

New Competencies in Mining — Rio Tinto's Experience

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ABSTRACT

In the mid-1990s, after a long period of antipathy between the company and its detractors, Rio Tinto embarked upon an ambitious cultural change program that sought to transform the fundamental basis of its relationship with global, national and local stakeholders. This has evolved into a broader pursuit of positive cultural change within Rio Tinto as part of the mining industry's Sustainable Development initiative. Initially driven from the top down, the communities component of this program comprises an architecture of policies, value statements, social research and verification systems. The commitment to better community relationships is best exemplified in Australia by the scope and scale of the Group's Aboriginal land access agreements, community development programs and the work of the Rio Tinto Aboriginal Foundation.

While collectively these form the core elements of an evolving set of internal social competencies, development of second-tier competencies is required to organically embed a culture of sustainable relationships with local and regional communities. Second-tier competencies will include appreciation of social dynamics, social science and diversity at middle management level; rigorous social research that properly informs development options for companies and host communities; career paths and recognition within the mining industry for young professionals both generally and from stakeholder communities; proper community-needs assessments, research into such things as purchasing power and other economics data, and inventories of public goods such as land-carrying capacity and water availability. Without this information it is difficult to gain an appreciation of and to alert people to the consequences of change brought on by a mine.

The next decade will see second-tier social competencies promoted within successful mining companies. Measures to achieve this include a range of Human Resource (HR) incentives such as recruitment and career advancement based on broad competencies rather than narrow technical proficiency, humanities training for mining professionals and performance rewards that recognise social competence.

A sustainable future for mining in a globally connected social landscape requires selection of people who can listen, relate and act in an open social system. The challenge for the mining industry, its professional organisations and educational institutions is to acknowledge this and develop these new aspects of mining industry professionalism. This cannot be left to individual companies if the industry is to have a sustainable future.

INTRODUCTION

In the 1980s and early-1990s in common with the rest of the Australian mining industry, CRA Limited, Rio Tinto's predecessor in Australia, experienced trauma coming to terms with rapidly evolving community expectations over the control of exploration and mining access to land. For Aboriginal and Torres Strait Islander peoples these changes were reflected in the *Mabo* and *Wik* High Court decisions and native title legislation that recognised the pre-existing common law rights of Aboriginal and Torres Strait Islander people over land. The transition for CRA was most evident during the development of the Marandoo deposit in the Pilbara by Hamersley Iron in 1992. Protracted dispute with local Aboriginal people led to an 18-month delay of the mine and associated cost escalation. Development approval was eventually gained under Western Australian enabling legislation. Hamersley Iron recognised the longer-term impact of the antipathy and decided to actively seek a positive relationship with local Indigenous communities.

Similar experiences elsewhere in the Group, and comparisons with its overseas operations where land rights recognition is a normal part of business, led Rio Tinto to reassess its land access and community relations approach in Australia. In October 1995 the newly appointed Managing Director and Chief Executive Officer, Leon Davis, presented a speech to the Australian Institute of Company Directors entitled 'The New Competencies in Mining'. In the speech Leon addressed what he saw as the new core competency requirements for mining companies going into the 21st century. He examined four areas where new competencies were particularly called for:

- working in developing economies;
- working with Aboriginal people;
- working with the environmental lobby; and
- working with our own people.

He observed that the mining industry needed to develop competencies in understanding and relating to community needs and concerns, to the same extent that it had previously cultivated skills in geology, engineering and mine planning.

This paper is designed to assess how Rio Tinto, and the rest of the mining industry in Australia, has progressed along that path. In particular how well we have progressed in developing competencies in working with communities. In doing so, for reasons of familiarity and geography, specific reference is made to Rio Tinto examples in Australia.

Rio Tinto was formed in 1995 by the merging, as a dual listed entity, of the Australian based CRA Limited and the United Kingdom based RTZ plc. This new Company has its headquarters in London and has operations in some 20 different countries worldwide. It is predominantly engaged in the mining and smelting of minerals and metals and is a major producer of iron ore, coal, copper, diamonds, borax and aluminium. It also counts gold, nickel, zinc, titanium oxide, uranium and salt amongst its products.

