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FROM THE EDITORS

November's Mining Monitor has a great set of stories, with an overt focus on mining legacies and Papua New Guinea, reflecting MPI's core work, but also with interlinking themes of transnationalism, understanding the cost of capital-focused industrialised development, and thinking on people and place.



Image: Damien Baker - Lake Kutubu

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We pause to remember the communities near Samarco in Brazil, and the dead and the missing from yet another tailings dam disaster. This unintended release of 150 million m³ of waste follows on from the Canadian MT Polley disaster in 2014, which devastated waterways with 10 million m³ of waste. With the ever-increasing scale of mining and the seemingly endless push to lower costs of production we can expect more disasters until the global mining industry is held to account.

We introduce two new contributors, Neville Ellis from the Centre of Responsible Citizenship and Sustainability at Murdoch University and Anica Niepraschk from Friends of the Earth. Neville approaches the impacts of mining and mining legacies from a mental health perspective, providing a context and language to capture the sense of loss from environmental devastation. We suspect many mining affected communities will immediately relate to the concept of solastalgia. Anica explores the activities of one of Australia's uranium miners in Africa, Paladin Energy. And in the wake of BHP's Samarco tragedy in Brazil, we strongly support her call not just for EITI on financial flows, but on the genuine accountability of Australian firms and directors for the impact of their mining operations on people and place.

Lauren Mellor from the Environment Centre NT returns with another article, this time on the long running disaster that is the McArthur River mine. Following on from the to Ranger article (June, 2015), it is a story of impact and potential mining legacies in the Northern Territory, that tells an all too predictable tale. For more info on mining legacies visit our [Mining Legacies](#) site.

Regular contributor Dr Simon Judd continues his PNG focus, this time turning his attention to conservation planning, questioning both the thinking behind western style, boundary based conservation planning and the absence of data to support it. Illustrating the shared approach between mining and conservation and seeking a different path, what our friends in PNG call the 'Melanesian Way'.

Charles continues his unrelenting (single minded) focus on mining in PNG. Again exploring the activities of Newcrest, this time in relation to the monitoring and management of social impacts from the Lihir mine. It seems little progress is being made on reforming social engagement and impact prevention despite what appears in the industries, fluffy but misleading sustainability reports.

Charles Roche and Jessie Boylan

A SENSE OF PLACE, A SENSE OF LOSS: AUSTRALIA'S MINING LEGACIES

Neville Ellis - Post-Doctoral Associate, Centre for Responsible Citizenship and Sustainability, Murdoch University

Image: Dean Sewell - Lock the Gate Alliance

With the construction phase of the mining boom over and demand for Australia's energy and mineral resources waning, now is a good time to reflect upon the issue of mining legacies and what they mean for our connections to landscape and place – our 'sense of place'.

The extractive industries transform the landscapes within which they occur. Some of these transformations can be small and discreet, while others leave us awestruck by their immensity. However, no matter the scale, and regardless of what is being produced, it is inevitable that mining operations eventually come to an end, leaving behind a legacy of altered environments and changed landscapes.

The term 'mining legacy', as defined by Whitbread-Abrutat (2008), broadly refers to *"the impacts of a mine that continue to negatively affect the environment or associated communities"* (p. 3). Legacy mine sites include those that have been recently or prematurely shutdown, abandoned mine sites left in various states of decay and ruin, and land used to store the by-products and wastes accumulated through the mining process. There are approximately 50,000 known mining legacy sites in Australia, though the actual figure is likely to be much higher (Unger et al., 2012).

When discussing mining legacies, we typically speak of the risks they present to human and environmental health, and who has responsibility for the maintenance or rehabilitation of affected land. Although these are important considerations, we rarely consider the non-material and non-economic risks legacy mine sites pose to our psychological health and our emotional wellbeing.

Only recently are we beginning to rediscover the importance of our connections to particular environments for our mental health and wellbeing. I say 'rediscover' as such notions have informed Indigenous understandings of human health for millennia. The environments that we live within are more than simply a collection of material objects set against a psychologically inert geographical setting: often, they are places imbued with deep intrinsic value and emotional significance. It should come as no surprise that research has consistently found the place most important for our mental health and wellbeing is the home. In addition to being an 'irreplaceable centre of significance' (Relph, 1976, p. 39), the home often provides individuals with a sense of identity and belonging, as well as feelings of security, solace and control. It is because of these qualities that the 'health' of our loved places matter for our own psychological health and emotional wellbeing.

Though we all, perhaps implicitly, understand the importance of such places for our own mental health and wellbeing, it continues to be a peculiar facet of modern culture that such understandings only tend to become clear once we have endured a forced separation from a loved place, or if a home environment is destroyed.

One of the first medical practitioners to formally document the trauma that can result from a forced separation from a loved home environment was the young Swiss medical officer, Johannes Hofer. In 1688, Hofer published a thesis that described the severe psychological pain, as well as the multiple physical ailments he observed amongst soldiers fighting a war on foreign land who expressed an intense longing for their homelands. Amongst the ailments observed were: insomnia, loss of appetite, weakness, fever, and an all-consuming obsession with the idea of home. Such were the intensity and severity of the mental distress and physical dis-ease experienced by some men, Hofer feared longing for a homeland may cause some men to fall into a 'stupor', resulting eventually in their death.

To give voice to his observations, Hofer created the term 'nostalgia' - a neologism developed from the Greek *nostos* (return to home or native land) and the New Latin suffix *algia* (suffering, pain, or sickness) from the Greek root *algos* (Albrecht, 2012). Over time, nostalgia was supplanted by the modern term 'homesickness' - literally the distress or 'sickness' one may feel when separated from a loved home environment. Nostalgia found definition as a medical disorder up until the mid-

twentieth century. Today, however, nostalgia and homesickness are no longer regarded as medically-defined illnesses in their own right.

