



The cost of mining benefits: Localising the resource curse hypothesis

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ABSTRACT

Local resource curse problems epitomize the difficult interface dynamics confronting resource developers and host communities. These problems centre on the opportunity costs that local people encounter due to their proximity to resource development projects. Our fundamental objection is the working assumption – and in some cases the proposition – that people are getting something for nothing. In this paper we challenge two persistent ideas in the resource economics literature. First, that resource curse problems occur primarily, if not exclusively, at the national level, and second, that mining benefits are cost neutral to communities. We argue that pro-industry constructs such as ‘shared value’ and ‘shared benefit’ are detrimental to the study of local resource economies, and in particular, the examination of cost-benefit scenarios in resource enclaves. Our aim in this paper is to draw attention to local resource curse problems. These are effects that involve significant *opportunity costs* for local communities as a result of their direct participation or near proximity to large-scale resource projects.

1. Introduction

In this paper we challenge two persistent ideas in the resource economics literature. First, that resource curse problems occur primarily, if not exclusively, at the national level, and second, that mining benefits are cost neutral to communities. These ideas are detrimental to the study of local resource economies, and in particular, the examination of cost-benefit scenarios in resource enclaves. The orthodox resource curse hypothesis suggests that countries encounter long-range trade-offs by electing to extract natural resources (e.g. minerals, oil and gas) at the expense of other potentially more sustainable alternatives (e.g. manufacturing, agriculture, service industries). According to orthodox versions of this hypothesis, the curse forms as countries become dependent on resource revenues and the State’s ability to see beyond the resource economy diminishes. The curse manifests as nation states weaken their long-term prospects for a more evenly distributed pattern of economic growth by effectively locking themselves into a volatile, externally-driven global market based on finite resources.

While the evidence demonstrating the existence of resource curse problems is itself compelling, the arguments against are often fashioned around simple disbelief. Economists, like [Sachs and Warner \(2001, p. 832\)](#) have observed that “Many are surprised by the resource curse finding because it runs against the textbook story in history books or

common discussion of growth advantages.” At the heart of this surprise is the idea that goods, advantages, and indeed, benefits, come at some negative cost. Resource curse theorists typically see the bulk of the negative cost as opportunity forgone, where the fixation on mining or oil rents subdues the State’s entrepreneurial mindset and displaces other viable alternatives. In the main, the cost is recorded at the national scale, where non-extractive industries compete for regulatory advantage and absorb price-inefficiencies induced by the dominance of the resources sector ([van der Ploeg, 2010](#)).

Examining effects at a local scale is not part of the orthodox application of the resource curse hypothesis, although some exception exists ([Fleming et al., 2015](#); [Glaeser et al., 2015](#); [Allcott and Keniston, 2018](#)). We argue that a more inclusive approach to the political economy of resource development should allow for the local cost of participation in mining economies. Our contribution is to insist that the local cost of mining benefits should be better accounted for. Like other top-down models, the resource curse hypothesis works from the assumption that proximity to a natural resource endowment provides opportunities for local communities to harness the economic uplift generated out of mining activities. However, it is a mistake to assume, without evidence, that the communities that host large-scale extractive projects are automatically integrated into a development enclave as “beneficiaries” reaping economic opportunity ([Phelps et al., 2015](#)). The language of

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opportunity is typically packaged as a wholesale offering in terms of the completeness of its advantages. Employment, local procurement, bulk infrastructure, and improvements in local or regional centres of administration are proclaimed, *by industry*, as advantageous without regard to the local costs incurred to access these opportunities. Noting that populations residing in or near mining towns generally experience markedly higher than average rates of price inflation in basic markets, such as housing, services and consumables, we argue that it is therefore unreasonable to describe mining benefits, shared value or benefit sharing in cost free terms.