Rio Tinto's operations in Australia are Hamersley Iron, Robe Iron, Argyle Diamond Mines, Three Springs Talc and Dampier Salt in Western Australia; Ranger Uranium and Merlin Diamonds in the Northern Territory; Coal and Allied, North Parkes Copper and Peak Gold in New South Wales; Pacific Coal and Comalco Aluminium in Queensland, plus Comalco's smelter in Tasmania. The Company also conducts Australian and South Asian exploration from a base in Perth. A small corporate group and Rio Tinto's worldwide technical services presence are based in Melbourne.

RIO TINTO'S INDIGENOUS COMMUNITY HISTORY IN AUSTRALIA

Prior to 1992, under its pre-1996 name of CRA Limited, Rio Tinto was active in many parts of Australia. From the 1950s it explored extensively and established large mines based on world-class orebodies. These included the bauxite mine operated by Comalco at Weipa on western Cape York in Queensland, the Western Australian based operations of Hamersley Iron in the Pilbara region and Argyle Diamond Mine in the Kimberley region. Each of these operations is in remote parts of the country, in proximity to Aboriginal communities.

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On western Cape York, the Comalco mine lease and townsites areas were allocated in 1958 with little meaningful consultation with Aboriginal people. Nevertheless, efforts to increase the levels of local Aboriginal employment in the early years at the mine were relatively successful. During the 1980s and 1990s however, the level of Aboriginal employment and economic participation fell away.

At Argyle in the late-1970s, CRA Exploration teams encountered opposition from local and other Aboriginal people. Eventually an agreement to mine was signed with a group of traditional owners, despite the fact that the mine would necessitate the destruction of a significant ceremony site at what was known as Barramundi Gap. This so-called Glen Hills Agreement attracted adverse reactions, from the wider group of traditional owners and other Aboriginal groups and, for different reasons, from the Western Australian State Government. The nature of the agreement process and the destruction of the site at Barramundi Gap distressed the Aboriginal groups. The Government was concerned that an agreement outside of statutory requirement was reached with an Aboriginal group at all. In the early-1980s, the Company's linkages with local communities, most notably Warmun, Mandangala and Doon Doon, became much more extensive. The Argyle 'Good Neighbour Agreement' was initiated as the vehicle for a number of programs aimed at improving the circumstances of local Aborigines.

In the Pilbara region, the mine, rail and port developments were carried out in the early-1970s with no reference to Aboriginal people. At that time, particularly in the wake of massive dislocation from previous employment in the pastoral industry, many Aboriginal people no longer lived on their traditional lands in the interior, but were grouped in a number of coastal communities. After infrastructure and mine establishment, Hamersley Iron negotiated an agreement with Ieramugadu, an Aboriginal organisation in Roebourne. This involved a small number of Aboriginal people from Roebourne in the provision of contracted employment. In 1992 Hamersley Iron sought to develop a new mine at Marandoo. This action encountered significant Aboriginal opposition and the mine eventually proceeded after direct legislative intervention by the Western Australian Government. This experience caused the management of Hamersley Iron to reassess its position and the company established an Aboriginal Training and Liaison (ATAL) group to improve relations with the local communities and increase the level of Aboriginal employment in the industry.

These brief examples provide an illustration of the context of Aboriginal community relations for CRA during the past 40 years, though they are not yet old history. The experiences of other mining companies were not dissimilar. Where good community work was done, generally it was not strategic and was often ad hoc. It lacked the discipline of understanding, analysis and a structured framework within an applicable body of theory.

DEVELOPMENT OF COMMUNITY RELATIONS ARCHITECTURE

Corporate capability of any kind needs to be based upon an architectural framework. Amongst other things, this will include; sound research, clearly articulated policies, communication and reporting systems, and methods of verification. This enables the corporation to develop and sustain long-term proficiencies, and establish an environment that penalises opportunistic behaviour. Architecture also involves the creation and maintenance of organisational knowledge, and a process for the open exchange of this information so the company can respond to changing circumstances. The need for sound corporate architecture is no less essential for social competencies, than it is for technical and financial skill sets.

Thus, following Leon Davis's announcement in 1995, and as part of Rio Tinto's development worldwide of locally appropriate social competencies, the position of Vice President Aboriginal Relations was created at the corporate office in Melbourne. The principle internal tasks of this new role were to develop an Aboriginal relations policy position, to contribute to the development of Rio Tinto's Aboriginal community relations systems, to initiate a change process through the company's Australian operations, and to communicate these to achieve reputational improvement. The external work of the role included liaison with external bodies and individuals to glean advice from diverse opinion on how the company might better develop its social competencies.

