned liabilities. Generally enforcement has no impact on getting blood out of a stone.
Promotion of investment in mining; environmental protection; mine health and safety
Very Extensive. Hold security deposit equal to the rehabilitation liability of all operating mines.
Mining is a sustainable activity; good practices in mining and minerals processing are to spread amongst stakeholders; community engagement is a crucial factor in a succesful endeavour; training and communication tools are a must in South America, Asia and Africa.
Plan for closure before commencing development; progressive rehabilitation, closure to meet legislation and post closure monitoring until a stable state is reached
Polluter pays; liability reduction; strong technical focus; socioeconomic development
Focus on leaving behind a positive legacy; add value to the communities where we operate; responsible management and protection of the environment within which we operate
Industry and governmental accountability for all actions; community right to say no and how
No extractive activities in Protected Areas equivalent to categories I-IV; address legacy issues of mining industry; address issue of free prior informed consent

Q: From the following list of mining industry stakeholders, please select the category which fits most closely the group you represent.

Answered by 89 respondents.



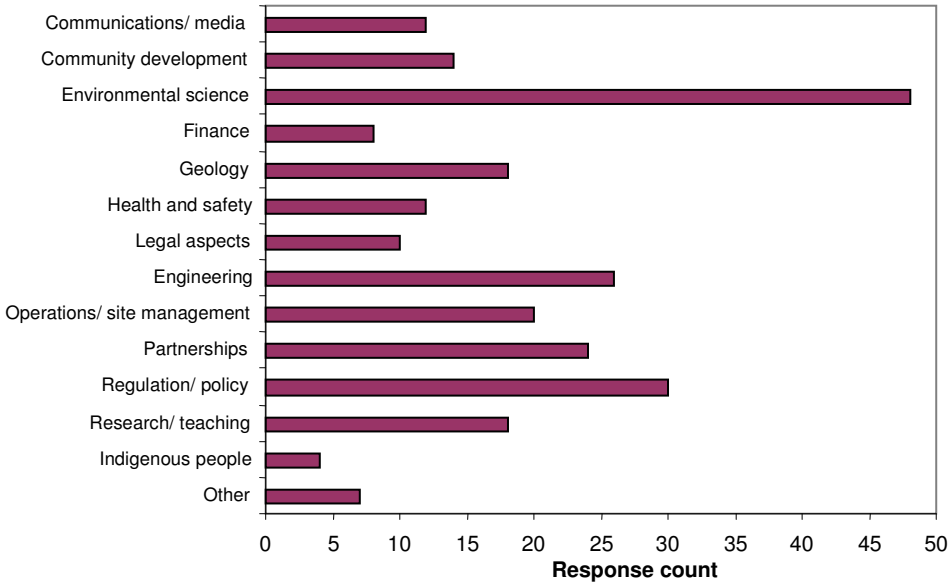
These categories were formed by combining the many different sub-categories presented in the questionnaire.

Q: How many years have you been involved in matters related to the mining industry? Please enter the number of years.

Answered by 86 respondents.

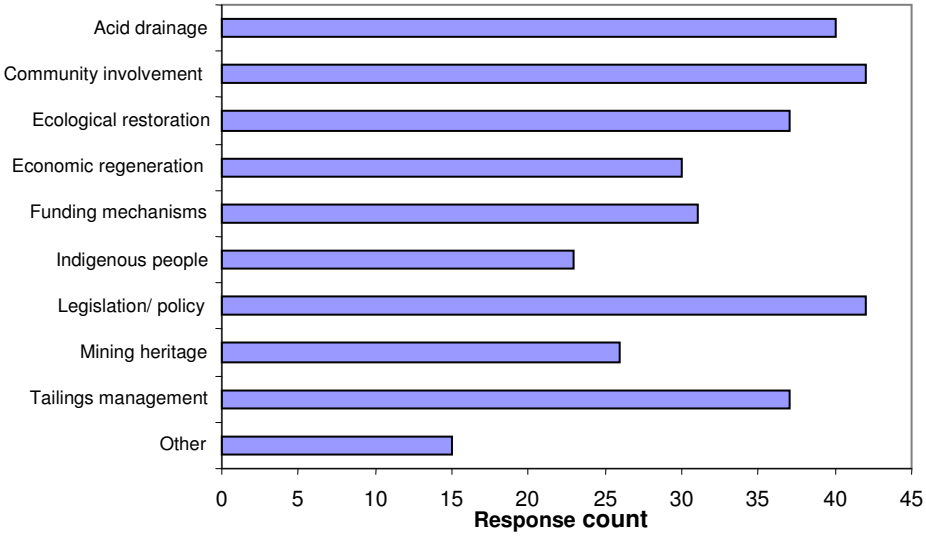
Mean: 21.3 years
Mode: 30
Median: 20
Range: 2-50 years

Q: What are your main areas of expertise? Please select those that apply. If we have missed any that you feel are important, please include them.
Answered by 84 respondents.



'Other' included: historic environment, funding, stewardship, site investigation, artisanal mining, government policy.

Q: What are your main areas of interest? Please select those that apply. If we have missed any that you feel are important, please include them.
Answered by 85 respondents.



'Other' included: partnerships, risk management, mine closure, sustainability.

Q: Please enter any relevant comments which you feel you have not been able to include elsewhere in the survey.
Answered by 20 respondents. Relevant and appropriate comments are provided below.

This is an important initiative!
Look forward to the outcomes of the round table discussions. Fear that countries are very different when it comes to the legislation and social structure effects on formation of local partnerships. Most important to get the mining companies to accept some level of general responsibility for sustainable development and responsibility for orphaned sites.
A caution: this issue is complex, legally, financially, technically, environmentally and socially. The reputational benefit that can accrue to the industry to commit to doing the following two things:
1. not add to legacy sites; and,
2. being a willing partner in solving the issue of legacy sites; is inestimable.
The "Leading Practice Sustainable Development Program for the Mining Industry" initiated by the Australian Government and mining industry, addresses many issues relevant to mining legacy and would be a useful resource for all participants. Further information is available at www.industry.gov.au/sdmining. I recommend this website to you as a source of information with handbooks developed by experts in their respective fields.
Abandoned mines are the industry's Achilles heel. We must address it!

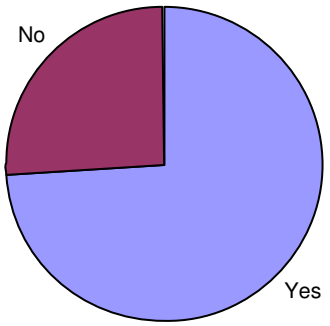
Little has been considered about the prioritisation of funds for the rehabilitation of mines. Most places have some, although restricted, funding for sites. The challenge is to determine the most worthy sites to spend the funds on.
Thank you. Regeneration is very important. Prevention is even more important.

YOUR UNDERSTANDING OF MINING LEGACY

In this section of the questionnaire, we explored the meaning of mining legacy from the respondents' varied perspectives. This will help to inform the roundtable of where debates need to be focused in order to develop common understanding.

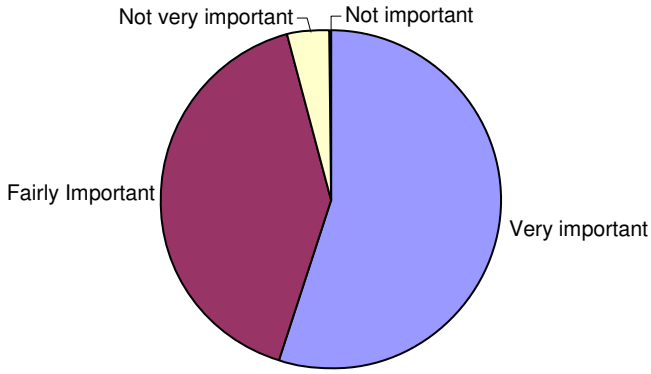
Although mining legacy includes positive impacts, the roundtable will be dealing with the negative (even pejorative) implications of the term, which have hindered positive dialogue and action between industry stakeholders towards developing a more sustainable mining sector. **Here, 'mining legacy' is defined as a site where a poorly-closed mine continues to impact negatively on the environment or associated communities. Legacy sites can be broadly divided into two kinds: those that are 'abandoned' - where the legal owner is known, but for some reason, is unable or unwilling to take the necessary remedial action; and 'orphaned' - where the legal owner cannot be traced.**

Q: Please indicate whether you agree with the above definition of mining legacy. If you do not agree, please state why and enter your own definition.
130 respondents answered this question.