Our aim in this paper is to draw attention to local resource curse problems. These are effects that involve significant *opportunity costs* for local communities as a result of their direct participation or near proximity to large-scale resource projects. This approach emphasizes the micro-scale aspects of the resource curse debate as identified by [Gilberthorpe and Papyrakis \(2015\)](#). Our purpose is to bring into focus the net value of mining benefits to local people by understanding the costs they might incur. While mining projects can offer distinct economic advantages over other sectors, their ultimate value hinges on the types and quantum of cost incurred to access opportunities. The local cost of participating in mining economies is largely absent from the literature, including those disciplines represented in Gilberthorpe and Papyrakis' micro-meso-macro scale review. Given the convergence of international norms cautioning against the creation of human-scale trade-offs in extractive contexts ([Bainton et al., 2021](#)), there is a need to more comprehensively account for costs borne by people living in mining towns and regions – especially when they are cast as “mining beneficiaries”.

The order of the paper is as follows. We describe two local resource curse problems using contemporary case study examples from the literature that highlight their local effects. The first local resource curse problem is the creation of “offset” propositions in which harms are traded for benefits, the second is the “opportunity cost” problem, which is the unmeasured local cost of participation. The discussion section takes up the question of mining benefits as cost free, where local people are assumed to be getting something for nothing. We offer a critical view of the way developers, governments and researchers have failed to read for local effects. We conclude by discussing the implications for local populations and the overall viability of value trade-offs in high-impact, high-cost settings.

2. Trading off individual interests

Trade-offs are an essential feature of decision making. There is a consensus among mainstream international frameworks, such as the United Nations Guiding Principles on Business and Human Rights (2011) and [International Finance Corporation's Performance Standards \(2012\)](#), that corporations should not make trade-offs *on behalf of others*. This requirement is embodied by the universal right to self-determination, which also applies to rights-holding groups such as indigenous and tribal peoples ([UNDRIP, 2007](#)). The principle of self-determination follows the established Rawlsian principle that while individuals can make utilitarian judgements by summing across their own interests, there is a fundamental risk associated with these judgements being performed or imposed by third parties. The logic is to avoid individuals and rights-holding groups being exposed to harm based on unilateral decisions by powerful actors about what constitutes an acceptable trade-off and a good overall outcome.

Where trade-offs eventuate from adverse impacts or would induce harm, international norms advise companies to avoid adverse impacts in the first instance, and to remediate if the effort to avoid fails. John Ruggie, the intellectual architect of the UN Protect, Respect Remedy Framework states that “because the responsibility to respect is a baseline expectation, a company cannot compensate for human rights harm by performing good deeds elsewhere ([Ruggie, 2008](#))”. While Ruggie is explicit about the importance of businesses not unilaterally trading off

harms, it is frequently the case that harms and impacts are managed by companies, states and affected people through financial compensation. Other procedural and substantive measures are available to companies but in the end, the practice of determining what constitutes a fair or just outcome necessarily involves taking into account individual and group valuations about impacts and the resources needed to manage or remediate harms and impacts. Our issue is that state-based regulatory frameworks and public proclamations by industry offer little practical distinction between impact-benefit and harm-remediation transactions, aside from the temporal dimension, whereby people notionally have advanced notice of the pending negative consequence and can negotiate their terms prospectively.

This sits against industry's upside narrative on “value” – which is increasingly being decoupled from debates about the need to account for impacts caused by mining, or the need to account for value erosion. As pressure about poor performance mounts, companies appear more desperate to divert attention away from adverse impacts to protect their reputation. The discourse promoted by companies emphasizes the gross value of mining benefits without discounting for harms and adverse impacts.

Amongst the major companies, BHP for instance, recently established a new internal “Social Value” function.¹ BHP's rhetorical “turn to value” comes as the company's net development contribution is called into question – on several fronts. In 2016, BHP joint venture with Vale, Samarco, was responsible for a catastrophic tailings dam failure in Brazil, killing 19 people and causing widespread environmental destruction – the largest industrial disaster in the country's history ([Owen et al., 2019](#)). In 2020, BHP was implicated in broad-scale destruction of cultural heritage in the Pilbara region of Western Australia, in the absence of free prior and informed consent (FPIC) of traditional owners. Similar issues are present at Resolution Copper, where BHP is in a joint venture with Rio Tinto in the United States ([Kemp et al., 2020](#)). The company plans to mine under the sacred Chi'chil Bildagoteel (Oak Flat) site of Apache peoples without their consent. BHP's Social Value function, it seems, is seeking to actively counter-balance value erosion by other parts of the business.