Simultaneously, procedures for engagement with a wider set of stakeholders were developed. These included stakeholder and opinion leader surveys, community needs assessments, an extensive series of communications products and partnership programmes, and institutional platforms in the form of Trusts, Funds and Foundations that can deliver benefits to specific communities of interest.

These Australian initiatives were consistent with Rio Tinto's worldwide Communities Policy being developed at the same time. In Rio Tinto's head office in London, the position of Chief Advisor Community Relations was created and charged with developing universally applicable principles for community engagement, and tools for planning, reporting and reviewing Group businesses' community work.

The core elements

The combined work of these newly created offices within Rio Tinto shaped within the Group a coherent set of architectural elements for social competency. These elements are now deployed across all operations and include:

- a cascading set of global, regional and business unit community policies that are consistent with each other and with local circumstance;
- a set of values-based principles called 'The Way We Work' that guide operations interface with their workforces, their neighbours and the wider world;
- annually updated five-year business unit community plans that encompass defined local objectives and timeframes;
- annual local community reports for each business unit;
- an annual Rio Tinto global Health Environment and Community report that aggregates performance and highlights positive and negative examples;
- six-monthly social and environmental reporting that flags significant issues to management and Rio Tinto;
- assurance questionnaires for each operation;
- Health, Environment and Community Reviews focussing on long-term issues at least once every four years for all operations; and
- more frequent internal and external audits of the operations that focus on current performance.

These structured requirements are supported by community relations personal at all sites, advised by a small group of community and external affairs advisers working at corporate level. Specialist consultants and social scientists of varying experience and discipline are regularly employed, both for specific projects and general work of an on-going nature.

CONTEXT-SPECIFIC COMMUNITY PROGRAM IN AUSTRALIA

Rio Tinto's Indigenous community program in Australia provides a useful example of specific community on-ground work developed under the overarching corporate social architecture described above.

The *Rio Tinto Aboriginal and Torres Strait Islander Policy* was written after wide consultation in 1995. Its key foundation is Rio Tinto's recognition and respect for Aboriginal and Torres Strait Islander people. Three components underpin its implementation:

- regional and land access agreements;
- capacity building programs; and
- the Rio Tinto Aboriginal Foundation.

Regional and land access agreements

Within Australia, Rio Tinto seeks consultative mine development and land access agreements with Aboriginal Traditional Owners and Indigenous peoples affected by its operations. This is done wherever possible through the agency of designated Representative Bodies and provisions in the Native Title Act. Wherever it is appropriate, the Group seeks to elevate these to the status of 'regional agreements' through the inclusion of State Governments in tripartite arrangements, with progression to full Indigenous Land Use Agreements seen as desirable. Since 1996, Rio Tinto Group companies have signed five major mine development or 'future act' agreements and over 30 exploration access agreements. Some recent examples are: the *Eastern Guruma Agreement* between Hamersley Iron and Guruma people in the Pilbara region of Western Australia; the *Western Cape Communities Co-Existence Agreement* involving Comalco Aluminium and Indigenous peoples in the Cape York region of North Queensland; and a Memorandum of Understanding (MOU) and Model Exploration and Mining Agreement between Rio Tinto Exploration and the Northern Land Council providing for exploration access to native title land on pastoral leases in the Northern Territory.

Indigenous capacity building programs

Rio Tinto and its operating businesses support various capacity building programs for Aboriginal people. Targeting education, training, employment, liaison and business development, these are specifically intended to improve Aboriginal opportunities at group businesses.

Education program highlights include:

- Engineering Aid – an Indigenous summer school run by the University of New South Wales for 20 secondary students, providing a week-long program to introduce students to tertiary engineering;
- engineering scholarships for five Indigenous engineers at Monash University,
- the Gumala Mirnuwami Education Enrichment Program involving 30 students each year in the Pilbara region of Western Australia;
- Kormilda College, Darwin – support for an innovative education program in this culturally diverse secondary school with 300 Indigenous students;
- Centre for Appropriate Technology (CAT) – a partnership to promote science and technology, and sponsor Rio Tinto employees to work with CAT on remote area technology projects. Each year, with Rio Tinto's support, CAT runs a science school for 30 Indigenous secondary students from across the country; and

- an MOU with the Commonwealth Department of Education to support education and training programs in communities near Rio Tinto mining operations.