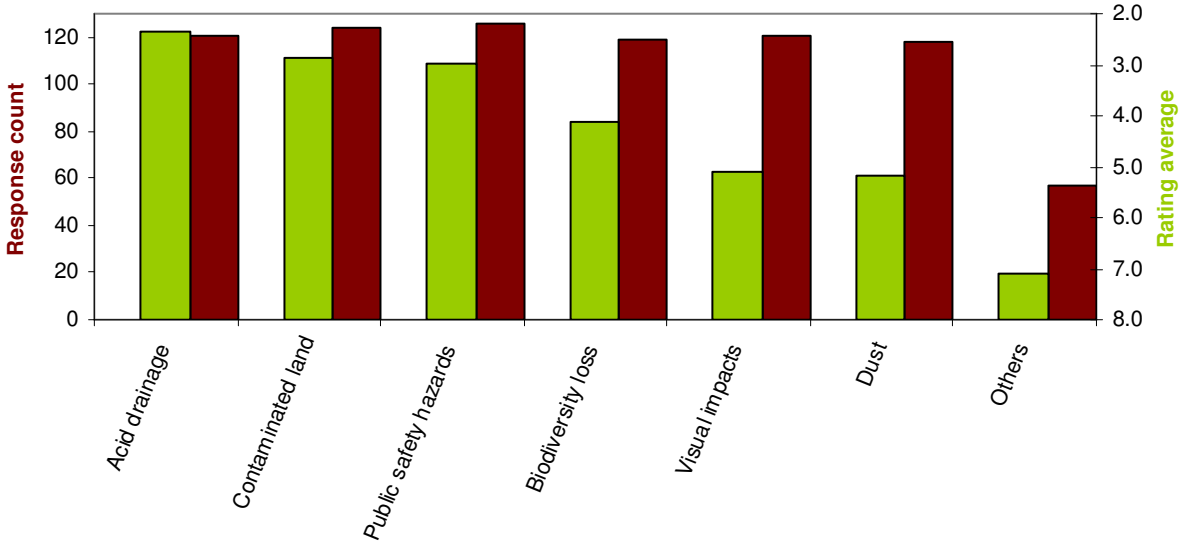


Other appropriate and relevant comments included:
The division of legacy sites into two categories oversimplifies. There is actually a range, from sites where (i) there is no traceable legal owner, to (ii) sites where there may be an owner, but one who did not own it at the time when the adverse conditions were caused and had no direct role in causing the conditions at the site, to (iii) sites where there is an owner who had a role in the problem but complied with al applicable requirements in doing so; and (iv) sites where the owner failed to take required steps in closure.
I don't like the idea of bounding the legacy by the idea of a 'site' - makes it inherently more likely to be an environmental rather than social impact, which is likely to be more diffuse. How about; 'mining legacy' is defined as the impacts of a poorly closed mine that continue...Legacy impacts can be broadly divided into two kinds: those where the mine was 'abandoned'...
Need some recognition of the fact that both abandoned and orphaned mines may have been closed in a manner that complied with the laws of the day and that in many cases we are retrospectively judging sites against today's standards rather than the standards at the time of closure. For example: 'mining legacy' is defined as a site where a poorly-closed mine (relative to today's standards) continues to impact negatively on the environment or associated communities. Mines that were in compliance with the relevant regulations of the day are included in this definition. Legacy sites can be broadly divided into two kinds: those that are 'abandoned' - where the legal owner is known, but for some reason, is unable or unwilling to take the necessary remedial action; and 'orphaned' - where the legal owner cannot be traced.
A mining legacy is the aftermath of any mining activity. The use of emotive words like 'poorly-closed' are unwarranted and unnecessary. 'Remedial' is another such emotive word. It may be that the site 'as is' is a desirable, interesting and possibly picturesque feature of the local area. There does not need to be a negative impact for a site to be a mining legacy, unless you seek answer's in this survey to suit a preconceived result.
Mining legacies can be positive for example the Eden Project site.
Mining legacy also includes impacts from existing mines that will require environmental mitigation and water treatment in perpetuity
While the idea of 'abandoned' and 'orphaned' sites is critical to the concept of mining legacy - there is an increasing trend to include sites requiring 'perpetual treatment' and those closed to the standards of the day, but which fall well short of the practices and expectations of current standards. So it may be better to reframe the concept of mining legacy to one where there is a transfer of responsibility from the 'owner' to the State with an existing or potential financial liability exceeding that provided for through security deposits or rehabilitation bonds and which erodes the net socio-economic benefit derived by society from the exploitation of the resource in the first place. The concept of mining legacy could also be defined as non-operational mine sites requiring ongoing management paid for by the State which increases the focus and pressure on the mining industry to accept broader accountability for past practices and reduces their ability to have new projects approved in an efficient and effective manner.
For us, abandoned and orphaned are put in the same basket because both are on the governmental responsibility.

Q: Mining is associated with a wide range of sustainable development issues such as climate change, indigenous peoples' rights, conservation of biodiversity, community development, health and safety, pollution mitigation, etc. Compared to these, from your perspective, how important is the issue of mining legacy sites?
131 respondents answered this question.

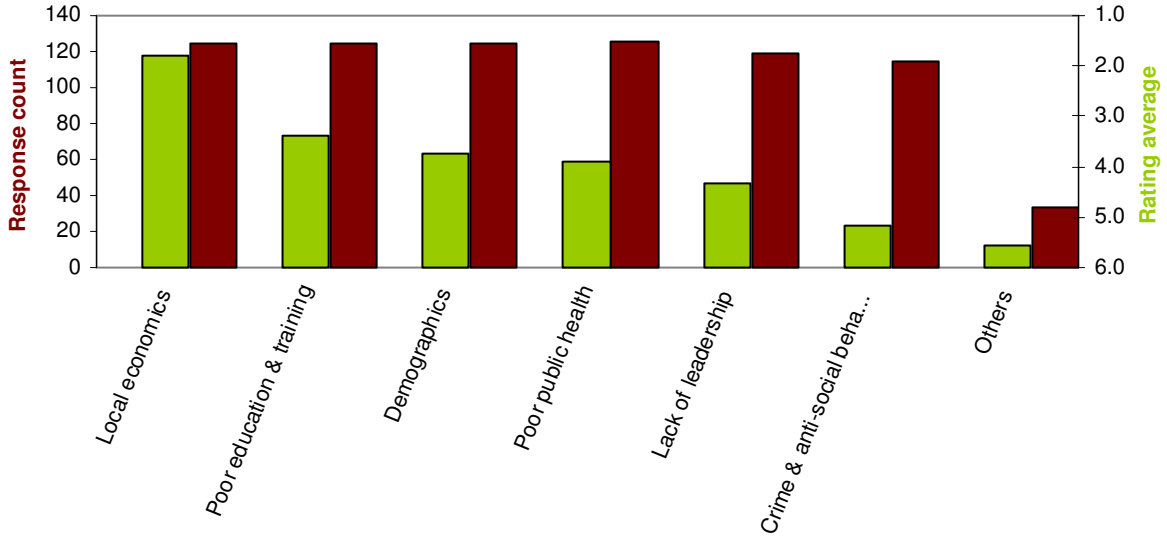


Q: From your perspective please rank the following environmental issues associated with mine legacy sites (where 1 is the most important). You can only rank one issue per column. If we have missed any that you feel are important, please include them and score accordingly.
131 respondents answered this question.



'Others' included many suggestions which were not relevant to the question asked, but would have been more appropriately included in the next question on socio-economic issues. Those suggestions deemed relevant to 'environmental issues' were: *degradation of the spirit of the land; changes in landform, loss of positive land-use options; radiation; loss of productive land; include burning coal fields in public safety; loss of mineral resources; tailings dam stability.*

Q: From your perspective please rank the following socio-economic issues associated with mine legacy sites, which often affect the well-being of post-mining communities (where 1 is the most important). You can only rank one issue per column. If we have missed any that you feel are important, please include them and score accordingly.
129 respondents answered this question.

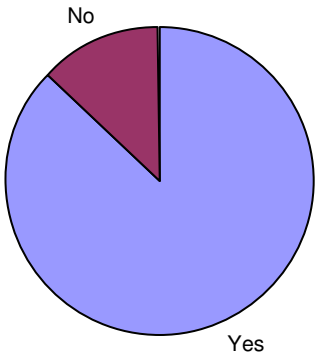


Relevant 'others' included: *Cultural distinctiveness; cultural degradation of indigenous people; lack of a diversified economy if the community was mine dependent; impacts on family structures; consideration of town relocation and/or decommissioning; opposition to new developments; negative impact of legacy on proposals to re-open mines or open new mines nearby and associated loss of access to potential socio-economic recovery; lack of sustainable community services; sense of entitlement – "the company will always look after us"; ineptitude of governments to take action; introduction of dependency syndrome; loss of means of subsistence; forced relocation of entire communities including Indigenous peoples from poisoned environment; victim mentality*
I live in the arctic, so all abandoned sites are remote. Every socio-economic issue is also an environmental issue here. None of this list really gets at the issues. Trust is probably the biggest. Second would be mining's role and relationship to colonialism and mining and abandoned mines continuing the colonial government's policy of lack of respect and mutuality.