This is not to say that places no longer matter. One only has to turn on the nightly news to witness the devastation experienced by those displaced and dislocated by war, famine, floods and fire. What has been less clear, however, to residents and social researchers alike, have been the mental health consequences for residents living within a degraded or a degrading home environment. Observing this void in our understanding, the Australian environmental philosopher, Dr. Glenn Albrecht, created the term 'solastalgia' to describe this formally unrecognised and overlooked form of place-based distress. While 'nostalgia' and 'homesickness' are concepts used to describe the distress people may feel when separated from a loved place, 'solastalgia' refers to the pain and dis-ease felt by people living in a home environment perceived to be subject to negative environmental change. Put simply by Albrecht (2005): *"solastalgia is a form of homesickness one gets when one is still at home"* (p. 45).

Solastalgia is finding application in a growing number of contexts where people's endemic sense



Image: Glenn Albrecht

Image: Dean Sewell - Lock the Gate Alliance

of place in coming under threat by globalised drivers of environmental degradation (e.g. anthropogenic climate change, globalised flows of capital and modes of economic production). However, it is perhaps not surprising to learn that solastalgia was created in response to the place-based distress felt by residents contending with large-scale open pit coal mining in the Hunter Valley region of New South Wales.

The Hunter Valley, known for its wine and thoroughbred horse industries, has also become a 'climate hotspot' over recent years as the coal industry has sought to expand its activities in response to high global prices. As of 2012, open-cut mines covered some 315 square kilometres, or approximately 16 percent of the Upper Hunter Valley (Rosewarne & Conner, 2012, July 3). By 2013, the Hunter-Newcastle coalfields were producing over 100 million tonnes of saleable coal per year (Department of Industry, Resources and Trade NSW, 2013).

Research investigating the lived experiences of residents living near existing and encroaching open-pit mines tells a story of emotional and psychological displacement, dislocation and disenfranchisement, with attendant negative consequences for their sense of identity, belonging, control and good health. For some, solastalgia manifested as anxiety, insomnia, psychosomatic illness and feelings of hopelessness and powerlessness (Albrecht, 2005; Albrecht et al., 2007). In others, the pain of watching a loved landscape desolated by large scale mining activities motivated them to avoid the affected landscape altogether. As one indigenous man told researchers in a 2007 study into the psychological impacts of large scale coal mining:

It is very depressing, it brings you down . . . Even (Indigenous) people that don't have the traditional

ties to the area . . . it still brings them down. It is pathetic just to drive along, they cannot stand that drive. We take different routes to travel down south just so we don't have to see all the holes, all the dirt . . . because it makes you wild. (Indigenous interviewee) (Albrecht et al., 2007, p. 97).

Despite the recent massive fall in the price of coal and strengthening calls to ban new coal mines due to their role in exacerbating human-caused climate change, industry and the Federal Government are set to expand coal mining in the Hunter Valley and beyond. For instance, earlier this year the New South Wales Planning Commission gave approval to Rio Tinto to extend their massive Mount Thorley-Warkworth open pit coal mine, placing at risk the small town of Bulga. Further afield, the Federal Government has also recently re-approved Adani's controversial Carmichael coal mine (a mine that will produce enough coal that, when burned, will have the same climate footprint as Malaysia) and has given the go ahead for Shenua to develop the Watermark coal mine in the Liverpool Plains of NSW, a region that contains some of the richest agricultural soils in Australia. These recent approvals clearly demonstrate the extent to which government interests have become aligned with those of the powerful coal lobby. And while multiple conflicts are emerging between affected residents, concerned public, State and Federal Governments, and the coal industry itself, we are only beginning to grasp the emotional and psychological battlefronts upon which these conflicts will play out.

We must also remember that these mining operations have the potential to negatively impact community members for generations to come. Although new mining developments receive much attention and fanfare in the Australian media and amongst those in the conservative political ranks, very little attention is given to the



Image: B.Cerise - Lock the Gate Alliance

Image: Dean Sewell - Lock the Gate Alliance

fact that 75 percent of all mining ventures close prematurely or unexpectedly (Laurence, 2011). It is an indictment on State and Federal Governments that no co-ordinated regulatory framework exists for dealing with legacy mine land, as is the lack of acknowledgement given to the non-material and non-economic costs to individuals and communities from land left to sour after the mining industry has up-stumps and moved on.

There are opportunities for social scientists and

concerned health practitioners to further our understanding of the health impacts on residents – mental as well as physical – of living in legacy mine land. Indeed, such knowledge is needed if we are to appreciate the full extent of the legacy left to us and to future generations from Australia's mining industries. However, until such time mental health is seriously considered in the regulation of legacy mine sites, the scars enacted upon place will find reflection in the solastalgia felt by affected community members.

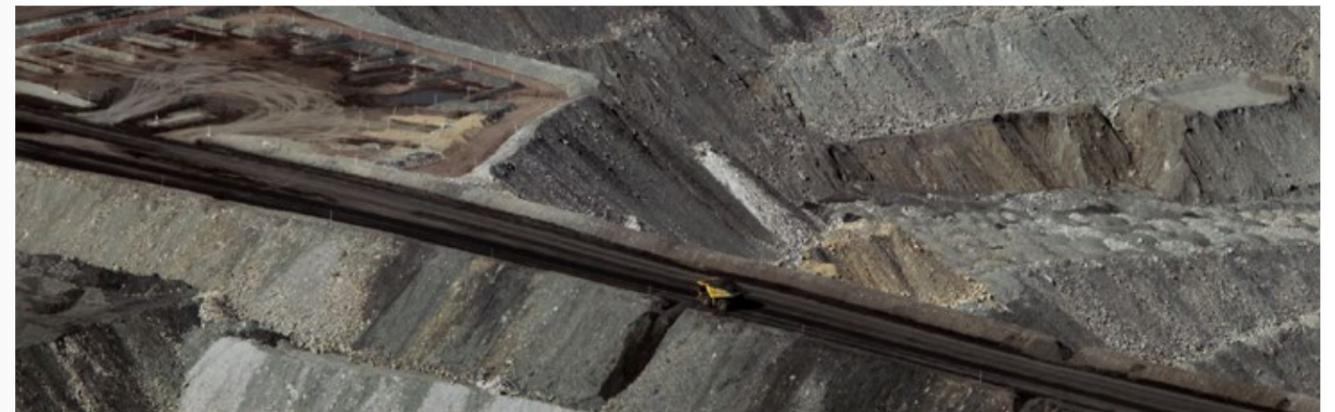


Image: Dean Sewell - Lock the Gate Alliance

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Image: Monica Napper

POISON OR POVERTY? GLENCORE'S BLACKMAIL OF BORROLOOLA

Lauren Mellor - Environment Centre NT

Panic has set in for the global resource sector with a sharp commodities slump bringing some of the world's biggest mining companies to the brink of financial collapse.

