

Mirarr Perspectives on Mining and Rehabilitation of the Ranger Project Area[†]

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Aboriginal cosmology provides a richly-detailed account of the creation of the material world and the ideal relationships between the resultant ecosystems and the living creatures that inhabit them. The relationships are, essentially and ideally, symbiotic in nature and conservative in practise. At the human level, aboriginal civilisations practiced this lifestyle in northern Australia from at least 40 000 years ago until relatively recent times.

The Bininj and adjacent peoples of Kakadu and Western Arnhem Land share a belief system in which individual, family-based, clans have a custodial responsibility for a particular range of country and all the resources that derive from it. These 'traditional estates' are preserved, and their sustainable management ensured, by a system of general conference of utility rights through clan membership, and of decision-making rights by inheritance of the role of 'senior traditional owner', or alternately by selection and appointment of particular individuals to perform specific roles in management of country.

The Mirarr people belong to three Bininj clans whose combined estates include the Ranger and Jabiluka Uranium Project Areas and parts of Kakadu National Park. Those lands the custodianship and management of which Mirarr have inherited from extinct clans, include parts of Western Arnhem Land, and parts of Kakadu National Park.

Mirarr believe that both the individual and the wider group have a responsibility to, as they say, 'take care of country'. This duty extends to the performance of certain maintenance, including seasonal burning, protection and sequestration of certain sacred and/or 'dangerous' places, and the prevention of any action or activity that might damage or change the natural algorithm on the continued operation of which depends their lives.

The traditional right reciprocal to taking care of country is the right to speak for country – to make management decisions about country, including who shall and shall not be granted access to or through passage on an estate. Aboriginal clans believe that it is their right, either jointly or severally as the matter might require, to make decisions about their estates. Equally, they believe that it is improper for an individual to speak for country that is not his or her own country.

As Bininj clans are patrilineal, Bininj distinguish between 'Mother' and 'Father' country in order to denote the relationship with the estate of the maternal parent that an individual retains even though the estate of the paternal parent is the inherited 'country' of that individual.

The consequence of living in observance of those ancient injunctions was survival for the individual and assurance that subsequent generations would have an opportunity to survive. Mirarr do not consider their ideal condition in a world functioning according to their ancient belief system as life in a land of milk and honey. Mirarr do not see the custodianship of country as a reward earned for fidelity to a belief system, or as a possession of war or circumstance. Rather, custodianship and its attendant obligations are viewed as a birthright.

Indeed, the clan and country in which an Aborigine is born form a large component of the identity and function of that individual. It defines kin relationships, prescribes social and ceremonial obligations, and provides access to a livelihood. The concept of a Mirarr individual existing in the absence of his or her country is foreign to Mirarr. The concept of Mirarr individuals living in close proximity to – but not on – their country and being denied the right to make decisions for it, is also foreign to Mirarr. Yet the latter is the current reality.

The modern world began to make its presence felt in the Alligator Rivers Region before the advent of uranium exploration and mining in that region (mainly through buffalo, mission and pastoral activity). However, a permanent and substantial presence of Europeans (Balanda), did not occur until the 1970s, after uranium was discovered and mines were proposed to exploit these resources.

The timing of these new uranium discoveries co-incided with major shifts in Australian attitudes towards land rights and the status of Aboriginal people as well as increasing emphasis on environmental and conservation issues. The Alligator Rivers Region became a litmus test for the triple bottom line of these issues: uranium mining/nuclear issues, land rights and conservation through national parks.

In February 1973, the newly elected Whitlam Government established an inquiry on how best to pursue the recognition of Aboriginal land rights in the Northern Territory. The Chair was Justice Woodward, who produced two seminal reports which later became the basis for the *Aboriginal Land Rights Act*, (ALRA, passed in 1976).

Another major area of legal and policy reform for the Whitlam Government was environmental assessment. *The Environment Protection (Impact of Proposals) Act* ('EPIP'), was passed in 1974 and assented to in December. The EPIP Act required an Environmental Impact Statement (EIS), to be prepared for Commonwealth projects or projects that required Commonwealth approvals, in order to allow for informed assessment and decision-making with respect to potential impacts.

The Whitlam Government in particular was keen to participate in the Ranger project, but also wanted to work within a framework which ensured maximum economic benefit for Australia, recognised Aboriginal tenure, and protect the environmental values of the region. In October 1974, they signed an agreement with the Ranger joint venturers to purchase 50 per cent of the project by contributing 72.5 per cent of the capital cost (this is known as the 'Lodge Agreement').