WHAT REGENERATION MEANS

We defined 'regeneration' broadly as activities that enhance post-mining landscapes for the benefit of the environment and affected communities. Here we are using the term regeneration as a catch-all to avoid the overly narrow definitions and semantic confusion of other commonly used terms such as restoration, rehabilitation, reclamation and revitalisation.

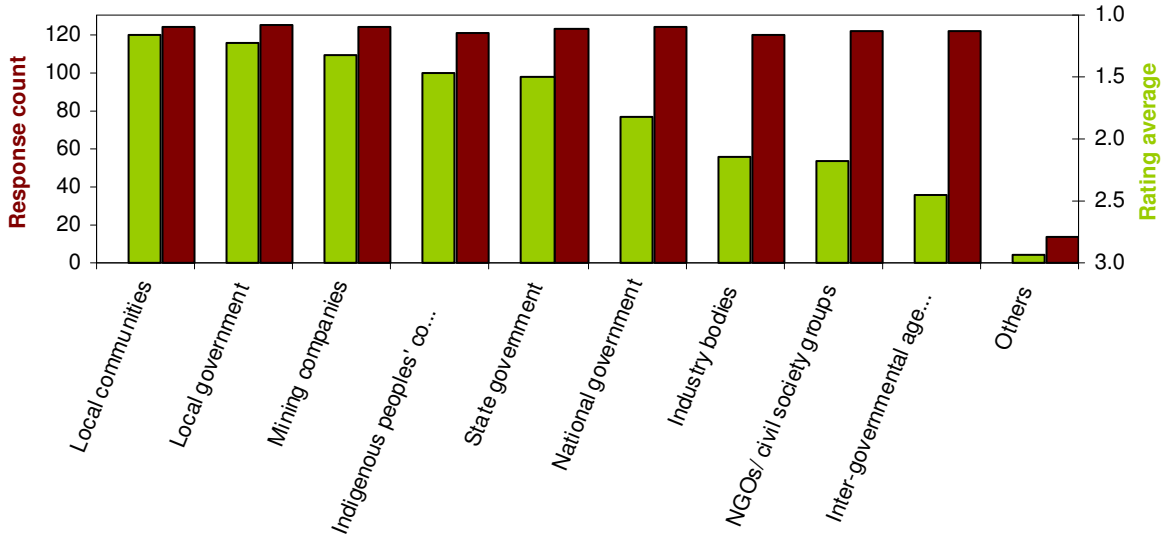
Q: Please indicate whether you agree with the above definition of regeneration. If you do not agree, please state why and enter your own definition.
123 respondents answered this question.



Relevant comments included: *Regeneration may be the best label, it is certainly better than rehabilitate, reclaim, or revitalize. However, there are certain aspects of restoration that it does not capture. It is true that the site will not be restored to its original state. However, the regenerative capacity of the ecosystem should be restored, even if it is very different than before. Most important, the capacity of human society to pursue a future that is consistent with its values in the ideal should be enhanced. For this aspect, neither 'regeneration' nor 'restoration' provide this more forward thinking, proactive perspective.*
If "regeneration" is to be accepted as the minimum standard, then I think the definition needs adjustment. It will not always be possible to "enhance" post-mining landscapes compared to pre-mining landscapes. 'Regeneration' as applied to abandoned or orphaned mine-sites is broadly defined as activities that enhance the post-mining landscape for the benefit of the environment and affected communities.
I am not sure that you should cover both possible environmental and human legacies with one term. It is possible that environmental legacies have been addressed but not human ones, and vice versa. Regeneration also implies that it is desirable to maintain communities at the post-mine closure levels, which might not be the case.
The definition must include world-wide agreement on proactive actions expected of active mining companies to minimise the impact of their operation on the environment.
Agree in principle, but see a risk that a 'new' term might in fact add to the confusion, rather than the opposite.
Regeneration should include a policy that does not allow the degradation of sacred or historical sites which can never be remediated.
The term 'regeneration' implies returning to the past or something new when in fact what we are trying to achieve is a transition to a stable and generally acceptable post-mine land use with associated socio-economic considerations. In some cases, 'regeneration' might be appropriate but in other cases 'stabilisation' may equally be appropriate - the real challenge is who is involved in deciding and

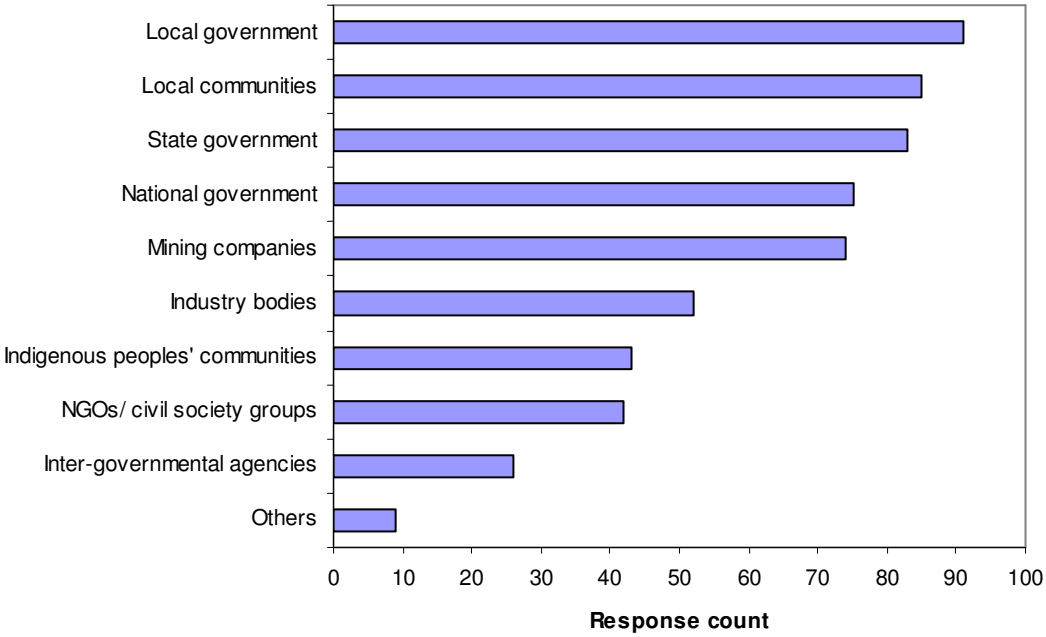
how is a decision reached. Regeneration also implies the pursuit of a final state when commodity prices, technological advances and changing socio-economic circumstances may result in changing land-use and activities which benefit both environment and affected communities.

Q: Which stakeholders are key to planning for regeneration? Please indicate all those that apply.



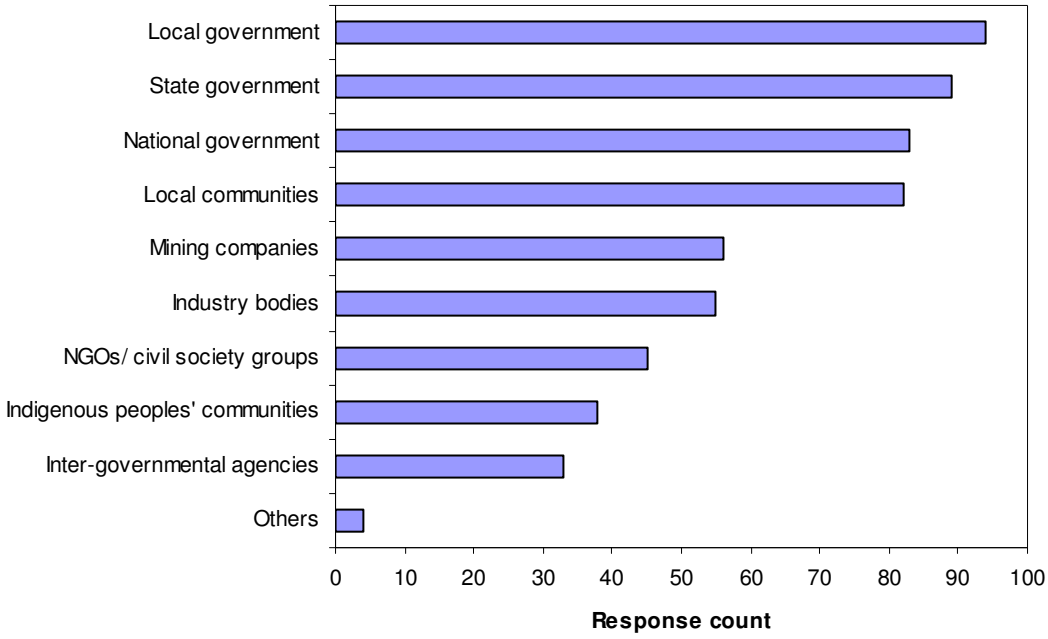
Relevant 'others' included: *churches, academic and research institutions, technical experts and consultants, local (not international) NGOs - ie affected stakeholders, mine management and workforce, local businesses, other land users*

Q: In the case of abandoned mine legacy sites (where the legal owner is known but, for some reason, is unable or unwilling to take the necessary remedial action), indicate which stakeholders you believe should, or are best placed to, take the lead in initiating and driving regeneration activities. Please indicate all those that apply.
125 respondents answered this question.