In Australia, Glencore, one of the world's largest and fastest growing diversified commodity traders, has been hit hardest of all. While the company is racing to assure investors they can ride out the ructions in global commodity markets, behind the scenes the unsustainable growth scenario Glencore relied on to reach the top of the resource heap means it is now skating close to bankruptcy.

Four years ago Glencore was valued at US\$60 billion, but its capitalization now stands at around \$16 billion. It's a disastrous position for a mining giant carrying debts in excess of \$50 billion, with markets predicting a credit rating

downgrade to "junk status" and the likelihood of default sometime in the next few years.

State and Territory government's failure to insist Glencore operate in compliance with tax, mining and environmental protection laws may mean those communities on the frontlines of the company's extraction activity will be left counting the costs of a resource boom gone bust.

Given that the company employs thousands of people and has prospective mine rehabilitation costs running into the billions, Glencore's situation should be a matter of concern for every Australian. Companies like Glencore have been allowed to rapidly raise private capital by socializing their financial and environmental costs, and even abetted by governments eager to share in the short term profits while turning a blind eye to the mounting long-term impacts.

MCARTHUR RIVER MINE, AN UNFOLDING ECOLOGICAL DISASTER

Glencore's McArthur River Mine, located in the Northern Territory, Australia, is the largest open-cut lead and zinc mine in the world. From its earliest days, the mine has been the beneficiary of extraordinary government largesse, granted at the expense of the region's Gurdanji, Garawa, Yanyuwa, and Mara peoples. The remote pastoral and fishing community of Borroloola, home to the four clan groups, is situated just 50 kilometers downstream from the mine.

With NT government support, in 1979 the lands on which the mine operates were exempted from the Aboriginal Land Rights Act (NT), preventing the site's Aboriginal custodians from vetoing invasive mining or making a legal bid from its return.

In 2007, corporate lobbying efforts to convert the mine from an underground operation to an open-pit one succeeded against good science, community opposition, and a successful Supreme Court challenge by local clan groups. The expansion required the diversion of a 5.5 kilometer stretch of the McArthur River, resulting in a wave of local Aboriginal resistance and site blockades to stop the destruction of the river.

At the time it was revealed that despite a decade of operation the mine had never paid a single royalty dollar to the NT Government. Regardless of the absence of a strong environmental or economic case, the Martin Labor government barreled forward with the project by overturning the Supreme Court finding in favour of the community in a midnight sitting of Parliament,

quelling protests with force, and retroactively applying laws to prevent further court challenges to its operation.

In 2013 the Northern Territory government again ignored advice from its own regulatory departments about a management culture at McArthur River Mine of recurrent operational breaches and the risk of a tailings dam failure resulting in major heavy metal contamination of local waterways. Its Phase 3 expansion plan, which would more than double its mineable reserves from 53 million tonnes (Mt) to 115 Mt, and extend the life of the mine from 2027 to 2036, was approved with minimal conditions.

But before work could get underway McArthur River Mine hit the headlines again in 2014 when a sulfur dioxide smoke plume emanating from the mine's massive waste dump became public after rock began spontaneously combusting at the site. The toxic fires burned for over twelve months, with smoke plumes visible more than 30 km downwind of the site. The government predictably attempted to play down the scale of the problem, with the company permitted to cover the reactive rock with a thin layer of clay capping, later found to fail compaction tests, and operations at the site continued as normal.

Fast forward a year and further evidence has emerged of McArthur River Mine's deep structural, environmental and economic problems. A government appointed Independent Monitor confirmed heavy metal contamination of local waterways and fish was caused by mine-derived lead downstream of the mine's leaking tailings dam. Residents were left unable to rely on their regular diet of fish from the river due to



Images: Monica Napper



Images: Monica Napper

lead levels found to exceed safe eating standards, and hundreds of cattle with access to poisoned waterways were culled.

The mine's Independent Monitor warned that the huge volumes of strongly pyritic waste rock, exposed to Wet season rains and heat, risked becoming a sulphuric acid discharge into surrounding waterways. If left untreated the mine's acid and metalliferous drainage problems would have "catastrophic" consequences for the health of downstream ecosystems involving 'severe and regional scale environmental impact, local species destruction, extensive clean up involving external resources and lasting for a geological long term of more than 100 years.'

Freedom of Information documents obtained on behalf of local clan groups in June 2015 showed that the NT Government ignored advice on the mounting environmental liability and public health risks posed by the mine's operations and took no action to prosecute Glencore for its numerous operational breaches.

During a recent round of emergency rehabilitation negotiations the NT Chief Minister appeared to be offering Glencore concessions due to the 'structural difficulties' the miner faced, citing the jobs vs environment mantra that had for a decade prior fuelled the mine's unsustainable expansion.

**"WE WON'T BE SACRIFICED."
ABORIGINAL CUSTODIANS RECLAIM MINING
IMPACTED LANDS**

In the face of company and government regulatory intransigence Aboriginal custodians are taking back responsibility for environmental and cultural management within and downstream of

the mineral lease area. As the campaign intensifies the company is threatening to withdraw vital services from the community such as health and education programs which, in the absence of secure public funding for many remote Aboriginal communities, have been made reliant on coercive mining sponsorship funds.