Prior to the Lodge Agreement, the Ranger joint venturers understood that they would not receive relevant government approvals without addressing the complex issues of uranium mining, land rights and conservation. They prepared and released

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the first EIS in Australia in February 1974, followed by two Supplements to the EIS in May 1975. There was major dissent within the Australian community as well as the Whitlam Government, and using the powers of the EPIP Act, a major public inquiry was instituted in July, 1975 to assess the potential environmental, social and economic impacts of uranium mining in the Alligator Rivers Region.

The Ranger Uranium Environmental Inquiry (RUEI), chaired by Justice Fox, remains a landmark in the impact assessment process as well as for the nuclear industry broadly and uranium mining specifically. It must be explicitly noted, however, that the Whitlam Government owned 50 per cent of Ranger at the time the RUEI was established, and signed a further legal agreement (the Memorandum of Understanding or MoU) in October 1975, approving Ranger subject to the findings of the RUEI. The RUEI was also made the Lands Commissioner for the purposes of land rights claims in the Alligator Rivers Region.

Terms of reference for both the Woodward and Ranger Inquiries canvassed environmental and social impacts as well as the national interest and commercial considerations. The extensive evidence collected made it explicitly clear that Mirarr did not wish to allow any mining on their estates.

It is a matter of history that the Commonwealth accepted the RUEI advice that the Mirarr view 'should not prevail', and created what is known as the 'statutory fiction', a term referring to the legislative sleight of hand that presented ERA as a private company mining uranium on behalf of the Commonwealth. This is due to the fact that the MoU promised to use the draconian powers of the *Atomic Energy Act*, (passed in 1953 to facilitate uranium mining for the Cold War nuclear programs of the day). The RUEI warned against using the *Atomic Energy Act*, but the subsequent Fraser Government still proceeded to approve and licence Ranger based on the Atomic Energy Act. The Ranger project, now owned and operated by Energy Resources of Australia (ERA), which is 68.4 per cent owned by Rio Tinto, is therefore authorised as a Commonwealth project under essentially defense powers. This is what is referred to as the 'statutory fiction' that the Commonwealth is in theory mining uranium, while it is being ultimately conducted by a private company (ERA).

The *Aboriginal Land Rights Act* excluded the veto on mining specifically for Ranger (and some other mining projects) that is a statutory option for all other ALRA landholders, and a uranium mine was established at Ranger. The region of the Ranger Project Area was granted as Aboriginal title, becoming known as the 'Stage 1' Kakadu land claim and, in conjunction, the Gagadju Association was established in 1980 to accept and manage royalty payments from Ranger.

Subsequently, the mining town of Jabiru was established on nearby land that was originally excised from the Stage 1 land claim – despite this country being recognised as an integral part of the Mirarr traditional estate. Mirarr were paid dollar royalties through Gagadju, but were given no say in the operation of the mine, the governance of the town, or the management of large parts of their traditional estates.

In 1983 the large Jabiluka project being proposed by Pancontinental Mining, just north of Ranger, was stopped by the then newly elected Hawke Government. Jabiluka is also an integral part of the Mirarr traditional estate. The Jabiluka project and leases were acquired by ERA in 1991, as part of the development strategy of North Ltd (then majority owner of ERA at 68.4 per cent). With the election of the Howard Government in 1996, ERA and North immediately sought to develop a new mining project at Jabiluka and mill the ore at Ranger.

The Jabiluka uranium deposits, however, exist in a region which is of fundamental importance to the Mirarr and the cultural management of their traditional estate. This is due to the sacred sites that exist and their critical and sensitive nature – Mirarr have always wished to see these cultural sites protected.

Mirarr opposed further mining of their lands to the extent that the Jabiluka site was physically blockaded in 1998 by a coalition of Bininj countrymen, Balanda environmental activists and Mirarr clan members. Mirarr have consistently refused to accept royalty money related to Jabiluka, and have resisted revised attempts to exploit the Jabiluka resource. Mirarr represented their case before the World Heritage Committee and other UN bodies. The Senior Traditional Owner was arrested and charged with trespassing on her own country, and relationships between traditional and modern interests in the ARR continued through increasing confrontation and acrimony.