Relevant 'others' included: *second generation exploration companies, some willing to clean up previous companies' mess; legal community; all the above + financial institutions (ie development banks) need to work together; professional consultants; land developers; what you really need are a few people locally who are willing to make it their life's work; land occupier where it is not the mine owner.*

Q: In the case of orphaned mine legacy sites (where the legal owners cannot be traced), indicate which stakeholders you believe should, or are best placed to, take the lead in initiating and driving regeneration activities. Please indicate all those that apply.
124 respondents answered this question.

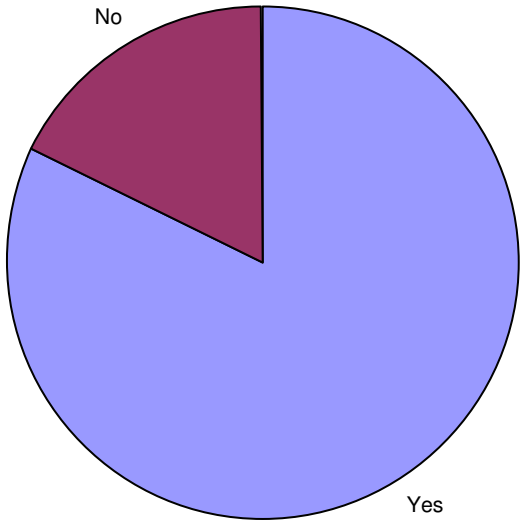


Relevant 'others' options included: *landholder; legal community; second generation exploration companies*

EXPLORING REGENERATION GOOD PRACTICE

The Post-Mining Alliance defines 'good practice' in post-mining regeneration to be an approach that empowers the local community in meaningful decision-making; provides on-going support for local communities, even after closure; provides on-going commitment for environmental impact management mitigation and long-term monitoring; and transparency in reporting.

Q: Please indicate whether you agree with the above definition of good practice in post-mining regeneration. If you do not agree, please state why and enter your own definition.
95 respondents answered this question.



Relevant and appropriate comments included: *The definition should not be focused solely on environmental impact management and mitigation and long-term monitoring. Better to read: an approach that: (1) entrenches a commitment to addressing environmental, economic, social, and cultural aspects of mine closure over both the short and long terms; (2) empowers the local community in meaningful decision-making; and (3) provides technical, financial, and moral support for local communities throughout the mine project life cycle from operation through closure and post-closure.*
An approach that empowers the local community in meaningful decision-making; establishes partnerships that support the transition from mining to a post-mining situation; provides an ongoing commitment for environmental impact management, mitigation and long-term monitoring and transparency in reporting.
There has to be a financial accountability.
I would go with the above definition but exclude long-term monitoring; I believe that this should be a third party, regional entity.
I don't agree that on-going support for local communities is good practice - good practice in regeneration is to assist with sustainable economic development so the community is not in need of on-going support. In a few cases, it is impossible for the community to be self sustaining and consideration should be given to relocating and/or decommissioning the community. Additionally, good practice in regeneration should include the goal to bring the mining area to 'completion' that is closed in a manner that requires no on-going commitment for environmental impact management and has a suitable end land use. Where 'completion' is not possible in all cases, I agree with the statement about the on-going commitment etc.
Restores or enhances the post mining land use of the area.

Does it only empower local communities? What if the mine is very remote without an effective local community? Can there be an inclusion of or definition of 'local community' to broaden to a wider audience? Some sort of 'stakeholder' analysis where the State of National entity would be the steward (only if there isn't a defined local community). The way it reads now the definition intimates that only the local community is empowered and supported. I understand that historically the local communities were often left out of the decision making, but should there be a coalition (including locals) that is empowered? Tough to word it inclusively.
'Good practice' in post-mining regeneration to be an approach that empowers the local community in meaningful decision-making; provides on-going support for local communities, even after closure; provides on-going commitment for environmental impact management mitigation and long-term monitoring; and transparency in reporting.
This definition places the burden on the local community, rather than indicating any level of responsibility of the company, the industry or the government.

Q: Based on your experience, please suggest examples of good practice in the regeneration of mining legacy sites from three perspectives: environment, associated communities and a balance of environment and associated communities. Include links to further information if possible.
63 respondents answered this question. Edited responses are provided below.

Environment

- Bamburi limestone restoration, Mombassa, Kenya
- Timmins area, Canada
- Teck Cominco has regenerated sites in B.C.; Falconbridge (now Xstrata Nickel) agreed to clean up the Asbestos Hill site in northern Quebec as part of the agreement with the Makkavik to open up Raglan
- Butchart Gardens in Victoria, BC, Canada, started life as a quarry - www.butchartgardens.com
- Grimethorpe, Yorkshire, England
- rio Estremenho (http://semanal.omirante.pt/index.asp?idEdicao=247&id=27739&idSeccao=3396&Action=noticia)
- Tailings dam: Avoca Copper Mine, Wicklow, Ireland
- Herberton tin mine in north Qld, Australia - regeneration of old tailings facilities (Contact Mareeba Department of Mines)
- Puy de l'Age site, France
- Regeneration of the lignite mining area near Dresden (ref. WISMUT)
- U.S. EPA. http://www.epa.gov/superfund/programs/aml/
- Alcorisa, Teruell. Spain. - Back fill and replanting of strip mining operation
- Britannia Mine, British Columbia
- Elliot Lake, Ontario, Canada - a world class rehabilitation program completed by owners with community involvement.
- http://www.riotinto.com/library/376_video_library_3650.asp
- http://www.dnr.state.oh.us/mineral/default/tabid/10352/Default.aspx
- Island Copper, British Columbia, Canada
- Argentina - Cerro Castillo SA-Mina Angela (see at http://w3.cetem.gov.br/cyted-xiii/Publicaciones/livros/Mine_Clsure/ModuleVII_english.pdf)
- Sullivan mine, BC, Canada
- Heathland restoration project in the St. Austell china clay area, UK
- United Keno Hill Mine Development and Remediation Project, Yukon, Government of Canada Snipaker on the Iskut River in Northwestern BC, Canada
- Equity Silver
- The rehabilitation of Hope Dump in the Witbank area in South African (Anglo Coal)
- East-Sullivan Mines near Val d'Or (Quebec, Canada)
- Manitou-Goldex project near Val-d'Or (Abitibi)
- Captains Flat base metal mine, Australia
- Butchart Gardens, BC, Canada

Associated communities

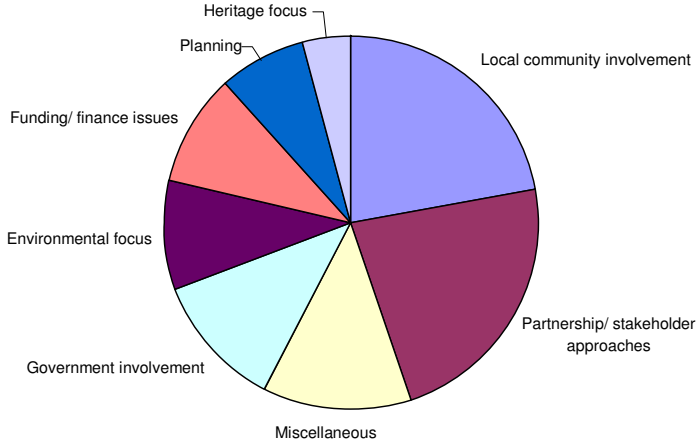
- Eden Project, Cornwall, UK
- Geevor Tin Mine, UK
- Cadia Mine, NSW Australia
- Ongoing at Faro in the Yukon
- The Sullivan Mine, in Kimberley, in Northwest Canada (owned by Teck Cominco)
- Communities must be involved in the regeneration process. Economic assistance provided to the community in the form of transition counselling, training, economic development alternatives etc.
- Heathland Project giving public access in mid Cornwall, UK
- Timmins, Ontario (Ontario government funding of regeneration of sites nearby with joint industry funding)
- Butchart Gardens in Victoria, BC started life as a quarry - www.butchartgardens.com
- Sherwood energy village, east Midlands, England
- BHP Copper San Manuel Mine and Smelter, San Manuel Arizona USA; Nanasivik Mine, Northern Canada
- Lousal mine, south of Portugal (http://www.cm-grandola.pt/pagegen.asp?SYS_PAGE_ID=685093)
- Thames Valley Gravel dredging, UK; Anglezarke lead and baryte mines
- Creation of visitor centre combining underground tours of former coal mine, Arigna, Ireland
- Herberton tin mine in North Qld, Australia - regeneration of old tailings facilities (Contact Mareeba Department of Mines)
- Proposed plans for South Crofty regeneration
- Wismut, Germany and Bessines, France
- Regeneration of the lignite mining area near Dresden (ref. WISMUT)
- Yukon River Inter-Tribal Watershed Council (Alaska-Canada) http://www.yritwc.com/
- Heerlen, Netherlands - Retraining mining workforce and establishing DSM petrochemical/chemical business
- McLeod- Cockshutt mine, Ontario, Canada - not a good fit but a great rehabilitation site.
- Extension Hill - Asia Iron
- http://www.resolutioncopper.com/res/ourcommunities/51.html