As major industry players promulgate localised value creation narratives, we are concerned that localised downside effects are not accounted for – either in resource curse debates, or in the construction of value propositions. The “shared value” construct promulgated by [Porter and Kramer \(2011\)](#) suggests that with good planning and strategic thinking, companies – *any company* – can meet benefit expectations, by simply *doing business* (cf. [Beschorner, 2013](#)). International instruments, such as the UN Sustainable Development Goals (SDGs), have become an opportunity for business to articulate ambitious value propositions for development. These value propositions are being articulated in locations that are far removed from those business activities that have caused adverse impacts. At the same time, there is an increasing sensitivity to “SDG-washing” and corporate spin. In one of his final reports to the Human Rights Council, former UN Special Rapporteur Philip Alston on extreme poverty and human rights argued that governments and the private sector had “squandered” the past decade with “misplaced triumphalism” ([Centre for Human Rights and Global Justice, 2020](#)). The Special Rapporteur argued that too much had been invested in generating colourful SDG posters and reports that celebrate “the glass one-fifth full, rather than examining the four-fifths empty”. He called the ever-increasing reliance on the private sector to eradicate poverty a “blind alley” because “multi-national companies and investors draw guaranteed profits [...] while poor communities are neglected and under-served.” Alston's call aligns with our own – to insist on full cost accounting where deleterious effects are considered alongside contributions, and where contributions are not considered in isolation.

¹ For an overview of BHP's approach, see: <https://www.bhp.com/our-approach/social-value/>.

Stakeholders are increasingly wary of upside narratives that avoid discussing or addressing downside risks to communities. As a basic measure of human rights due diligence, industry claims about benefits – or “value” – must be situated alongside an understanding of the costs incurred by recipients in accessing these goods. This due diligence measure is essential to ensuring that the opportunity costs accepted by project-affected people do not expose them to harm in either the short or long term. Our interest in harm and value relates to the resource curse insofar that human rights impacts strike at those most critical capabilities relied upon by households and communities and the effects can diminish their ability to utilise opportunities, or to invest in alternatives either in the present, or into the future, when mining has ceased.

3. Costing benefits: differentiating shared and net values

Cost benefit analysis is a mainstream business methodology for evaluating the financial implications of a given project decision. According to Fletcher (2010), a cost-benefit analysis

“is used to determine if the benefits returned by some course of action outweigh the costs of investing in it. The calculation of cost-benefit ratios is fairly simple. It reduces all costs of an action to a single unit. It does the same for all benefits. The ratio of benefits to costs is then calculated. We can calculate a cost-benefit ratio using whatever metrics we choose, but the terms for input and output must be commensurable – both must be assessed using the same units of measure. Monetary units tend to be those most readily translated from whatever investment resources are required and whatever returns are produced.”

There are variations, but the essence is that the method provides the user with an account of the final positive or negative value after allowing for one-time and recurring costs to the business. The result is that the business can make an informed judgement about the benefit being sought and the costs required to obtain it. Mining companies routinely point out that whatever profit they make is the product of years of capital investment in exploration and construction, in addition to considerable ongoing costs associated with the maintenance of equipment and infrastructure, personnel, power and logistics. There is a clearly discernible cost to the profit that mining companies reap.

For this reason, when negotiating or sharing benefits with local stakeholders, companies make a judgement call about the costs invested and the value returned to them. A central component is the direct cost of making that benefit available to stakeholders, which should in turn benefit the business. The cost of building a hospital, for example, is weighed firstly against the value it will return to the company. What the conventional cost-benefit logic fails to do is consider a similar set of questions from the perspective of local people: what do local people have to invest to reap the mining-induced benefit? What are their upfront costs, operating costs, as well as any other costs? The important point is that these interactions are not cost free for local people. Similar omissions exist in related areas of work. For instance, cost of conflict research calculated cost to companies, but not to communities. Franks et al. (2014), for instance, offered a preliminary insight into what cost a company might be exposed to in the event of company-community conflict. The research did not calculate costs to community; that is, the time, resources, risk and opportunity costs when communities mobilise to oppose a mining project.