Gadrian Hoosan, a young Garawa man, has led protest actions to reclaim and occupy damaged sacred sites inside the mineral lease, and to highlight what he sees as NT government complicity in allowing Glencore and other big miners to treat their lands as sacrifice zones for the pursuit of profit. Hoosan said: *"Nearly 100 years ago our old people fought miners with spears for encroaching on our land to open Redbank copper mine. Mining went ahead, and now that river runs dead for 40 km across the NT border and into Queensland. Today the young people who have witnessed that damage are fighting in the same tradition, but today we fight alongside each other - black and white and all clans for our future. The government doesn't respect us, they just try to divide us to get the yes they need for mining to go ahead... The Northern Territory government needs to stop selling our land off from under our feet. Get out and listen to the people living next to and downstream of the mining pits."*

Under pressure and faced with mounting threats to disrupt mining activity, an agreement between the NT government and Glencore was reached to increase the rehabilitation bond. But laws designed to protect corporates from financial scrutiny allow rehabilitation liabilities to be hidden in commercial-in-confidence clauses, with the public left exposed to multi-billion dollar debts and unable to determine if mining meets



Image: Monica Napper

Image: Jason De Santolo

the test of a cost/benefit analysis. As Glencore's crisis unfolds, the company will move to cut costs and shed jobs. For communities like Borroloola, which have born all of the costs and seen little of the benefits of the resource boom, it is vital to ensure that the dispossession caused by mining is not repeated in the coming crash.

Building strategic partnerships with labour unions and environmentalists, local clan groups are fighting to guarantee that every single local job is retained—not for mining, but for the urgent task of site clean up, and to bring new opportunities to the community for well-paid, skilled livelihoods in a clean environment that can redress decades of government neglect in housing and other critical areas.

Environmental justice campaigns like the McArthur River mine battle are propelled by a growing recognition that the social conditions of our communities are inextricably tied to the health of the natural environment. Old dynamics of resource extraction and accumulation based on dispossession, where resources are appropriated and privatized alongside the exploitation of local communities, are now being challenged on an unprecedented scale.

The McArthur River Mine case highlights the failure of the economic development paradigm in which State and Territory governments' insist that remote Indigenous development must be based on natural resource extraction or communities face the threat of service deprivation or closure.

Instead of looking to bail out resource giants who have hit the inevitable limits to growth, we should be embracing the bold new global movement emerging from Indigenous communities like Borroloola to challenge the economic logic of extraction. It's just such a movement that can help us re-learn the true value of clean and healthy land, water, and communities.

Hoosan concludes: *"This government has plans for more mining on our land but they are living in the past, where they think they can make decisions over our land that we don't want. We're not going to be sacrificed. We want a better future. We don't want no more mining on our land."*

Image: Monica Napper





OUTSIDE BOUNDARIES: CONSERVATION AND MINING IN PNG

Dr Simon Judd



Images: Jessie Boylan

As a signatory to the 1992 United Nations Convention on Biological Diversity (CBD), Papua New Guinea (PNG) is committed to the conservation and sustainable use of biodiversity. This commitment comes hand in hand with a desire to develop globally significant mineral assets and for the benefits that they may bring to improve the standard of living for local communities. The implementation of the CBD recognises the importance of an “Ecosystem Approach” and encompasses the goal of ‘balancing biodiversity’ conservation with other needs of society (Faith et al. 2001). Consequently, the demands of conservation in PNG are complex and the task of delivering clear and quantifiable conservation gains enormous. Success in conservation is often measured by the area of land reserved for conservation. This article reflects on the process of delineating spatial boundaries that in PNG whether they are for conservation or economic outcomes.

CONSERVING THE ISLAND OF NEW GUINEA

The heart of the PNG nation comprises half the island of New Guinea. This island is home to about 6

per cent of the world’s known land species, around half of which are endemic. At the same time, about nine million people depend on the forests and fresh waters of the island of New Guinea for their subsistence, livelihoods and cultural heritage (WWF, 2011). There is no question that PNG is a global priority for biodiversity conservation. About 4.5 per cent of the world’s mammal species are found in New Guinea: a remarkable nine times the average global density of mammal species (Melick et al. 2012). New Guinea also supports the third largest expanse, and perhaps the most resilient, intact tropical forest in the world. Coastal and marine resources are also highly significant to local communities. PNG sits within the Coral Triangle, a region of exceptional marine biodiversity, with extensive reef and marine ecosystems.

Given PNG’s remarkable biodiversity, and because it is the foundation of the livelihoods, cultures and the wellbeing of local populations, it is clear that retaining all or key components of it, is critical. Traditional approaches to conserving biodiversity, and those adopted by PNG and other developing

countries, typically draw upon Western approaches to science and planning. These approaches are often problematic when applied to different ecological, economic and cultural contexts. Indeed, despite the culture, climate, economies and the nature of the biodiversity of developing countries being substantially different to that of developed nations, Western-style ‘protected areas’ and ‘quantitative assessment of biodiversity integrity’ continue to form the basis of CBD commitments of developing nations. While the need for conservation is relatively easy to establish and conservation plans can be drawn up at will, the reality is that PNG (and other Pacific countries) simply lack the resources and the capacity to properly delineate, let alone deliver, most of their CBD goals.

Conservation planning relies on spatial biological data. The question of what species occur where is central to the whole process. The key question is whether the available ecological data are of sufficient quality and robustness to be able to plot meaningful boundaries for proposed conservation areas. Glaring omissions and

the lack of comprehensive data underpinning conservation planning undermine the value of spatial modelling. This is illustrated by White et al. (2015, p.2) who stated that: *“The lack of even the most fundamental biodiversity information hinders a proper assessment of the impacts of the various pressures exerted on sharks in the region...”* The fact that two species of threatened river sharks, large apex predators, have thus far gone unnoticed in the rivers of the Western Province of PNG highlights how poorly-surveyed some of the regions of PNG are and how difficult it is to create meaningful boundaries between ‘conservation’ and ‘non-conservation’ areas.