- http://www.mondaycreek.org/
- Leadville, Colorado
- Tavşanlı Lignite Mine at Turkey, http://www.devmadensen.org/yayin/tavsanli/tavsanli.pdf, as a labor union activity
- England (Eden Project)
- Colomac mine, NWT, Canada
- Camborne-Pool-Redruth Urban Regeneration Company, UK
- Faro Abandoned Mine Site Remediation Project - community consultation with aboriginal and affected communities in remediation design
- Snipaker on the Iskut River in Northwestern BC, Canada
- The rehabilitation of Hope Dump in the Witbank area in South African (Anglo Coal)
- Schefferville abandoned mines, Quebec, Canada
- De Beers Big Hole development in Kimberley, South Africa
- Mt Morgan gold mine, Australia
- Dalhalla quarry, Sweden

Environment and associated communities

- Re-greening of Sudbury, Ontario, Canada
- The Keystone Center's mediation of the Ok Tedi negotiations, Papua New Guinea
- Giant Mine, Yellowknife, NWT, Canada
- Ongoing at Faro in the Yukon, Canada
- Britannia Mine Remediation Project, http://www.agf.gov.bc.ca/clad/britannia/index.html
- Norfolk Broads, UK
- Government of Canada and its Northern Fund for regeneration of northern legacy sites
- Butchart Gardens in Victoria, BC started life as a quarry - www.butchartgardens.com
- BHP Copper Old Dominion Mine, Globe Arizona USA ; Elliot Lake Uranium, Canada ; Selbaie Canada
- San Domingos mine, south of Portugal
- Creation of European Geopark at former underground copper mines, Bunmahon, Ireland
- Whilst this was not a legacy site it passed through several companies via acquisitions and the work was completed by Placer Dome. Closure of Timbarra Gold Mine, NSW, Australia, and the closure consultation process completed by Placer Dome Asia-Pacific
- Wieliczka salt mine, Poland
- The old Rum Jungle Uranium mine in Australia's Northern Territory has been decontaminated and turned into a recreational water sports facility popular with, amongst others, divers undertaking deep water training.
- Eden Project - education, tourism jobs, UK
- Animas River Stakeholders Group, Colorado, USA http://www.waterinfo.org/regional-water-projects/animas-river-stakeholders
- Netherlands closure of coal mining industry.
- Flambeau mine in North America; Palabora mine in South Africa
- Deloro site, Ontario, Canada
- Extension Hill - Asia Iron
- Quaking Houses, co Durham, UK
- http://www.riotinto.com/ourapproach/5256_livelihoods.asp; http://www.riotinto.com/752_partnerships.asp
- http://ohiowatersheds.osu.edu/
- Tavşanlı Lignite Mine at Turkey, http://www.devmadensen.org/yayin/tavsanli/tavsanli.pdf, as a labor union activity
- Brazil-CVRD-MBR- Mina de Aguas Claras (after mine closure became a large real-state development)
- Tintaya, Peru
- Colomac Abandoned Mine Site Remediation Project - community involvement and economic development
- Snipaker on the Iskut River in Northwestern BC, Canada
- Kidston Gold Mine, Qld, Australia
- Killhope Lead Mining Centre, Environment Dept, Durham Co. Council, UK.
- Eustis mining Site near Sherbrooke (Quebec, Canada)
- Gold Reef City in Johannesburg, South Africa
- Upper Animas Stakeholders, http://www.co.blm.gov/mines/upperanimas/upperanimas.htm
- Bamburi, Kenya http://www.thebaobabtrust.com/ ; the wilds, Ohio http://www.thewilds.org/about/;
- King Island scheelite mine, Australia

Q: What can be learned from the examples you have outlined in question 13 above that is of wider relevance to dealing with mining legacy sites elsewhere (for example the use of a novel funding mechanism, a particular legal instrument, or a truly synergistic partnership, etc)?
68 respondents answered this question. The responses were then categorised as shown below.



'Miscellaneous' included:
In general, communities are not great sources of ideas, or efforts in dealing with mining legacy sites. Some even object to non-approval of waterfront lots abutting legacy sites with major safety hazards
Most critical is focus on people - industry and governments may be persuaded to take action if they see direct impacts on people and possibilities of improvement. Environment has little relevance to most people
Previous owners who are unwilling, rather than unable, to finance regeneration should be forced/ legally required to fund regeneration

Recognition of the asset value of the mining legacy. 'Today is the first day of the rest of my life' analysis should be applied to all sites and it is not always desirable to 'restore' to what was there before
In some cases regeneration can become a major, long-term, expensive project significantly affecting the local infrastructure and environment and not necessarily yielding immediate benefits in terms of sustainable employment opportunities
Netherlands - emphasis on care of the workforce, providing training and infrastructure development of alternative industry
Current legislation requires that new mining developments set aside money for regeneration after closure
NGO input
Close association with First Nations and their desires for closure details
Colomac Mine--regeneration through an indigenous lens.
Need a leader, from beyond the usual suspects, with innovative ideas and drive
In order to regenerate any site there needs to be a person/ group who is willing to 'lead' and push the issue.

Q: In your experience, please suggest up to three organisations which are currently providing leadership in dealing with mining legacy sites. By 'leadership' we mean those organisations that initiate and drive action in dealing with such sites.

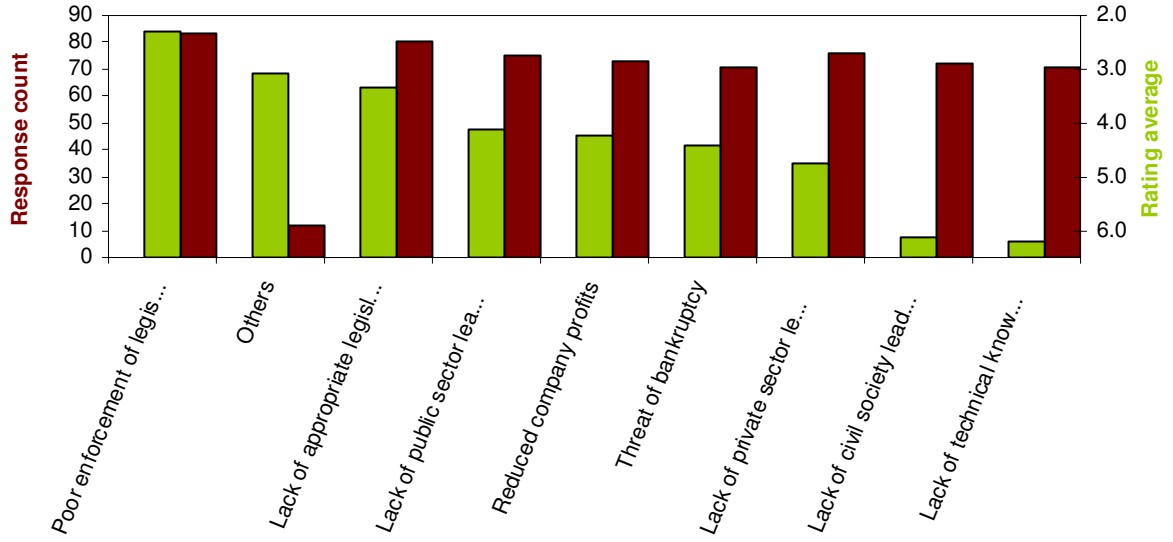
61 respondents answered this question, with reference to 133 organisations.