In 1995, due to the poor performance and financial mismanagement of the Gagadju Association, Mirarr established Gundjehmi Aboriginal Corporation (GAC). GAC is now the formal entity under ALRA which receives Ranger royalty equivalent funds and has been very active in advocating Mirarr's aspirations for their estate.

The Northern Land Council (NLC), the statutory body under ALRA which represents Aboriginal interests in land titles, was seen as part of the development agenda due to its previous involvement in the ALRA mining agreements for Ranger (1978) and Jabiluka (1982). The relationship between the NLC and GAC in the late 1990s was difficult and awkward – despite statutory obligations requiring consultation and other processes.

In 2000, North Ltd was taken over by Rio Tinto Ltd, (primarily for North's iron ore mines in the Pilbara, with the 68.4 per cent holding in ERA a minor issue). This change of corporate ownership brought a new philosophy to the ARR, as Rio Tinto abandoned the forceful approach previously employed by North and implemented a policy of not mining Jabiluka until and unless the Mirarr Traditional Owners give their explicit consent. That resulted in an agreement known as the Jabiluka Long Term Care and Maintenance Agreement (JLTC and M), which is currently in force.

Since the signing of the JLTC and M agreement, a new and very much more cooperative relationship began to be established between ERA and GAC. The relationship was predicated on Mirarr expectations about eventual rehabilitation and return to them of the Ranger Project Area, and ERA's statutory need to ensure that its closure plan meets with the approval of Traditional Owners. ERA has also been keen to demonstrate its reputation as a responsible corporate citizen, in line with broad sustainability principles adopted by their parent Rio Tinto and the mining industry more broadly.

Mirarr accepted advice that suggested it would be advantageous to be directly represented in rehabilitation planning, and to be aware of current operational realities at the Ranger Mine. The willingness of ERA to adopt Rio Tinto policy in respect of Traditional Owners, and to include them in some decision-making processes was seen to represent one alternative – if non-traditional – way in which Mirarr could 'speak for' and 'take care of country'.

Mirarr representatives presently sit as observers on regulatory and oversight committees established to manage the uranium mining industry in the ARR. Mirarr representatives are included in internal ERA technical discussions related to the operation of Ranger and the protection of the surrounding environment. Through their statutory representative, the NLC, Mirarr exercise an indirect vote in decisions made by the regulatory Ranger Minesite Technical Committee, (RMTTC).

Unfortunately, the commercial reality of the current and anticipated world uranium market has given ERA incentive to prolong its mining and production phases, increase the overall mine footprint, and delay rehabilitation, according to a series of changing annual corporate plans that seek to maximise the economic value of Ranger's uranium resources. Mirarr have perceived that as indicative of a lack of corporate sincerity on the part of ERA, and of the regulators, who automatically allow

ERA to extend its presence and thereby damage yet more of Mirarr country and prolong what Mirarr apprehend as a growing threat to their environment and their culture.

That process began amid the high hope that, even if they were ultimately unlikely to be compatible in a wholistic sense, the views of ERA and the Mirarr on rehabilitation and closure might draw closer with ongoing discussion and a series of iterative closure models. Recently, however, this has been exposed to serious and widening difficulties, as the differences between the vision and the reality become more and more apparent.

Serial extensions to mine life will (almost certainly) extend the size of the active open cut Pit #3, with likely extensions to underground mining along the banks of Magela Creek, and perhaps beyond. ERA is also exploring, or intending to explore, anomalies in previously undisturbed parts of the lease, including one area that is very close to a site of major significance in Bininj cosmology. This is a site in which ERA had previously declared it had no interest. Mirarr have seen that the rising price of uranium is sufficient to change the undertakings and plans for Ranger. Mirarr also see the government agencies that they had been told were protecting the interests of Bininj, accepting and allowing these and potential changes so as not to interfere with economic production.

Since the mine was imposed upon them against their express opposition in the 1970s, Mirarr have been given to understand that ERA is obliged to protect the environment according to Balanda law, and have been assured by the Supervising Scientist that their environmental and health interests are protected by the Environmental Requirements of the Ranger Authorisation.

However, as a result of a long series of incidents that had the potential to adversely affect the environment in profound ways, Mirarr are seeing that ERA is perhaps not capable of, or willing to, take care of country in the way that function had been represented to them, and is not managing the safety and health of the people and environment of the ARR in a best practice manner.