BOUNDARIES FOR CONSERVATION AND MINING

Mining and conservation, often at odds with each other, share the common process of creating spatial boundaries. These are essential for obtaining exploration and mining leases, building access roads and negotiating benefits. Our ideas of conservation are often linked to the recognition of clear boundaries; think of famous national parks



or no-take zones in marine areas. Boundaries are not a new phenomenon to PNG. Boundary making has been a key social interaction between PNG's hundreds of diverse communities for thousands of years. These boundaries are often very fluid in nature, changing frequently in both space and time. In contrast, Western boundaries are generally fixed, more exclusive and are a prerequisite to, and a guide for, how we approach both conservation and mining. These exclusive boundaries then dictate the approach of mining companies and conservation practitioners. So, by requiring sharp delineation, or by defining success by the delineation of boundaries such as those shown to project financiers, we reinforce exclusivity and distort existing social and kinship boundaries.

Given that both mining and conservation work on the principles of land-use boundaries, it is inevitable that a tension arises when boundaries don't coincide perfectly. This tension, a topic for many years in PNG, was recently examined by Halvaksz (2013). Halvaksz described traditional boundary making as 'novel' describing, amongst other factors, an open-endedness with multi-layers and meanings. He contrasts these with 'epic' boundaries that are set in stone and give primacy to the free market, for the purpose of encouraging economically 'profitable' use. Epic boundaries of this type were used to establish the Kuper Valley Conservation Project on Biangi land on the Upper Bolulo River in 1989. The project was designed to deliver conservation gains, economic opportunity and improve standard of living. Ultimately, the community return from the project was insufficient and the project declined overtime. Part of the decline was due to the promise, or at least an idealised version of it, of what mining at Hidden Valley would provide. So in time, driven by the imperative of global capital, the Western construct of conservation reserve was replaced with another based on exploitation and the epic mining boundaries replaced epic conservation boundaries.

PERPETUATING BOUNDARIES

The creation of epic boundaries is central to the conservation movement and the realisation of these boundaries on the ground is seen a measure of success. In the first instance, the creation of boundaries to define regions or hotspots where conservation resources are needed is used to argue the case for conservation. Environmental Non Government Organisations (NGOs), are quick to highlight the biodiversity value of PNG. Nine of the World Wide Fund for Nature's (WWF) Global 200 Ecoregions are in PNG, as well as six Alliance for Zero Extinction sites (Melick, et al 2012). The entire country falls within two biodiversity hotspots (New Guinea and the East Melanesian Islands), and is classified as a 'genuine' wilderness by Conservation International. The work of many NGO's is undoubtedly important and despite the methodological criticisms outlined here, drives the conservation agenda and provides critical resources for conservation.

Among the resources NGOs provide are tools or methodologies for delineating areas of principle conservation importance (see for example Faith et al. 2001; Green et al. 2009). These are often based on conservation techniques developed and promoted by individual organisations and are usually tied to funding. Environmental NGOs have been the foremost promoters of protected areas in PNG, despite the fact that their own assessments have long shown protected areas in this region to be ineffective and undermined by systematic governance and capacity issues (Melick et al 2012). Given these findings, it is hard to escape the conclusion that a major reason for the on-going promotion of protected areas by NGOs is the need to access donor funding, rather than the development of sustainable conservation approaches. Currently, all major environmental donors refer to protected area coverage as a key conservation indicator often linked to CBD goals.

OUTSIDE BOUNDARIES

In conclusion it is clear that the very boundaries required by mining companies and conservation NGOs are at odds with customary boundary making and a community's sense of place. In such cases, externally imposed objectives, even when valuable in conservation or economic terms, conflict with local customs and fluid subsistence lifestyles. Ultimately, effective and sustainable

conservation will only be achieved by embracing traditional knowledge, with the innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity. Similarly, innovative mining practices able to respect and accommodate 'novel' boundaries alongside extraction could be the key to reducing poor outcomes and extractive based conflict.

Image: Jessie Boylan



Image: Damien Baker - Lake Kutubu



Image: Jessie Boylan

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AUSTRALIAN URANIUM MINING IN AFRICA – OUR RESPONSIBILITY?

Opinion: Anica Niepraschk, Friends of the Earth

Images: Jessie Boylan

MINING IN AFRICA

Poor working conditions, a high exposure to radiation, deaths and injuries to workers, road accidents, toxic spills and the discharge of radioactive tailings into a local river are just some of the reported incidents at Malawi's Kayelekera Uranium Mine (KUM). The mine, located in the north of the country and close to the Tanzanian border, started operation in 2009 and is the country's first and only uranium mine. Paladin Africa (PAL), a 100% subsidiary of [Paladin Energy](#) (PDN), a junior Australian mining company based in Perth, Western Australia operates KUM.

Since February 2014, KUM has been placed on 'Care and Maintenance', meaning that mining operations have stopped but the site is maintained for a possible restart. Quarterly activities at the moment include the treatment (without being clear on what this involves) and discharge of water from the site to avoid further spills when heavy rainfall can be expected during the rainy season. The decision to place the mine on care and maintenance has been made due to continuing low uranium prices and high production costs. According to Paladin, this has made operations

of the mine uneconomic and cost the company approximately AU\$25 million a year.

Paladin is the first of a large number of junior Australian exploration and mining companies trying to tap into Africa's vast uranium deposits. The reasons behind their efforts are not only the resources, but also the less onerous legislative frameworks and environmental and health regulations. Indeed, many African countries are yet to implement the appropriate mining and radiation legislation to regulate and minimise the specific risks of uranium mining. Furthermore, tax and royalty regulations, as well as other legislative features that should ensure the host country benefits from the mining operations, can also be inadequate.