Australian Centre for Minerals Extension and Research
Blacksmith Institute
Camborne Pool Redruth Urban Regeneration Company
Ducks Unlimited/ Canard illimite, Canada
Center for Science in Public Participation
Centre for Mined Land Rehabilitation, Sustainable Minerals Institute, University of Queensland
Cornwall County Council, UK (Mining Landscapes World Heritage Site, Review of Old Mining Permissions (ROMPS)
CYTED-XIII - see at http://w3.cetem.gov.br/cyted-xiii - Mining Heritages: Patrimonio Geologico, in Spanish.
Derbyshire Wildlife Trust
Derelict Mines Rehabilitation Program, NSW, Australia
Dev Maden Sen, one of the Turkish Labor Unions at mining sector
DSM Netherlands
Earthworks/Mineral Policy Center http://www.mineralpolicy.org/
Eden Project – Post-Mining Alliance
EDM
English Partnerships
Environment Agency (UK)
FONAM, Peruvian Environmental Fund
Fondation des lacs et rivieres du Canada
Fundacio Frederic Velge
Government to Yukon, Canada
Government of Ontario, Abandoned Mines Program, (Northern Development and Mines Department
IAEA and World Bank in Central Asia at former Russian uranium mine sites
IGME-Spain
Imerys
Manitoba Government, Canada
INAP
Indian and Northern Affairs Canada
Kennecott Utah Copper and their regeneration of legacy mines sites to sustainable housing - Sunrise project
Kerrier District Council, Cornwall, UK
Keystone Center
Lafarge
Land Restoration Trust, UK
Land Trust Boards (indigenous peoples' groups)
MABC in BC, Canada
MEM, Peruvian Mining and Energy Ministry
Minerals Council of Australia
Mining Association of Canada
Mining Heritage Trust of Ireland
Ministerial Council on Mineral and Petroleum Resources
Ministry of Natural Resources and Wildlife of Quebec, Canada
Ministry of Sustainable development, Environment and Parks of Quebec, Canada
National Orphaned and Abandoned Mines Initiative (NOAMI), Canada
National Trust, UK
Natural England, UK
Naturverdsverket (Swedish environmental protection agency)
New South Wales Department of Primary Industry, Australia
Office of the Supervising Scientist, at South Alligator Valley, Australia
OMA in Ontario
Pendeen Community Heritage, UK
PNSAC
Prospectors and Developers Association of Canada
Province of British Columbia, Canada
Province of Ontario, Canada
Rio Tinto
Rivers Trust, UK
SNMPE, Peruvian Mining Association
South African Chamber of Mines
South African Departments of Minerals and Energy and Dept of Environment and Tourism
State of Ohio, Departments of Natural Resources and Environmental Protection Agency

The Department of Indian and Northern Affairs Canada (for Northern Canadian sites)
The Keystone Center (on dialogue)
Tlicho Nation, NWT, Canada
TMMOB, Turkish Union of Chambers of Engineers
Trout Unlimited
Turkish regional environmental protection organisation working at Aegean Region of Turkey
Environment Agency, UK
University of Cape Town, South Africa
US EPA Abandoned Mines Program
USA - Not sure of the driving agency re superfund sites
USDA Forest Service
Western Australian Geological Survey
Western Governors' Association http://www.westgov.org/
Wismut GmbH, Germany
World Bank
www.aegean.gr
www.igme.gr
www.ntua.gr

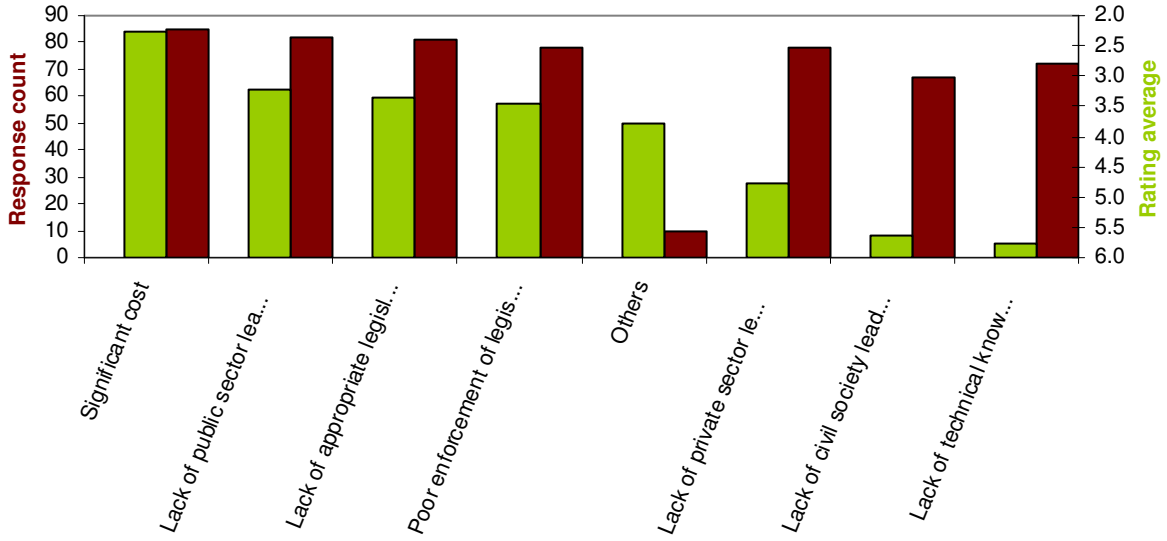
Q: Abandoned mine legacy sites are those where the legal owner is known but, for some reason, is unable or unwilling to take the necessary remedial action. From your perspective please rank the importance of the following barriers to the effective regeneration of such sites (where 1 is the most important). If we have missed any that you feel are important, please include them and score accordingly.

88 respondents answered this question.



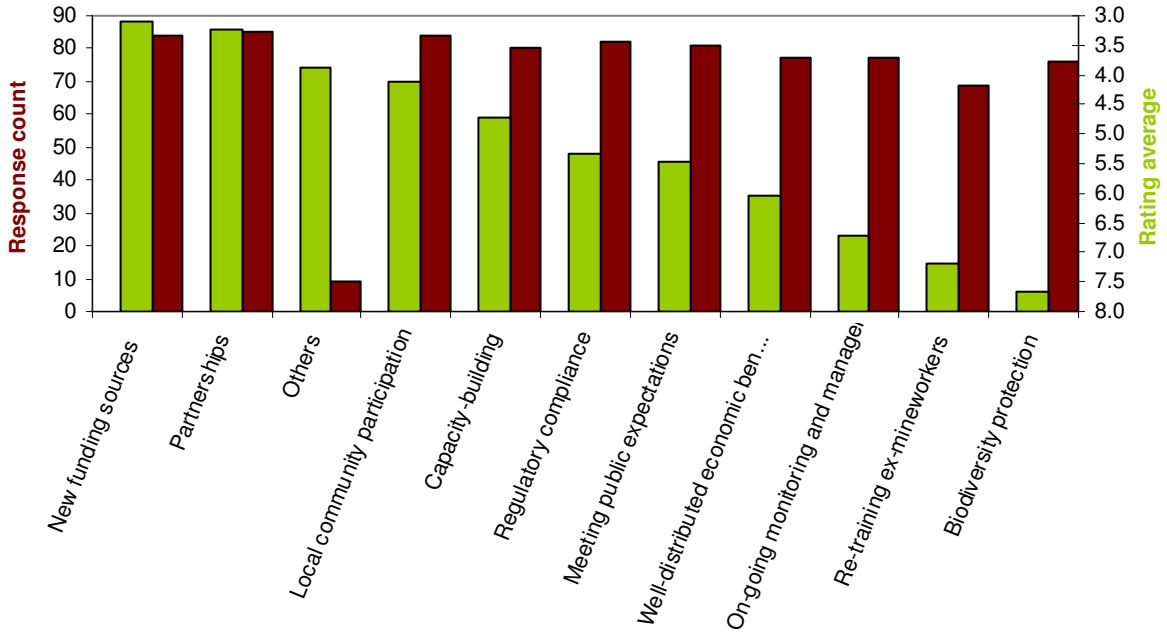
Relevant and appropriate 'others' included: *lack of good closure planning and bonding; lack of peer pressure within the mining industry to do things right; legal liability for those willing to address legacy concerns: AND the need for a remediation fund - a) for when new mines are set up; and 2) for companies in a region to cooperate in addressing legacy issues; poor formulation of the original agreement between government and mining company; insufficient surety calculation and provisioning; lack of "environment protection" attitude; poor company planning and commitment; greed of mining companies, unwillingness to invest in remedial action*

Q: Orphaned mine legacy sites are those where the legal owners cannot be traced. From your perspective please rank the importance of the following barriers to the effective regeneration of such sites (where 1 is the most important). If we have missed any that you feel are important, please include them and score accordingly.
89 respondents answered this question.