We maintain that cost-benefit analyses conducted by companies are not other-regarding and occur before exploring opportunity costs. For instance, would the company have been better off using the money it spent on the hospital to repair a small section of road, improve sanitation and other amenity, fulfil an outstanding resettlement obligation, increase the bonuses of its senior executive, or provide dividends to its shareholders? For each benefit a company may elect to bring to its local stakeholders, it will assess the direct cost of doing so, weigh up the

assumed return to itself, and then consider the value proposition of alternatives. As the provider of the benefit to the community, the cost to the company forms part of the analytic frame described above. The resources policy literature, however, is broadly silent about how a mining company would view the cost to the community, other than the long-running focus on market externalities, whereby such costs are transferred from the company into the host context through an abdication of responsibility on the company's part (Owen et al., 2020).

According to Pearce et al. (2006) the cost benefit logic should transcend an organisation's self-interest. They write that: benefits are defined as increases in human wellbeing (utility) and costs are defined as reductions in human wellbeing. For a project or policy to qualify on cost-benefit grounds, its social benefits must exceed its social costs. Cost-benefit analysis as applied by mining companies is narrowly conceived in profit and loss terms. The cost-benefit analysis is typically a single loop – cost and benefit to business. It does not consider the costs that individuals or groups of beneficiaries incur. The IFC may seek to uphold the Rawlsian principle in its social and environmental performance standards (2012). At the same time, through its Financial Valuation Tool (IFC, 2017) it drives companies back into a conventional single loop cost-benefit analysis. This tool seeks to measure benefit to business from social investment – not the cost nor the benefit to the user in accessing the benefit.

Local people have been characterised by mining company personnel as *opportunity seekers* (Imbun, 2000). Yet, companies demonstrate little regard for the *opportunity costs* of deciding to remain living close to a mine, or relocate to reside in a mining town. This oversight ignores, entirely, the baseline social and economic conditions that people were residing and provisioning in before they moved, the social and economic changes brought about by the mining development, and the real-time costs that local people must factor in when participating in the mining economy or attempting to access mining benefits.

Our argument does not dismiss the idea that some people can, and do, enjoy a net positive benefit from mining developments. The question we pose is fundamental to understanding any basic type of economic exchange: to realise the net value of a benefit, what costs must be accounted for? It is the substance of these calculations that hold the greatest explanatory potential in terms of determining the value of mining benefits; including, as we demonstrate in the following two case study examples, instances where the net value proposition for certain groups of people is negative.

4. Proximity to the Porgera mine: trading rights for royalties?

The Porgera Gold mine in the highlands province of Enga in Papua New Guinea is regarded as a top-tier asset, and over three decades of mining operations, has contributed significantly through the payment of royalties and taxes to the national government. Like other resource development projects across Melanesia, customary landowners in and around the footprint area are recognised as “beneficiaries”, and as such, receive regular production-based dividends through royalties, land rents, local development grants, as well as preferential employment and business contracts.

Prior to the development of the mine, the road to the Porgera Valley was poor, with few government agencies present or externally sourced goods and services available. Since mining operations commenced in 1991, the district has grown exponentially, almost solely in response to the presence of the mine. Major funding has been directed towards the development and resourcing of a regional standard hospital, along with considerable monies for local schools, and scholarships to support students enrolling in domestic and international academic programs. These opportunities are routinely described by the state, and the mine's various owners, as “mining benefits”.

The financial interests of the landowner company, Ipiili Porgera Investments, far exceeds that of the province, with assets and commercial contracts in Lae and Port Moresby (Bainton and Jackson, 2020).

Royalties, land use and land disturbance payments flow regularly into the hands of clan and sub-clan representatives, in amounts far in excess of the national average income in PNG. On this basis, there can be no argument to suggest that the landowners and residents of Porgera have not seen significant material benefits from the mine. However, these benefits are largely captured by local elites who, with the advantage of mining royalties, can live in the nation's capital (Burton, 2014), and have the choice of not living in the direct vicinity of the mine's impacts. Moreover, for those people who reside locally, the cost of remaining in Porgera is so high that the benefits received or accessed are quickly spent.