The near continual series of spills, contamination events, radiation clearance breaches, receiving water non-compliances, and workplace accidents is very long. However, only a few significant examples need be described in order to convey the point.

The 2004 potable water incident, which was caused by workers tapping a process water line into the potable supply, and exacerbated by a valve left open, resulted in a number of workers and members of the public ingesting or showering in heavily contaminated water, and the spilling into the external environment of a large volume of contaminated water. An investigation by the regulators found Ranger to have been negligent, and the company subsequently pleaded guilty to relevant charges and was fined a substantial amount of money.

The 2004 potable water incident was not the first time in the history of Ranger that the process and potable water supplies had been inadvertently mixed. The 2004 incident received wide publicity and caused great concern among both the Balanda and Bininj populations of the Jabiru area. There was particular concern among the downstream communities that source bush tucker from Magela Creek and its billabongs.

In 2006, cyclone Monica delivered a 1:33 extreme rainfall event to the Ranger Mine. There was no structural damage to mine assets, but the inventory of impounded contaminated water increased from 500 to 3600 ML. Unable to sufficiently reduce this water inventory by existing means, ERA sought stakeholder permission to implement a range of quickly-formulated water disposal options.

Those included clearing of new areas for spray irrigation of two different grades of contaminated water, lifting the tailings dam, redirecting certain run-off streams, purchasing more

road-watering trucks, and evaporating water from constructed cascade ponds on existing stockpiles. ERA also proposed draining a relatively clean retention pond that discharges to the external environment, and pumping contaminated pond water into it, before allowing that to dilute from natural sources and added Water Treatment Plant permeate over a season, thence to overflow and release into the external environment. Stakeholders were alarmed at the environmental implications of such an option, and urgently and unanimously rejected it. ERA withdrew the proposal, but advancing it at all was perceived by Mirarr and their representatives as an indication of incompetence and poor planning – even of desperation.

The need for new contaminated water reduction strategies was seen by Mirarr and their advisors as evidence of ERA's focus on profitability at the expense of environmental protection. ERA demolished Djalkmarra Billabong and its wetlands in order to increase the size of Pit 3, but made no alternative provision for the polishing of contaminated pond water. The Djalkmarra system had been a major pathway for remediating and releasing contaminated pond water, and its absence inevitably led to an uncontrolled increase over subsequent years in the inventory of impounded contaminated water. An extreme weather event that threatened the continued operation of Ranger and the external environment was thereafter always only a matter of time and probability, yet ERA failed to make adequate preparations.

With the cooperation and support of GAC, and through implementing a range of new measures for pond water treatment throughout 2006, ERA was able to reduce the inventory down to about 500 ML by the start of the 2006/07 wet season – without the need for direct release into Magela Creek.

In February, 2007, a 1:1000 extreme rainfall event occurred at Ranger. After five days and approximately 800 mm of rain, the contaminated water inventory soared from 500 to 3600 ML. ERA estimated that by the end of the event it was likely to be managing 3900 ML of contaminated water, that could increase to in excess of 4500 ML, depending on the rainfall received in the remainder of the season. There is also a process water inventory of some 10 500 ML.

At the height of the run-off from the 2007 rain event, water in Pit 1 exceeded the statutory maximum operating level (MOL) for process water, and rose almost to the top of the newly installed and then untested seepage containment barrier. Arguably, egress of contaminated water was only prevented by the higher hydraulic head of an adjacent aquifer.

At that time, some 1800 ML of run-off had flowed off stockpiles and reported to the operating pit (Pit 3) via a large retention pond and its spillway. That water damaged the walls of the pit as it cascaded from the spillway, forced the evacuation of the open pit, and eventually submerged targeted ore under 40 m of contaminated water.

The Tailings dam rose to within 0.01 m of its MOL, 2 m below the crest of its newly-raised walls. ERA sought and was granted the use of a further metre of freeboard above the MOL that is usually reserved to accommodate storm surge and wave action, and the regulators agreed to an urgent request for an increase in the MOL to a level 1 m below the crest. The tailings dam will continue to fill as water from Pit 1 is pumped into it.

At one stage of the rain event, Magela Creek rose to a level where it was able to over-top an embankment and reverse flows in the major drainage channel for the Pit 3 rim catchment. All but one of the aquatic monitoring stations were seriously damaged or destroyed, and the ability to measure flow rates, volumes and most water quality parameters in the major waterway was lost for some time.