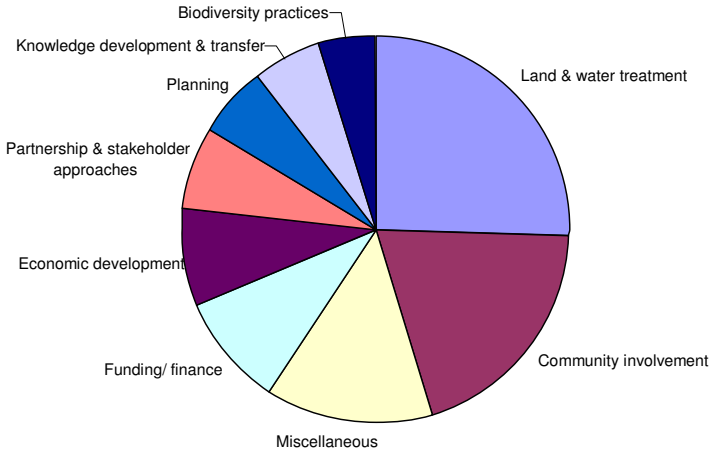
Relevant and appropriate 'others' included: *lack of mining industry pressure to clean up such sites; an orphaned mine has no legal owner (except government) and hence most of the above questions do not apply; legal liability issues; and lack of funds; unwillingness to take on potentially unlimited liabilities; it is a function of many factors such as political patronage, corruption; insufficient surety calculation and provisioning; lack of "environmental protection" attitude and land-use planning*

Q: Based on your experience, please rank the importance of the following potential elements of success for regenerating mining legacy sites (where 1 is the most important).
90 respondents answered this question.



Relevant and appropriate 'others' included: *lack of political will to act; must deal with legal liability threats (I know of cases where there was money and technical know-how but nothing was done because of the legal liability threat); 1. enabling legislation, 2. vast amounts of public money, eg Wismut, Germany; linking regeneration of legacy sites to new mining projects; government leadership; agreements between governments and mining companies must include biding commitments to conduct environmentally healthy operations and to restore lands to their original state; 1. industry proper behaviour; willingness of companies and industry to take action*

Q. Are there elements of current mine closure good practice that are transferable to the regeneration of mining legacy sites? Please provide up to three examples (eg transfer of technology to clean-up contaminated land or the involvement of local communities in designing site end-use, etc).
48 respondents answered this question, providing 114 suggestions. These were categorised as shown below.



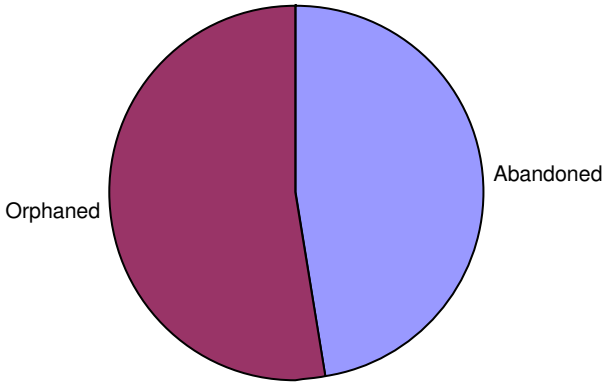
'Miscellaneous' included:
Garnering agreement/consensus on post-mining land/water use on new mines versus regeneration goals/objectives from legacy sites
Development of new closure criteria - better social and environmental metrics
Transfer of ownership of the site to a willing and capable person
Recognising the importance of retaining mining heritage
Work that needs minimal follow up maintenance
Sustainability guidelines transmitted from mining associations
Use of orphaned sites for research - Mount Washington, BC
EU programs for regeneration implemented by industry and NGOs
Mining companies to realise that they do deal with orphaned sites when it is in their interest, eg Kennecott Land

http://www.springerlink.com/content/r082g674098gj7v4/
http://blog.retirodaspedras.com.br/2007/06/13/reuniao-com-a-mbr-prospeccoes-no-entorno-do-condominio/
http://w3.cetem.gov.br/cyted-xiii/Publicaciones/Livros/EngenhariaAmbientalSubterranea.pdf

WHAT SHOULD THE ROUNDTABLE CONSIDER?

The international roundtable on the regeneration of mining legacy sites, to be held in March 2008, will be a one-off, two-day event involving approximately 50 participants from mining companies, governments and the NGO community, from around the world. This section asks your views on what could realistically be included in the roundtable discussions and your hopes for the outcomes.

Q: Of the two kinds of mining legacy sites (abandoned and orphaned), indicate which, if either, should be given the higher priority for discussion by the roundtable. If you choose only one option, please briefly explain your choice.
75 respondents answered this question.

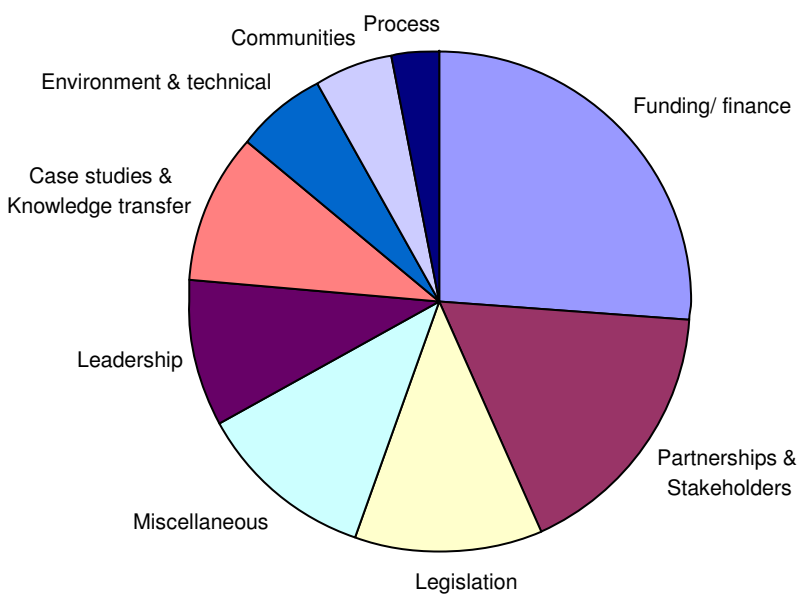


Edited relevant comments are included below:
Priority: abandoned. they are legally more complicated.
Normally, the state will assume responsibility for orphaned mines
While both require a multistakeholder approach to be deal with, the potential legal challenges to this discussion are greater for orphaned sites
Need to do both at the same time
Orphaned create the biggest problem since apart from the state taking direct ownership, legislation rarely exists - or funding - to tackle these sites. Recent US legislation has attempted to tackle this however
Both bad for mining industry reputation
Surely the concern should be the risk to the community and the environment brought on by failures or past inaction. Rather than one over the other, discussion should focus on addressing the generic risks posed to communities and the environment from these failures

Greater chance of success site by site than dealing with the politics and funding issues of orphan sites
It's more difficult to deal with
With "abandoned"; there is at least the possibility that legal or similar action will succeed in motivating the ownership
Orphaned sites are public domain issues. Abandoned sites should be the sole remit of the holder
Both are of equal importance, but abandoned sites with traceable owners could be easier to fund
Abandoned you can pressure owner
If you can find a mechanism to deal with orphaned sites, then the process should also be applicable to abandoned sites - other than a separate set of measures may be required to hold the owner accountable for regeneration
Sites like this [orphaned] are likely to have the highest incidence of contamination and degradation due to there being no-one to go to when the tailings dams leak or shafts collapse
Puts industry in bad light, shown not to care
These sites have no other hope of regeneration - abandoned sites may be made the responsibility of identified owners