Over the last thirty years, the social and environmental impacts of the mine have been widely felt. The mine's physical footprint has expanded, encroaching into village areas, traditional food gardens and foraging places, as well as inundating streams and rivers with mine waste (Mudd et al., 2020; Owen and Kemp, 2019). Goods, such as water and firewood, that were previously available locally, have been eclipsed by mine infrastructure and waste dumps, and must now be purchased from retailers who themselves are reliant on distributors in other provinces. The Porgera Valley has also witnessed an unprecedented wave of migration into the district following the development of the mine (Gilberthorpe and Banks, 2012). The unique kinship system of the local landowners provides ease of entry for outsiders and, once established, affords newcomers many of the entitlements otherwise reserved for landowners (Golub, 2007; Bainton and Banks, 2018). This has extended to sharing landowner royalties, in addition to traditional rights over land.

Efforts by the mining company to differentiate original landowners from in-migrants has been thwarted; not only by the extent to which outsiders have been incorporated into local clan structures, but also by the frequent outbreaks of tribal warfare, extreme overcrowding, and reduced natural resources to subsistence from. Any effort at separating residents from even a diluted portion of benefit poses considerable security risks to local residents, and by extension, the mine. To maintain, law and order, landowners have had little choice but to accept having to finely apportion a share of their "benefits" to in-migrants and others.

The Porgera mine has operated on a shared occupancy arrangement from the outset, whereby the local population and the mine both utilise mining lease areas. Recent attempts by the company to press ahead with an off-lease resettlement project were difficult given the significant sets of costs that landowners were prepared to shoulder to remain in proximity to mining benefits (Kemp and Owen, 2015). The full calculated value of these costs is not understood, although the effects of trading benefits for harm have been documented by scholars and activists (Human Rights Clinic & International Human Rights Clinic, 2015; Human Rights Clinic & AC4, 2019). Despite residing in conditions of extreme overcrowding, daily exposure to air, water and soil contamination from mining operations, alarming rates of food and water insecurity, and lack of sanitation and disease, landowners in the settlements of Pakien and Panandaka Ridge have been hesitant to relocate away from their existing locations. This hesitancy is largely due to the near certainty that, once outside the mining lease area, they will be exposed to tribal fighting; events that routinely result in rape, killings and the destruction of property and other assets (Kemp and Owen, 2017). In addition to accessing mining employment, and a sense of security people associated with the heavily fenced and security patrolled mine area, residing on-lease maintains near proximity to artisanal mining opportunities; which despite being classified as "illegal" and a major source of localised competition and tension, are a central component of household livelihoods (Bainton et al., 2020).

5. Housing mineworkers in South Africa: the cost of accessing a benefit

Housing mineworkers in South Africa has always been a contentious issue. Historically, the mines housed the black mineworkers in single-sex

compounds and their white counterparts in company-owned family housing (Crush, 1994). Since the mid-1980s, black homeownership became available, and mines relinquished their housing commitments to their white workforce (Crankshaw, 2002). The post-apartheid government (since 1994) continued to dismantle the compound system and supported the transfer of company-owned houses to individual households. In line with international trends, two principles guided the new policy approach: normalisation through the development of integrated settlements as opposed to mining towns; and homeownership for mine workers (Marais, 2018). The message from government and the mines was clear: mining should support local development, benefit municipal finance, and help people to own housing assets. These policies claimed to contribute to "benefit sharing" and the "shared social value" from mining. Many mining companies created financing models that supported homeownership in open towns (Stewart and Drewes, 2018). We use examples from the Free State Goldfields and the platinum belt near Rustenburg to highlight the costs and long-term liabilities that were created through these policies and practices.

When Free State Goldfields downscaled in the mid-1990s, there were two consequences for local housing markets: housing prices slumped and banks did not provide new mortgages in selected areas (Marais, 2013). The eventual closing of mines, and retrenching of mineworkers, resulted in a large number of properties in possession in the area by 1998 (Tomlinson, 2007). At the end of the 1980s, house prices in the Free State Goldfield were on par with South Africa's metropolitan areas. By 2010, house prices were between 35% and 40% of the national average. This price slump affected mining dependent and non-mining households alike. Some people were literally locked-into the area because of homeownership, with that "lock in", making it difficult for them to out-migrate (Ntema et al., 2017). A house that was supposed to be an asset inhibited the ability to find employment elsewhere.