Junior companies, which lack the operational experience or financial capacity to comply with stricter regulations in the experienced uranium mining environments of Europe, North America and Australia, have regarded this lack of regulation as an opportunity. This attitude is well illustrated by Paladin's recently departed CEO and ED John Borshoff, who in 2006 stated that: *"The Australians and the Canadians have become over-sophisticated in their environmental and social concerns over uranium mining, the future is in Africa."* (JSCFA, 2010). This attitude effectively transfers risk to the local people and environment in countries that already suffer from low standards of living, poor health and safety standards and a poor economic climate.

In the case of Kayelekera, civil society has been enormously concerned over the impacts of the mine and has attempted to hold Paladin accountable. Access to the site and key monitoring documents like environmental reports and radiation doses for workers and the public were and are requested, but with the exemption of one granted site visit, have continuously been denied or subject to avoidance strategies. Paladin however, continuously claims to comply with international reporting, health and safety, as well as environmental standards.

While Paladin talked up stewardship and sustainability at the Australian Uranium



A woman collecting water from the Sere River, Kayelekera

Conference in Perth earlier this year, it is worth taking a closer look at the reality of their operations. In a 2012 monitoring trip by [CRIIRAD \(Commission for Independent Research and Information about Radiation\)](#), a French NGO who specialises in independent radiation monitoring, found that uranium levels in the Sere River downstream from the mine (of 0.042 mg/l) exceeded the World Health Organisation (WHO) guidelines of 0.030mg/l and were 194 times higher than they were upstream from the mine.

This is compounded by a lack of publicly available information on how radiation levels are monitored on and off-site, or how radiation is measured for workers, which is against both official company policy and international labour laws. Further to this, there is no indication on what treatment or compensation is available to workers who suffer from long-term health impacts as a result of working at the mine.

CIIRAD also noted that the tailings dam is located on a site with significant geological and hydrogeological vulnerabilities, such as seismic activity, fault lines, high rainfall and strong erosion and is not subject to proper containment. Furthermore, there is no clear plan available of how run-off water will be

handled after mine closure.

Paladin's operations also failed to contribute significantly to Malawi's development, with the World Bank ranking Malawi the world's poorest country according to its GDP per capita. According to a recent report by [ActionAid](#), the country loses out on US\$43 million of revenue from the KUM operations due to a number of royalties and tax reductions stipulated in the mining agreement between Paladin and the Government of Malawi.

Another report by the African Forum and Network on Debt and Development (AFRODAD, 2013) found Paladin has also been avoiding outstanding payments through transfer pricing to the Netherlands, where it has a holding company without staff. This allowed the company to make tax-free payments, further stripping Malawi of any economic benefit derived from the mine.

AUSTRALIAN'S MINING OVERSEAS AND THE EITI

The environmental and health track records of mining companies like Paladin have also been heavily criticised in a project by the [International Consortium of Investigative Journalists \(ICIJ\)](#). The project, Fatal Attraction: Australia's Damaging Push into Africa, stated that mining practices are



Gertrude Mwalwenje in her kitchen, Kayelekera



Neville Huxham, Former Country Manager for Paladin (Africa) Ltd., Lilongwe



Entrance to Paladin Energy's Kayelekera uranium mine



Bricks being manufactured for the primary school, Kayelekera



View of Lake Malawi, near Karonga

being used Africa that would be impermissible in Australia. Furthermore, in many African countries, the conditions to hold companies and governments accountable are even less favourable than in Australia. Where a culture of under-performance, corner cutting and secrecy bring dispossession and contamination rather than prosperity

In 2011, the results of a [Senate Inquiry into Australia's relationship with the countries of Africa](#) was published and mining companies' operations in Africa were said to have a good record in establishing policies on the protection of human rights and the environment. Unfortunately their implementation was rare, so was corporate and social accountability. The report found that this is a particular challenge with junior companies, where there is a lack of focus on sustainability.

The Inquiry made the following recommendations: The Government should undertake steps for Australia to become an [Extractive Industries Transparency Initiative \(EITI\)](#) compliant country and to continue to promote EITI principles and other corporate social responsibility instruments in the Australian mining sector. The EITI is a coalition of governments, companies and civil society groups, investors and international organisations, which has developed a global standard that promotes revenue transparency on a country level. It aims to strengthen governance by improving transparency and accountability over payments and revenues in the extractive industries sector.

If Australia became EITI compliant, it would set a good example for other countries to follow, as well as build trust in Australia's exploration and mining operations overseas. Although there is broad

support for developing countries joining EITI, few industrialised countries have. In 2011, under the Rudd government, Australia stated that it would implement an EITI pilot, which was completed last year. A multi-stakeholder group analysed the report and found that moving to implementation of EITI candidature would be appropriate. The government is currently considering the result.

It is clear that to ensure local benefits from mining operations, the frameworks to negotiate improved benefits, regulation, legislation and the mechanisms for local oversight and regulatory enforcement, have to be developed and implemented in the respective host countries. This would include modernising mining and revenue laws, the administration of land title and mining registries and the creation of publicly available databases.

MINING URANIUM

Unfortunately the case of Paladin is not an isolated example and leaves us with questions about the conduct and future impacts of the extractive industries. Time and time again problems are identified, not by governments or regulators, but by workers and civil society. This will not change, even if Australia does become EITI compliant, but being compliant would help facilitate such engagement and thereby pave the way to improved accountability and transparency.

Uranium mining is an extractive industry with very unique and dangerous characteristics and should therefore be subject to the highest scrutiny. How long can uranium mining continue and how long will the industry be able to just walk away from its own deadly legacy? Can Australian companies be held accountable for their operations and impacts

overseas? Surely the answer lies partly in greater transparency and higher operational standards, at home and abroad. Australia is in a unique position to be a leader when it comes to mining. But can we rise to the challenge?