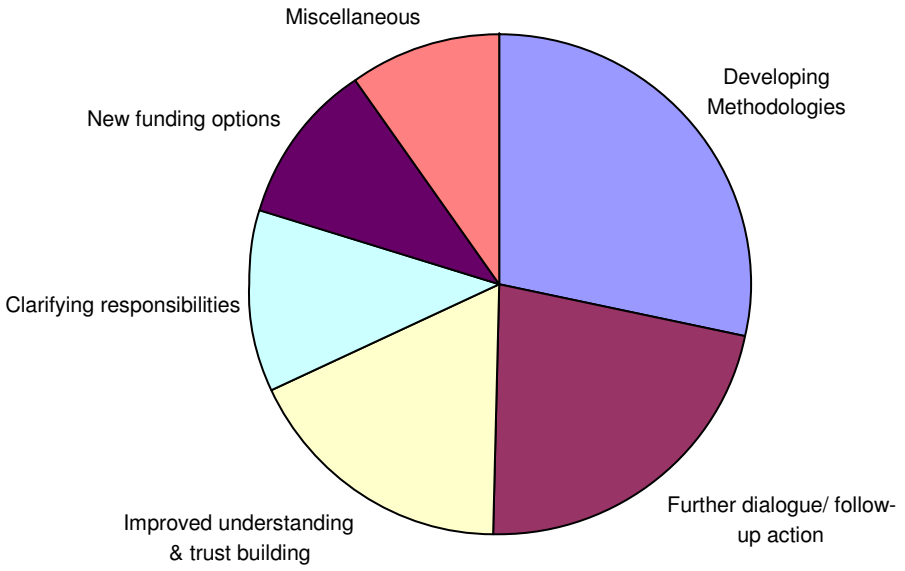
Mine owners should be able to at least contribute in-kind to these clean-ups
Orphaned mines are most problematic and require public sector financing. The current private sector can contribute ideas and expertise but cannot feasibly be held to account for these mines which often represent practice that would not be followed by remotely responsible owners today
[Abandoned sites] are more complex needing a wider range of actors for the solution
Orphaned Sites are usually directly or indirectly the issue of the state or country and therefore a funding/management issue.
Abandoned sites need discussion in terms of legal and strategic approaches to get the owners to do the job
Abandoned sites still have a company which should be made to regenerate the site
With abandoned sites legal processes many lead to bring the culprits to book including going after the assets of directors of companies responsible.
Could have more of a 'hook' to get them cleaned up if you know who is responsible for the [abandoned] legacy site
The strategy for abandoned sites will to a higher degree be dependent on national legislation and other national/local aspects
Both important
Legal remedies, political will and industry pressure could be more effectively applied to situations where the ownership is known
An entity has to take responsibility for orphaned mines which create major environmental hazards
Both
Orphaned mines are a burden on governments, in fact the major responsibility for such a situation, and should carry the site regeneration processes. In reality society, through government, will pay for an eventual regeneration
[Orphaned sites are] less concerned with legal complexities of ownership, hence a better area to start work and build up experience
Neither - need to focus on impacts rather than type
Both are of equal importance
The abandoned site could potentially still be resolved by legal means and it would be easier to get partnerships established at orphaned site where equal responsibility could be allocated
Governments should pursue legal routes to owners of abandoned sites
Neither-both are important

Q: Please suggest (up to) three topics for discussion at the roundtable (examples could include technical know-how, financial tools, encouraging leadership, effective legislation, building partnerships, etc), bearing in mind the nature of the meeting and the need for realism in what can be achieved in such a meeting. Briefly explain why you have made these suggestions.
There were 208 responses to this question. The free-form answers were then categorised as shown below.



'Miscellaneous' includes:
Take a forward-looking approach - avoid the same tired arguments of the past
Establishing realistic and cost effective objectives
What needs to be done to allow responsible mining companies could partner in 'regeneration' projects without taking on undue liability or unrealistic expectations?
The role of mining legacy in heritage-led regeneration
Building of economic and political pressure on the mining industry to cease bad practices
Abandoned mines and how to get the owners to live up to their responsibilities
Economic and social outcomes of regeneration, re-development opportunities
Mine closure and remediation
Administrational tools: necessary for effective management
How to avoid new abandoned sites
Prevention of ongoing or recurrent mine abandonment and orphaning
Tenure issues associated with mine closure and rehabilitation - State's willingness to accept liabilities
Priority setting with respect to health and environmental hazards associated with legacy sites; not all sites are equal nor is the financial capacity of governments or industry unlimited, therefore priorities must be set.
Declaration of a set of minimum standards that mining companies can voluntarily sign up to
Exchange of personnel who carry out the practical restoration between mining groups
Developing science of collating and prioritizing risk rankings of sites
To what extent do we have to rehabilitate the abandoned sites ?
What are the priority legacy areas for attention that have the greatest biodiversity and social impacts?
How to avoid new orphaned sites in the future
Efficient provision of assistance (technical and financial) to an operator in need
Benefits to society as a whole of regeneration of mining sites
Tools - mining redevelopment, friendly policies for liability reduction, technical support
Socio-economic assessment tools to measure progress
Government capacity building
Review of existing workforce skills and comprehensive retraining plans.
Effective guidance on public consultation from the outset

Q: What (minimum) outcomes from the roundtable would be required for you to consider it a success (this could include outcomes like improved understanding between stakeholders, beginning to build trust, commitment to further dialogue, etc). Please suggest up to three outcomes.
There were 161 responses to this question. The free-form answers were then categorised as shown below.



'Miscellaneous' includes:
Define best practice
Destruction of apathy
Getting priorities
Asking what communities want in a project to get better community ownership of the site and its rehabilitation
What are the implications of failing to effectively address this issue (i.e. maintaining the status quo)?
International guidelines for international mining company participation in regeneration
Founding an international platform for sharing experiences of the communities
A coherent discussion paper for presentation to the mining industry and governments
Actions by ICMM to begin to address the problem seriously and effectively
A clear recognition of the need for real partnerships (as defined by the Business Partners for Development project of DFID, World Bank, Care Intl and Mining companies)
A clear future path to implement the policies encapsulated in the MMSD project
Determination and action to avoid future legacy creation
Strategic direction
A commitment/vision from the mining communities to sign up for a general sustainable development policy
Agree on better knowledge transfer
Range of legislative options summary

Q: Is there anything else you would like to suggest for the content of the roundtable discussions?
25 answered this question. Edited responses are provided below.

Take a forward thinking approach - analyse what is possible and work out how to get there
There is no lack of knowledge (at least internationally) with regard to clean-up initiatives. Just lack of money
"There should be three theme papers generated as the basis of discussion, one each on: (1) Relationship Building for Post Closure; (2) Creative Funding Options; and (3) Capacity Needs for Success (all players). Each paper should provide an overview of current best practice in the world and suggestions for moving forward from that best practice. Each theme paper should be subject to a critical review by a third party and the review should also be available in advance as well as the response to the review by the original author.
1)A decision to continue the Round Table discussions on a yearly basis is very important. These issues can not be solved in two days. 2) Create an atmosphere where the mining companies feel that they are not at trial, but part of something good. They must feel that they can benefit from being part of a partnership, they may be driven by a will to have a sustainable development section in their next annual report, or that their share is greenlisted amongst responsible pension funds etc. Good Luck!
What legislative/ financial assurance requirements are necessary to ensure that the current industry does not add to the current body of legacy sites?
Encourage all participants to leave their preconceptions, demons and myths at the door. Try to get people to tell stories, both positive and negative, about their experiences of mining.
It's easy for discussion to degenerate into buck-passing. This must be avoided. It's also easy to wring one's hands at the scale of the problem; instead the focus must be on solutions and case studies of what's worked, especially elegant solutions that cost little money.
Perhaps some consideration of the potential for more legacy sites arising from the current boom.
Goals, objectives and metrics for measuring future progress. Follow-up coordination conferences. Accountability.
Given that many mining sites would be unsuitable for industrial alternatives due to their remote location. Given that infrastructure will have been developed for the mine access - look at development of tourism to use possible water filled pits and dams for example, and stepping off points to National Parks etc.
Try and use real case studies of good and bad legacy issues
Are all mining legacy issues the same? Is there a difference between developing and developed world abilities to address the issue?
Are carbon trading projects a way of financing regeneration?
Yes, the mining companies' commitment on clean mining technologies and mine closure procedures i.e., commitment of the big mining companies, as those ICMM associates, in pursuing clean mining technologies and good practices in mining closure. I believe this as a fundamental commitment towards society.
Effective planning legislation and practice needs to be introduced in countries with poor environmental record.
Case studies compiled and published
Network created with developing countries
A clearly defined goal and objective ahead of time and one organisation accepting responsibility to ensure it is not simply a talk-fest. We've been here before with little to show.
Review of possible mechanisms to establish the right dialogues and involve the appropriate organisations and individuals.
Focus on the various business cases for the various parties involved in the process, to ensure buy-in and ownership. No business case - limited chance for success.

If the governments accept only corporate guarantees (without cash deposit) for the rehabilitation of the industry mining sites, in counterpart, is the industry as a whole ready to provide complete funding for the rehabilitation of future abandoned sites.
Avoid confusing good practice in planning for closure with good practice in addressing already orphaned and abandoned sites. The mining industry role (and indeed the roles of other stakeholders) could be very different in the two scenarios.
A plan of action
Review of interested organizations and individuals
Collation of relevant case studies