In Rustenburg, platinum has brought extraordinary wealth to local and traditional communities. Between 2000 and 2008, Rustenburg experienced economic growth rates of more than 5% per annum. In 2018, household income was 10% higher than the average for South Africa compared to the 2% higher in 1996. Mining shares also created one of the wealthiest traditional communities in Africa, the Royal Bafokeng Nation. Despite these benefits, the platinum industry also created costs for individuals, communities and institutions. The rapid growth of informal settlements near mining shafts (mainly to minimise transport costs) was the unintended consequence of policies that dismantled the compound and mining companies relinquishing their historical role in housing provision (Bezuidenhout and Buhlungu, 2011). By 2016, 29% of the houses in Rustenburg were classified as informal, of which 7.5% did not have access to water and 41% did not have water-borne sanitation (StatsSA, 2016). A policy intended to create local benefits and assets also created costs that were borne by local people. We outline four specific costs below.

Firstly, the rapid development of informal settlements created spatially fragmented landscapes (Ntema, 2019; Marais et al., 2020). Fragmented landscapes increase the cost of providing bulk and internal infrastructure, and in some areas, make it virtually impossible to install services. Secondly, this spatial fragmentation and informal settlement development created social friction. Mining companies and mineworkers invaded traditional land, displaced traditional communities and created conflict between elites and others (Manson, 2013; Mnwana, 2014, 2015, 2015). Thirdly, the costs and benefits are unevenly distributed, with lower-paid mineworkers and contract workers carrying a higher cost burden. Survey results show that 20% of mineworkers earning less than R9000 a month in 2018 resided in an informal house, compared to 4% of those earning more than R9000 (Marais et al., 2021). Approximately 11% of contract workers, compared to less than 7% for mine-employed mineworkers, live in informal housing. Water access and sanitation figures show the same patterns. Most of the workers in these categories do not have medical aid and depend on good health to sell their labour. These informal and poorly serviced living

environments have a negative impact on human health. Fourthly, recent studies show that the social environment created in many informal settlements surrounding mine shafts further increase the costs for mineworkers and the non-mineworker communities residing in these settlements (Marais et al., 2021). These studies point to prevalence of HIV&AIDS, rape and alcohol abuse. The long-term costs and risks of these settlement patterns between mining residuals remains undetermined.

Some costs are difficult to quantify, e.g. the consequences poor living environments have for physical and mental health, productivity, absenteeism and health and safety. Determining the costs of historical and current migrant labour is challenging. The 30% of mineworkers in Rustenburg who migrate out must continue to support their households in their area of origin. Historically, these mines have employed mineworkers from the same families. For a retired mineworker, having his son employed in the mine was a form of pension. Although recruitment practices have changed, the burden of providing for the broader family, outside mining, represents a material cost.

6. Discussion: are mining benefits cost free?

Local resource curse problems epitomize the difficult interface dynamics confronting resource developers and host communities. These problems centre on the opportunity costs that local people encounter as a result of their proximity to resource development projects. Our fundamental objection is the working assumption – and in some cases the proposition – that people are getting something for nothing. This framing of the interactions between mining corporations and local populations should be avoided given the contentious nature of these settings, the volatile market forces that drive decisions and outcomes on the ground, and the history of egregious abuses of people and their rights. Turning a blind eye to these interactions in these environments can be perilous. It is essential that companies discern what is being traded off and can demonstrate that the terms are acceptable to those people who are harmed or affected. This is, in fact, the basis of the UNGP's "know" and "show" principle, which forms part of the business responsibility to respect human rights. As global markets, miners and downstream users, prepare for a major uptick in commodity prices, there is a pressing need to more carefully understand where local value is being created (and how), alongside the value that is diminished or destroyed. These global value propositions have local conditions that are easily ignored in high end "shared benefit", "sustainable development" and "just transition" claims.

The idea that people are interacting in mining environments to secure benefits and that no costs are incurred to individuals is counter-intuitive (at best). However unlikely this idea is, it is this construction of reality that is driving much of the industry's public rhetoric about its positive contribution to development. Even when describing the untoward or undesirable effects of people migrating to mining centres, the cost of movement is absent from the discussion. Migrants are instead described one-dimensionally as opportunists; yet there is no attempt to understand the opportunity costs associated with their efforts to secure their part of a collective mining benefit.