Employment, training and liaison program highlights include:

- Rio Tinto operations currently employ some 400 Indigenous people, four per cent of the company's total workforce. Regionally, Indigenous employment at Comalco Weipa is at ten per cent, aiming for 35 per cent by 2010; Hamersley Iron is at seven per cent aiming for ten per cent by 2004; Argyle Diamond Mine is at nine per cent, aiming for 15 per cent by 2004; and ERA Ranger Mine's workforce is currently 22 per cent Indigenous;
- Rio Tinto has a contract with Department of Employment and Workplace Relations (DEWR) to increase the number of Indigenous people employed at Rio Tinto sites by an additional 200 people by June 2002;
- National Indigenous Cadetships – in conjunction with the DEWR, Rio Tinto sponsors 13 Indigenous cadets in a range of disciplines covering engineering, environmental science and accounting;
- Hamersley Iron has developed a four-year structured training and employment program in conjunction with DEWR and the Aboriginal and Torres Strait Islander Commission (ATSIC) to train 40 Indigenous apprentices in mining and related trades by 2005; and
- Hamersley Iron employs a full time archaeologist to monitor land access clearances. Throughout the rest of the group heritage protocols are well established.

Examples of business support programs are:

- support for two small enterprises that contract with Hamersley Iron to deliver two-day cultural awareness workshops;
- in association with ATSIC, support for joint venture businesses around Yandicoogina Iron Ore Mine, and development and construction of the Doon Doon community store near Argyle Diamond Mine;
- in 1997 Gumala Enterprises and Hamersley Iron developed a joint venture earth moving business that is now fully owned by Gumala Enterprises, a corporation formed by the Traditional Owners in the Eastern Pilbara;
- establishment and support for Na Kuraga in Weipa, an Indigenous earthmoving business contracting to Comalco; and
- assistance for the development of the Eurest Joint Venture which now employs 20 people in full time camp and catering work. Eurest has gone on to develop its own Corporate Leaders contract and is extending Indigenous employment across all of its sites.

Rio Tinto Aboriginal Foundation

The Rio Tinto Aboriginal Foundation (RTAF) was established in 1996 with the aim of enhancing the status and welfare of Aboriginal and Torres Strait Islander people by supporting initiatives to improve health, sport and lifestyle opportunities, education outcomes and cultural preservation across Australia. It operates independently of the company (trustees are Rio Tinto employees and Indigenous community leaders) and distributes \$A 1.4 M annually to Aboriginal community organisations.

Highlights of some of the programs supported include:

- kidney health programs initially trialed on the Tiwi Islands and now extended to a number of other communities in the Northern Territory;

- revegetation programs to reduce dust problems at Ngukurr in South East Arnhem land;
- a maternal and infant health program in Townsville in conjunction with the Aboriginal and Islander Health Service;
- a Royal Flying Doctor scheme that employed two Indigenous health workers to support Indigenous people on Cape York;
- the Rio Tinto – AFL ‘Kickstart’ football and lifestyle development program that has visited over 100 Aboriginal communities;
- the Lloyd McDermott Rugby Development program in NSW each year;
- the Australian Indigenous Rugby League Aboriginal Corporation;
- VIBE Australia’s three-on-three basketball tournaments which reach hundreds of young Aboriginal people with sports motivation and lifestyle messages;
- individual support for elite athletes who participate in community role model programs, including athletics, weightlifting, tennis and ten pin bowling; and
- support for Kormilda College students in establishing and leading successful Youth Reconciliation Conventions. Curriculum material developed from these conventions has been distributed with RTAF assistance to all secondary schools in Australia.

BROADER STAKEHOLDER ENGAGEMENT

Stakeholders whose ability to effect our operations unproductively will increase with time unless we identify them and talk to them and take account of their interests. These include national, State, community and other opinion leaders. Community relations in the developed world ignores reality if it focuses only on the immediate, the direct and the local. Therefore, coincident with the development of specific local and Indigenous community programs in Australia, Rio Tinto has developed strategies for engagement and communication with stakeholders well beyond local regions.