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Villagers collecting water from a bore hole, Kayelekera



A newly renovated classroom, Kayelekera primary school

AFRODAT (2013) The revenue costs and benefits of foreign direct investment in the extractive industry in Malawi. The case of Kayelekera uranium mine, Harare

[Joint Standing Committee on Foreign Affairs, Defence and Trade, \(2010\): Australia's relationship with the countries of Africa; 06/05/2010](#)



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DESPERATELY SEEKING LEGITIMACY: REDUCING THE SOCIAL IMPACTS OF EXTRACTIVES IN PNG

Charles Roche

The people of Papua New Guinea have a complex and varied relationship with the predominantly transnational extractive industry in PNG. At a national scale, the industry is as famous for its highs, with the wealth generated by extractives evident in Port Moresby, and for its lows, evidenced by mining related disasters at Panguna and Ok Tedi to name just two. At a more local scale, extractives bring positives in the form of benefits, opportunities and infrastructure balanced against the negatives of environmental harm, social and cultural fragmentation, entrenched gender discrimination and loss of agency. While this tale of impact and benefit at local and national scales raises many questions, this article, responding to a recent book chapter, responds to just one - how well do we monitor, evaluate and ameliorate the impacts from mining?

This is not a new question. Twenty years ago a National Resources Institute (1996) report into the social impacts of mining, based on fieldwork at Misima, Porgera, Ok Tedi and Lihir, found a number of common impacts. These included: (1) resource scarcity and over population; (2) influx of outsiders; (3) breakdown of law and order; (4)

unequal distribution of income; (5) subordination of women; (6) power struggles with community; and (7) project dependency syndrome. Though not wholly or solely attributed to the extractive industries, this early identification certainly demonstrates a long-term awareness of and acknowledged responsibility to identify, measure and overcome these impacts. Nor is it a stale question, with the UNDP (2014) noting the 'historically under-resourced' Department of Conservation, which left environmental governance in the hands of mining companies. The assessment of monitoring of social impacts is even worse. For example, the UNDP (2014) reports that: *"...SIAs and subsequent social monitoring programmes are typically the poor cousins of the EIA process, and are rarely able to deal with social and political complexity associated with the mines."* (p.66) These failings leaves PNG with only what can only be described as poor governance of environmental and social impacts especially in relation to reporting and data transparency.

This awareness of the importance of responding to social impacts was reinforced by the Asia/Pacific workshop on Managing the Social Impacts

of Mining, also in 1996. There, Cook-Clarke (1996) outlined the centrality and importance of community information (data), which would identify and track positive and negative impacts from mining related socio-cultural issues. Cook-Clarke identified three distinct uses of the data; (1) impacts to be identified, defined and assessed, (2) development of mitigation plans, and (3) to inform negotiations between parties. Though in asking who acquires the data - a question which could also be extended to who owns, holds and uses the data - we need to understand that there are different perspectives and reasons for acquiring community data, whether it be for government, community or company purposes. What was already understood in 1996 was that the data collection needed to be transparent and allow for the substantive input of all parties (I would emphasise communities). This would allow the information to be used by communities to make informed decisions and maintain control over development decisions affecting, more than any other group, their own future.

The same seminar also identified a number of additional and specific impacts from the mine on



Misima, which shares a matrilineal culture with Bougainville and Lihir. The impacts included: the disruption of the environment, social organisation and cultural values, unresolved issues of land access, and a loss of control by local people over major decisions (Clark & Cook-Clark, 1996). The last of these - 'loss of control over your own land and future' - is a direct challenge to and erosion of self-determination; a right that should be defended and upheld by governments and respected by transnational mining companies. At best, in 1996, this could be considered paternalistic colonialism. In 2015, however, such impacts could be more accurately seen and experienced as corporate imperialism. In sum, the identified social impacts represent a potential for significant, massive and long-lasting disruption to local communities affected by the extractive industries. This represents a significant and severe, if not catastrophic risk that should inform decisions and be featured in any environmental and social management or monitoring system.

These reflections and reminders of issues raised twenty years ago set the scene for an examination of Pacheco Cueva's (2016) book chapter entitled *From transnational trends to local practices: Monitoring social impacts in a Papua New Guinea mining community*. While accompanied by a range of very interesting chapters focusing on the impacts of transnational capital, it is the only mining focused article in the aptly titled *Globalisation and Transnational Capitalism in Asia and Oceania* (Sprague, 2016). The article explores the impact of transnationalism on social monitoring through a Lihir Island case study, identifying many related issues to those outlined above. Pacheco Cueva starts by identifying three main functions that socio-economic monitoring fulfils for mining compliance; (1) comply with legislation, (2) to demonstrate the project is globally competitive, and (3) to legitimise the existence of the mining project. Limited by size and concerned about



A poster showing the photos of the Village Information Officers described in the article



Local interviewers doing survey work for the Newcrest's Assurance and Impact Monitoring unit

the applicability of competitiveness as a positive driver of better socio-economic monitoring in PNG, the following discussion will focus on two of these, legislative requirements and legitimacy.

In a short history of mining in PNG, Pacheco Cueva reminds us of some of the past crimes, excesses and impacts of the mining industry, and the disjunct between the potential benefits from extractive industries and PNG's Human Development Index ranking of 156. He then outlines the regulatory requirements under the Mining Act which requires a 'development forum' to be convened to address land holder issues, including a system of monitoring and evaluating social impacts, as well as the requirement by DEC for proponents to produce a social impact statement (SIA). Clearly the structure is there, though its implementation is flawed, with Pacheco Cueva describing a situation where **"(d)espite the development of a more complex legislative framework for mining and increased knowledge about the social impacts by the industry, many communities continue to be adversely affected by resource extraction in PNG"** (p.231). This is followed by a discussion of the effect of global trends, which depicts PNG with a neo-liberalised regulatory regime consisting of uneven development and few local linkages between the extractive industry and local communities, thus rendering PNG politics and economy dominated by transnational companies.