Monitoring of water quality at the downstream compliance point indicated an increase in dissolved uranium from a routine level of circa 0.1 ug/L to the action level at 0.9 ug/L. Subsequent analysis of water from the same site over the next few days

indicated 1.2 and 1.3 ug/L. That compared with measurement of circa 0.02 ug/L at the statutory site upstream of the mine. At the time of writing, the full effect of solute export at the exit compliance point as a result of the event has yet to be seen and understood.

The Mirarr Traditional Owners have seen the effect of inadequate management and unplanned events at Ranger Mine on the environment up-stream of one of their major settlements. Assurances that there is no threat to the environment are based on an empirically-determined toxicological level of 6 ug/L for uranium that was determined from studies of only five aquatic species out of the many thousands that inhabit the environments of Kakadu. That limit was chosen by the regulators in lieu of a limit predicated on a statistical analysis of high-quality pre-mining baseline data, or upstream-downstream differences, which would have been an order of magnitude lower than 6 ug/L.

Such assurances are not highly valued by Mirarr, as they understand the limited focus and the overall purpose of the toxicology testing regime, and regard the concept of acceptable divergence from natural ambient conditions – irrespective of observed effects or lack thereof – as damaging to country. This concept of change versus impact is often difficult for Balanda to understand and accept, but is of prime importance for Mirarr.

This concept is the primary tool of discernment employed when Mirarr consider changes made or proposed in their country. Mirarr regard any change from the ambient equilibrium condition of the environment as detrimental change. Mirarr know that, since the advent of the mine, measurably more uranium is entering the aquatic and riparian environments of Magela, Gulungul and Corridor Creeks, as well as Georgetown and Coonjima Billabongs, than was entering it before the mine existed. Numerical values that seek to define how much more contaminant an environment can tolerate before 90 per cent of the animals living in it are killed by the toxicant are at best meaningless to Mirarr. At worst, they are frightening.

ERA has modified the environment during its four-decade presence on Mirarr estates. The Supervising Scientist concedes that there has been a measurable effect on the receiving environment from the operation of the Ranger Mine, but insists that the effect is well below the calculated threshold of 'environmental damage'.

Moreover, a number of serious environmental problems confront ERA in both the present phase of production and in the coming phase of rehabilitation. Some of those are:

- Spray irrigation and ponding of contaminated water have transferred contaminants to the soil and groundwater.
- Spray irrigation has contaminated the soil in some areas to the point where tens of hectares will need to be cleared, scraped, laid with clean soil material and fully revegetated during rehabilitation.
- A plume of contaminated groundwater is known to exist beneath the Tailings Dam and has been observed to be moving outwards towards Kakadu National Park. That plume is mobilised radially and vertically by the increasing hydraulic pressure of the tailings above it. When the Tailings Dam is demolished on rehabilitation, that contaminated plume of groundwater is to likely rise and spread further.
- The seepage limitation barrier on the eastern side of Pit 1 has yet to demonstrate long-term effectiveness, yet its successful operation has already been factored into rehabilitation planning.
- Plans to deposit and consolidate tailings in Pit 3 look set to be compromised by decisions to prolong mining campaigns beyond 2008. Preparation will therefore be seconded to production and the resultant delays consigned to the now much later rehabilitation phase.