The activity resulting from this wider world engagement has generated an extensive series of communication products and partnership programs. The core elements are:

- stakeholder dialogue involving opinion leader surveys, report-back and a series of engagement and communication programs;
- community needs assessments involving questionnaires, selected community leader interviews and focus groups providing precise knowledge of various community concerns;
- strategic partnerships with selected community, semi-government and other civil society organisations;
- opinion leader communications targeting specific stakeholders with specific communication; and
- Trusts, Funds and Foundations that provide institutional platforms for the company to work with local, regional and Indigenous communities on matters of long-term joint concern.

Rio Tinto Aboriginal Foundation: enhancing the status and welfare of Australian Aboriginal and Torres Strait Islander peoples by supporting initiatives that improve education and health conditions, sporting opportunities and cultural preservation.

Coal & Allied Community Trust: facilitating initiatives to assist local communities meet the economic, educational and social challenges faced by the Upper Hunter.

Tarong Coal Community Development Fund: contributing to economic development in the region surrounding Tarong Coal’s Meandu Mine in south-east Queensland by stimulating opportunities for employment and training, providing young people with skills to enhance their prospects of long-term employment and supporting business development initiatives.

WA Future Fund: supporting community, environment, social and economic programs that contribute to the future development of Western Australia – the welfare of its people and overall economic prosperity.

The integration of two streams of broader engagement – stakeholder communications and strategic philanthropy – is the most distinctive characteristic of the Rio Tinto approach.

DEVELOPMENT OF SECOND-TIER SOCIAL COMPETENCIES

While the details of architectural elements and the deployment of specific community programs may differ, all responsible mining companies in the 21st century must have them, or lose their mandate to operate. However, the existence of such elements does not alone guarantee genuine social competence and that is what the remainder of this paper will seek to explore. To what extent have second-tier competencies been developed? How extensively are they understood and deployed? And how widely are they regarded as necessary and successful? In other words, are the social competencies of mining yet organically embedded in the industry in general, within individual companies, and within mining professionals?

In brief, the answer is rarely. Perhaps this is what we might expect after so short a gestation, but over the next ten years social competency and qualification needs to be fully developed and respected within the mining industry if we are to implant a culture of sustainable relationships with local and regional communities. There are a number of competencies that require specific focus.

Appreciation for social science and diversity

Whilst senior management appreciate the need for social competencies to further the transition to sustainable development and sustainable relationships, there remain many mid-level mining executives who retain a view that a narrow spectrum of technical competence is all that is necessary to succeed. Whilst not advocating comprehensive social science training for mining professionals, some grounding in cultural preparation and cultural awareness (the former preparing the way for the latter) will greatly benefit the sustainable miner. Intelligence and energy and being in charge of a mine are no longer enough to handle community issues. If nothing else, managers should at least be able to read and understand the reports prepared by social scientists carrying out Social Impact Assessments.

In the absence of such understanding, the mining industry and mining professionals will find themselves greatly disadvantaged. For instance, in the debate (what debate?) on how best to conduct Social Impact Analysis (SIA), the mining industry has virtually surrendered the field to consultants and academics. SIA is seen by industry as an adjunct to Environmental Impact Analysis, something to be tolerated for the sake of compliance. Hence, SIA has evolved with little industry input, and has no standard methodology, no objective monitoring of predictions, and only rarely defined performance objectives for involved parties. SIA timeframes and agendas are imposed on communities by researchers, and to my knowledge there has never been a retrospective review of a mine development SIA. Such a review would find that social science experts have not necessarily made any better guesses about development ramifications than locally

affected people. But industry can hardly complain, for the most part its executives cannot even speak the language of SIA.

If they could, they could argue with greater credibility for the involvement in SIA of economists and political scientists, or people with knowledge and experience of institution building. Industry could also convincingly argue that the current SIA focus on the negative – mitigation and compensation – shift towards the good things that mining can provide to local communities.

For instance, over the past four years Hamersley Iron in the Pilbara region of Western Australia has trained over 120 Aboriginal people in a range of skills areas and hired 90 on completion of an 18-month Australian National Training Association accredited work program. Many of those who did not take up company employment have been employed by local businesses and the shire council, adding significantly to the human capital of the regional economy.