From this base, Pacheco Cueva brings a different perspective to the examination of the social impacts from the extractive industry in PNG, grounded in his work on Lihir Island from 2010-12. During that time Pacheco Cueva was employed by the Centre for Social Responsibility in Mining (CSR/M) at the University of Queensland (UQ) which had been providing research support for Newcrest's impact monitoring program since 2007. Pacheco Cueva worked with the company's Assurance and Impact Monitoring (AIM) section to undertake an economic study which analysed the flow of funds from Newcrest to the local economy. This research also involved conducting



A village in Lihir (Kunaie)

interviews to gather data on employment, household consumption, expenditure patterns, entrepreneurial behaviours and informal economic activities. The focus of Pacheco Cueva's article is not on the data collected, however, but on the collection, use and distribution of the data.

Having already told us that Newcrest **"... despite the fact that it possesses, arguably, the largest repository of local socio-economic information about the community in which it operates, makes very selective choices about the type of information it releases to the public"** (p.234), Pacheco Cueva then sets out the numerous issues that undermine the purpose and intent of social impact monitoring and management. Though too many to discuss here, some of the key issues identified include: (1) Newcrest's focus on reducing risk and tensions while securing legitimacy for the project – an approach echoed by Australia's Export Finance Insurance Corporation (EFIC) (2) the defacto status of Newcrest's AIM section as a statistical agency; (3) the lack of access to and transparency of the data; (4) comparative resources asymmetry, with the community not having the resources to analyse or maintain data leading to further information asymmetries; and (5) the weak government presence on Lihir.

Pacheco Cueva is not alone in these observations. Asymmetries in power, information and resources underlie almost every mining venture. This leaves experienced capital-intensive and politically influential enterprises interacting and negotiating with inexperienced, predominantly subsistence based communities often alienated from the regional or national polity. In short, transnational extractives operate in a state of inequity that produces ongoing tensions and sub-standard outcomes that cannot be defended from either an ethical or efficiency perspective. Nevertheless, this is the basis for most, if not all multinational operations in PNG, including Lihir, despite the communities' ability to challenge and even temporarily shutdown mining operations.



The main street in the town of Londolovi

Of most relevance to the discussion above and Newcrest's ongoing operations at Lihir and in Morobe, however, are those relating to control over data collection, storage, analysis, use and distribution. This is a situation where **"... as a result of different roles between the company as data manager and other stakeholders as data users, the data generated by the company is much more in line with the company's conception of development in Lihir than that of landowners' and/or the government, even if the data fulfils the IBP agreement"** [Integrated Benefits Package – the mandated company-community agreement]. Pacheco Cueva describes the Lihir data as biased, which he regards as common practice in the PNG mining industry and beyond. Returning to Cook-Clarke's three uses of social data, helps perpetuate asymmetries of power and knowledge and undermines community control and self-determination.

Perhaps of equal interest to Pacheco Cueva, is the impact this corporate dominated culture has on the future of Lihir. Certainly the mining operations have contributed to a limited and declining state presence on Lihir, leaving communities more distant from the State than ever. This encourages the increasingly capitalist based Lihir communities to look to the company for solutions, effectively making Newcrest a surrogate State. A situation which rather than delivering power to the



The main shopping area in the town of Londolovi

company generates further and ongoing social claims against them, creating the tension and risks they sought to avoid by tight control of social monitoring and management.

Finally, Pacheco Cueva describes a shift in corporate social monitoring objectives overtime, from regulatory compliance to risk reduction and the seeking of legitimacy. This evolution, however, doesn't change the constant difference in motivation and development aims between communities, State and company. These differences become critical to the outcomes on Lihir and elsewhere in the extractive industry, where the obsession with corporate control over data undermines the very benefits sought through legislative requirements and even the corporate quest for legitimacy. This presents a depressing picture of the approach to monitoring of impacts on Lihir; made all the worse when compared with Cook-Clarke's observations in 1996. If this is indicative of a transnational trend as Pacheco Cueva suggests, then it seems the industry needs a new approach, with motives that align with community rather than corporate interests. Only by prioritising local community interests in the social monitoring process will Newcrest and other companies secure the legitimacy they require to operate.

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FILM CORNER

Sick Country: McArthur River NT



 [Click image to play online](#)

Glencore's open pit lead and zinc mine in the bed of the McArthur River is 50km south of the town of Borroloola. The river, controversially diverted around the expanding mine pit, is the lifeblood of the Gulf of Carpentaria. Residents, tourists and recreational fishers eat the river's abundant fish, and local pastoral stations and communities rely on its freshwater.

Last year the mine's waste rock dump caught fire due to reactive chemistry. The mine's Independent Monitor warned, if not fixed, major acid metalliferous drainage problems would leach sulphuric acid into surrounding waterways. The mine's leaking tailings dam was found to be at risk of collapse and in 2014 high levels of lead were found in local fish stocks and 400 cattle had to be destroyed after the Department of Mines and Energy found cattle contaminated with lead after accessing a contaminated creek on the McArthur River Mine site.

Freedom of Information requests by the McArthur River's Aboriginal Traditional Owners have revealed internal NT Government memos contained warnings that Glencore's actions would have 'catastrophic consequences' for downstream environment and communities. These warnings have been ignored by the NT Government.

McArthur River region Traditional Owners and the local community are calling on the NT Government to ensure Glencore pays for the comprehensive clean up and transition to a post-mining phase of operations to protect the river and local communities from the company's reckless actions. Stand with us.



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We hope you enjoyed the articles in the Mining Monitor. Together they illustrate the dramatic impact mining has on people and place and the importance of extractive industry-focused, justice-based research and advocacy.

Thanks to all those who support our work, whether it's a donation of time or money it all helps us help mining affected communities.

This is our last Mining Monitor for 2015, so on behalf of the MPI Team; merry Christmas and we hope to see you soon in 2016. If you can share a little Christmas spirit we could really use your support, so [signup](#) and become a monthly donor. Every little bit helps.

Thankyou from the MPI Board



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