- The hydrogeology of the Ranger site was poorly understood until comparatively recently, and there is evidence of significant contaminant seepage along major creek lines and faults.
- The expensive water treatment that some stakeholders had advised ERA to install two decades before it was finally commissioned, has failed to successfully polish process water and is to be replaced with other types of water purification equipment.
- ERA's changing plans with respect to low-grade ore beneficiation, radiometric ore sorting, possible heap leaching, and processing of lower grade material generally, has cast uncertainty about the amount of suitable material that will be available for backfilling pits, providing an acceptable cap to the tailings-filled pits that will ameliorate ambient radiation over the final landform to levels acceptable under Australian standards, and enable the creation of a 'soil' composed of non-mineralised rock and crushed laterite that can be applied as support for revegetation.
- Changing plans have also compromised the requirement for progressive rehabilitation. ERA had a single area to exemplify its compliance, but that was resumed for irrigation during a water management crisis and is once again contaminated.
- Changing allocation of resources according to changing mining plans have compromised the creation and operation of trial revegetation plots that were recommended by statutory committees. Eighteen months out from the proposed early rehabilitation of Pit 1, there has been no decision on the nature of the cap and no demonstration of the proposed revegetation, nor finalisation of the approach to ensure maximum consolidation of the tailings prior to final backfilling and capping.
- When rehabilitation begins, the disturbance to the natural systems and the modifications into which those have been forced during mining operations, will be monumental. It is certain that there will be pulses of heavily contaminated waters and sediments reporting to the receiving environment when earthworks begin. ERA has yet to decide on a final landform and does not propose to do so in the immediate future while its production plans are in flux. This is a major concern, as best practice nowadays is that closure criteria are agreed with stakeholders prior to the commencement of mining operations. Mirarr understand that this is not possible for a 30 year old mine, but consider that closure criteria should have been fixed and agreed when ERA extended its lease to 2026. Mirarr fear that a decision on closure criteria will again be avoided when, as seems highly likely, ERA seeks to again extend its lease (despite assertions and assurances to the contrary).
- In the event that ERA does not seek to extend its lease beyond 2026, another problem will obtain. Rehabilitation planning performed prior to the recent increase in the market price of uranium, and before ERA announced plans to extend its mining and processing operations in order to take advantage of those prices, was believed to require all the available time and available resources between cessation of mining in 2008 and envisaged relinquishment in 2026. With mining and processing now planned to cease in 2020, and ERA denying that it intends to seek an extension to its lease, it is difficult to see how a best practice rehabilitation exercise could occur in a mere five and a half years between cessation of operations and relinquishment on 8 January 2026.

ERA, Rio Tinto, the Supervising Scientist establishment and the NT regulators, have all expressed the necessity and desirability of Mirarr views being heard in the rehabilitation

planning process. Mirarr have embraced that concept with considerable goodwill and financial resources in recent years through the work of GAC and its consultants. To date this has seen their considered views on the final landform and many other aspects of rehabilitation discussed at three major consultation meetings, and in regulatory flora. Mirarr have also supplied traditional information about flora, fauna, bush tucker and land and fire management to scientists and engineers who are planning rehabilitation.

Mirarr have seen that their requirements have not always been incorporated into rehabilitation planning and are ignored when they would impinge on current production, and understand that those within ERA who plan for rehabilitation are subject to the decisions of those who plan mining and processing. Mirarr understand that profit – and not the health of country and the continuity of culture – is likely to remain the driving force behind whatever final landform is returned to them after ERA eventually relinquishes its lease and the landform has settled into a new equilibrium.

Living Mirarr know that, depending on the composition, quality and stability of the rehabilitated landform, it could be hundreds of years before that part of their estate can be re-occupied for traditional land use – if ever again. Senior Mirarr are accustomed to the reality that they themselves will never again know and walk that country, but, until the most recent extension to the mining plan, Senior Mirarr believed that their children would be able to do so. Appreciation of that likelihood is likely to corrode the willingness of Mirarr to fully participate in rehabilitation planning, and is a threat to the continuation of any relationship that has begun to evolve between ERA, the NLC, regulatory stakeholders and the Mirarr

At a Mine Closure conference held in Perth in 2006, numerous presenters spoke in detail about planning for operations and closure. Best practice results and minimum expense were clearly identified as arising from early planning, progressive implementation, and close involvement with the ultimate landowners.

Indeed, the paradigm promoted for greenfield projects was that of determining and agreeing closure criteria prior to commencing construction and operations. The advantages of that are multifarious. If all stakeholders are jointly involved from the outset in planning for the eventual closure of the mine, the resultant plan can serve all parties well.

The company can optimise its operations to the extent of avoiding expensive multiple handling when placing stockpiles and waste dumps, constructing storage facilities in a manner such that their later removal will not pose unnecessary challenges to the final landform stability, and can proceed to surrender via progressive rehabilitation and closure of defined subareas.

Traditional Owners benefit from an agreed plan by knowing the temporal dimension of separation from their country, and of being able to envisage a definite rehabilitated landform replacing the voids, artificial lakes and foreign structures of modern mining.

Nowadays, all mining companies are required – or at least are well-advised – to plan for the transition from operations to closure, and thence to a post-mining regional economy.