The challenge then is for the mining industry to develop HR strategies that promote an appreciation of social diversity, and prepare mining executives for communities and social science discourse. Management curricula, particularly in MBAs (Master of Business Administration), need to include humanities in all executive training and offer specialised courses in social theory and practice. Mining companies might have to do most of the hard yards because at present universities are not producing the people skills required. Education, executive recruitment and career development needs to place greater emphasis on broad competence rather than narrow technical proficiencies.

Rigorous social research

Consider for a moment a pyrometallurgy or tailings dam project being progressed without rigorous research and cost-benefit-risk analysis. And yet, when it comes to the community aspects of development decisions, it happens regularly. Why the difference? I suspect it has something to do with an oft-heard refrain from mine site managers 'Well, we live here you know, we are part of the community and we know how it works and what it wants.'

Whatever the reason, the great reluctance to undertake research, conducted and understood with the same degree of rigor that technical disciplines demand, is completely unacceptable.

Incidentally, I might add that technically focused engineers with relatively narrow interests cannot possibly know how the community works and what it wants. To claim that they do indicates a profound unwillingness to even attempt understanding. Any mine site and town will include a range of sub-communities, at the very least, under one possible classification – occupational, residential and indigenous. Mining professionals fall within a small sub-set of the occupational community, a community that actually prides itself in being different.

An absence of comprehensive pre-development base line social research, often referred to as socio-economic research, characterises most mine development projects. Mines need to know their neighbours in something other than an anecdotal manner. The lack of demographic study, for instance, is frequently a glaring omission. Such studies, when undertaken, reveal a lot about the social landscape that the project is developing within.

By way of illustration, Rio Tinto recently commissioned a study of Indigenous population projections out to the year 2016 for the hinterlands of its long-life mines and areas of exploration interest in northern Australia. It is worth pointing out that census data from these regions do not reflect the true picture, and that future population scenarios by Government or other agencies have rarely been attempted for Indigenous groups at regional levels. Hence, significant difficulties were present in attempting the projections and the figures are likely to be very conservative.

The research made it very clear that in the Pilbara, Kakadu/West Arnhem, Gulf of Carpentaria, East Kimberley and Cape York regions, the momentum for population growth lies with Indigenous residents. A related and similarly striking feature was the degree to which the non-indigenous population in each region is dominated by people of working age groups (ages 20-44), reflecting in-movement for employment purposes.

The key finding was that by 2016 the combined Indigenous population in Rio Tinto's Northern Australian mine hinterlands is conservatively projected to increase by some 10 000 people, which represents an increase of 39 per cent, or two per cent per annum. This translates as an increase from 24 000 to 34 000 people of Indigenous origin.

A second key finding involved the projected Indigenous population for each mine hinterland as a percentage of the projected total population. In each region studied the Indigenous population is expected to increase its relative weight to as much as 93 per cent of total population. Overall, across all Rio Tinto mine hinterlands in northern Australia there is a 38 per cent increase in Indigenous population compared to a projected increase of only 16 per cent for the non-indigenous population.

A third key finding was the breakdown of population growth according to age composition. While the Indigenous population is expanding at all ages, the weight of population momentum is with individuals of prime working age. In 1996 there were 9250 individuals aged between 25 and 64 years. By 2016, this group will have increased by 6400, or 70 per cent.

It might be asked, what are the use of such data? Well, the implications are quite clear – even with the most optimistic Indigenous employment objectives, Rio Tinto mines cannot hope to employ anywhere near this number of people. So sustainable development and mining in these regions is going to require a broad coalition of government, corporate and local interests to build regional economies with the range of enterprise and employment opportunity that can. Whilst not Rio Tinto's sole responsibility, long-term self interest demands that we ensure all stakeholders recognise the challenge and work with us to ensure sustainable regional development around our mines.

It is also necessary to understand and baseline the mining community with the same scientific care and attention given to communities outside the fence. The real community issue in many cases, assuming companies do their level best to improve company/community relationships, is the issue of community/community relations. Many will argue that it is not mining company business to get involved in such things, but it is inter-community conflict that has frequently precipitated premature mine closure. It might also be argued that companies should not attempt social engineering, but they should at least be aware of and modify where necessary the behaviours they do legitimately control.