In addition to the scientific studies and logistical planning that are required for operations that lead to rehabilitation and closure, mining companies are increasingly recognising that their withdrawal from a region can have more significant impacts on culture and economy than did their arrival.

In the case of Mirarr estates in the ARR, royalty payments will have ceased a decade or more before closure, and the Mirarr will not have access to much of the country from which they made their living before the mine.

Further, it is likely that, due to ambient radiation, there will be an access restriction over the Ranger site for many decades after

the mining company has gone and the landform has gradually re-established. That will restrict Mirarr from resuming their traditional hunter-gatherer economy on those lands, and they will be obliged to seek a livelihood from other means.

In the Mirarr case, amounts have been diverted from royalty receipts, and directed to sustainable investments that will provide an income stream into the future. Mirarr have declined to take any active part in the operations of a mine they have always opposed, and so there is no dependence on a major employer to deal with after the mining company leaves.

However, in examples from elsewhere, the retirement of the major – or only – employer has devastated the economy of small towns and villages, and the resumption of land by its traditional owners, who are unable to derive a living from it, is not economically viable. In such cases, land is often bought by entrepreneurs and the original owners are disenfranchised from their birth right and gradually reduced to unskilled and therefore hopeless penury.

A number of enlightened mining companies have planned ahead for such realities, by encouraging and assisting Traditional Owners to acquire skills, start contracting businesses that can be employed at the mine, and to generally diversify their financial capacity.

Post-mining land tenure can be a difficult problem. In the Mirarr case, the land on which Ranger is built is Aboriginal freehold land under ALRA. After closure, that land should return to ALRA status. However, since the mine was built, Kakadu National Park has been proclaimed around the Ranger lease. Kakadu is itself largely ALRA land that has been leased by its numerous Aboriginal owners to Parks Australia. Mirarr have expressed the wish that, after closure and surrender, the Ranger lease be incorporated into Kakadu so that the contiguous Bininj estates on the western side of the ARR can be managed under one plan.

Mirarr are unlikely to be faced with the reality of having no land at all, for they will retain unfettered use of their country that is incorporated into Kakadu. However, they will have to deal with another difficulty that confronts all such traditional peoples when a mining company comes and goes.

Labour is required by the mine, and the opportunity to prosper attracts people from outside the immediate local area, and often from far afield. Such migrants become accustomed to living in the area and economy of their adopted home, and many may wish to remain after the cessation of mining. However, those people are not local Traditional Owners and therefore have no traditional relationship with, or traditional right to remain on, that country.

Moreover, in the culture of the Aboriginal world, it is improper for a person to ‘speak for’, that is, to make decisions about, country that is not their own birth country. Indigenous migrants have increased the indigenous population of Kakadu by a factor of ten since uranium was discovered in the region, and there is social friction because many traditional values, rules, prohibitions and decision-making processes conflict with modern democratic procedures and institutions. The interruption to the continuous operation and inter-generational transmission of those values and processes in Bininj culture that resulted from the advent of a mining economy, has allowed other interests to establish a perceived legitimate claim to residency, and thus to enfranchisement.

Through the ‘mother country’ relationship that Mirarr Senior Traditional Owner, Yvonne Margarula, has with the Western Arnhem Land country known as Nabarlek, Mirarr have become aware of the difference between the promises and the reality of Balanda mining enterprises.

Commonwealth and Territory Governments once referred to the Nabarlek uranium project, as the only modern uranium mine to have gone full-circle from exploration to production and

finally rehabilitation. Despite that glowing description, the Nabarlek site has not been rehabilitated to a standard acceptable to its stakeholders, and the site is a long way from closure. Indeed, closure criteria and methodology are still being argued in regulatory flora.

Mirarr have seen that happen over the years that they first resisted the Ranger project and later Jabiluka. Mirarr never wanted mining on their traditional lands, and nothing they have seen since the advent of mining in the ARR has altered that view.

Mirarr have experienced the variety of meanings that Balanda attach to terms from time to time. Since the time when Woodward (1974) declared that to deny to Aborigines the right to prevent mining on their land is to deny the reality of their land rights, and Fox (1977) decided that their view should not be

allowed to prevail, Mirarr have learned that there is not necessarily an absolute value behind the words of Balanda.

Yvonne Margarula has encapsulated the Mirarr view on mining and the people who brought it to her country: 'None of the promises last, but the problems always do!' (Tatz *et al*, 2006)

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