Other regular deficiencies in social science research at mine development sites include the lack of community-needs assessments, the lack of data on such things as purchasing power and inventories of public goods such as land-carrying capacity, water availability or even firewood. Without this information it is difficult to gain an appreciation of, and to alert people to, the unanticipated consequences of change brought on by a mine.

Specific professional competencies

As with the technical disciplines of mining, specific competency in social science, negotiation and communities work requires the deployment of experts. While there are plenty of consultants available to fill these needs, unfortunately many have had limited contact with either the affected community people or the mining industry. The results often do not do justice to the affected people nor industry.

It also has to be said that those in the mining industry who commission such experts often have a limited understanding of anthropology and sociology. The best report in the world is only as good as the commissioning organisation's ability to understand it. The tempting solution to this dilemma is to bring the expertise in house. However, humanities expertise is frequently very specific to time and place, as few social principles are as universal as the ratio of a circle's circumference to its diameter. Under this circumstance it is entirely appropriate that much of the expertise should reside in consultancy space, but there are some areas where specific humanities skills internal to the company is demanded.

For instance, the development of heritage protocols and the commissioning of archaeological and anthropological consultant surveys in a large company requires resident expert advice. The function and approach is much the same as that of a contracts manager in other areas of mine development. Similarly, the oversight of communities negotiation, particularly where unfamiliar customs and land laws are in place, requires dedicated company professionals whose skills mix includes legal and sociological qualification. Communication of social issues within a mining company will always require the services of people who are as familiar with the social dynamics of mining companies as they are with external communities – by definition a career professional. Hence, there is need for recognised career development for communities experts within corporate structures.

Community and traditional knowledge

In mining development considerations in Australia, community and traditional knowledge has received cursory acknowledgement, if at all. The propensity of the scientific community to exclude other worldviews often underpins the mining industry's inability to consider other scenarios and frequently results in a form of self-delusion associated with mining development. Incidentally, I might add that this is equally true of most of our critics. Community and traditional knowledge received no mention in the draft Mining, Minerals and Sustainable Development (MMSD) report and it remains to be seen whether it makes mention in the final report.

Traditional Knowledge has been a Canadian Government requirement in SIA for some time and it was critical, in the form of the Dene Cultural Foundation, at Rio Tinto's Diavik development in the Canadian North West Territories. Indigenous Knowledge Centres have been evident as a major initiative in Asia in recent years.

Many societies, both traditional and modern, will judge sustainability in terms of its ability to satisfy higher values and those values will not always be related to scientific ideals. A good example is Aboriginal ceremonial and ecological fire management practice in Australia. The long history and ecological effectiveness of this technology in a traditionally-managed landscape is gradually coming to light, but is still strongly denied within the halls of orthodox, but not necessarily scientific, land management.

Provision for community values and community knowledge within mining development will only develop beyond convenient areas of convergence when mining executives develop the ability to think, where it is appropriate, outside their own paradigm. This multiple-world view, as opposed to the prevailing assimilation view of cultural interface, is one of the intellectual skills that executive education might offer.

CONCLUSION

The subject areas covered and the examples cited describe only some of the expanded thinking required by mining professionals to achieve competence in sustainable community relations. They are described here as second-tier competencies not to indicate their relative importance against architectural elements, but because they cannot be developed without the foundation of the latter. That foundation is now in place. Within the next ten years, HR incentives – such as recruitment and career advancement based on broad skills rather than narrow technical proficiency, humanities and communication training for mining professionals, performance rewards and professional recognition that distinguish social competence – will be required to achieve expansion of these new competencies.

The challenge for the mining industry, its professional organisations and educational institutions, is to acknowledge this and establish a new branch of mining industry professionalism. For a sustainable future for mining it cannot be left to individual companies.

ACKNOWLEDGEMENTS

The author acknowledges the permission of Rio Tinto to publish and present this paper. In addition, I am grateful for contributions from Professor Glynn Cochrane, Chief Advisor Community Relations with Rio Tinto; Tim Duncan, Head of External Affairs for Rio Tinto Australia; Paul Wand, Chairman of the Rio Tinto Aboriginal Foundation and to my many Rio Tinto colleagues at the forefront of developing mining-social relations competencies.