We do not object to the idea that people are getting something. Likewise, we do not contest the notion that in many of the contexts where mines operate, what we commonly refer to as benefits are in fact desirable, and are viewed as opportunities that can make people better off. In this sense, we are not problematizing benefits – it is the value proposition implied by the single reference to this term that suggests that the ultimate value comes at no cost to the recipient. The shared value concept by Kramer and Porter is somewhat more complete, in that it provides a basis for understanding how value is shared between parties. This value includes costs and benefits and it is at least conceptually possible, through Kramer and Porter's construct, to explain how and why the share of benefits or costs is either reasonable or disproportionate in some fashion. The problem is that Kramer and Porter are

taken as giving tacit support to an exclusively upside rendition of "value". While this depiction is attractive to corporates, the failure to account for any of the costs, on either the company, government, community or environmental side, makes this reading of Kramer and Porter's construct particularly disingenuous.

The shift to "shared benefits" as a standalone construct purposively reduces the scope of analysis and understanding. In the absence of other information, the term actively misrepresents mining enclaves as landscapes of pure value, and mining proponents as transacting with local communities, having managed to extract and process out *all of the* cost to the other party from the exchange. This is not just Machiavellian; there are implications in terms of rights, impacts and economic costs that are being excluded and observers, investors and regulators, ought to be concerned that developers are so vigorously creating distorted images about how these landscapes function socially and economically.

Being "better off" is not an absolute state and it does not happen without a series of decisions and material changes occurring. The "just transition" discourse has this problem clearly in its sights. There will be trade-offs if the planet is to combat climate change, but will everyone be better off? Failing to account for how the value proposition is shared, who carries the costs, and who reaps the benefits, is a major threat to any claim that a future energy transition might be "just" and fair. Moreover, simply because people may be better off (to a greater or lesser extent) should not be taken as grounds for dismissing the costs or effort expended by local people to reach this state. This is the risk of dismissal: there are instances where the net balance, after obtaining the benefits, is an actual loss. This possibility needs to be explored for both short and long-term value propositions even when the benefit is real.

Consider the housing market scenario presented in the earlier section. Housing markets assume continued economic activity while housing finance requires long-term and stable economic activity. People who invest in their housing would want to see a return on their investment. That return may be as minimal as having a place to live *and* on the understanding that it could, under unforeseen circumstances, be sold for at least what was paid for it. However, because of the finite nature of the natural resource, and the volatile character of commodities markets, the mining industry is unable to give these kinds of long-term assurances. When markets turn, as they often do, it is challenging to sell or even rent the property to someone else (Haslam McKenzie and Rowley, 2013). This is one of the negative aspects of place attachment that are only now beginning to surface in the resource development literature (Svobodova et al., 2021). The high cost of entry into a highly variable socio-economic environment can create "lock ins" that connect people to places that are economically undesirable (Marais et al., 2021a). Local costs such as these may well be offset by advantages in the short-term but curse local actors over the medium and long-term by reducing their ability to explore, invest or take up more durable alternatives.

The Porgera case highlights the many avenues through which local communities can incur operating costs that mining proponents are able to externalise. These are real costs to communities that have measurable economic outcomes. Some of these fall out of design flaws, such as water scarcity due to waste management being singularly cognisant of the needs of the project. Other costs to community amassed over time as expansions continued to encroach on local landholdings and relocation programs effectively moved people around in an uncontrolled manner (Kemp and Owen, 2017; see also Bainton et al., 2021a). The use of historical Landsat and remote sensing shows how the project land use has diminished access to gardening land, water and other natural resources (Lechner et al., 2019), enhancing their dependence on high cost goods, for which there was once a freely available local equivalent.

7. Conclusion

Mining can create value. Mining can in fact create enormous value through supply chains, taxes, royalties and rents, bulk infrastructure, land transactions, and social investment. In the same domains that value

is created, value can also be destroyed. The value proposition of the sector often comes down to a series of trade-offs between domains and parties. Industry slogans and corporate rhetoric readily promote the upside of these trade-offs using terminology such as “benefit sharing” and “shared value”. Mining’s critics have argued, however, that the overall share of benefits is typically uneven between parties, and that the destruction of value falls disproportionately on certain parties within the operating environment – including people who are marginalized and poor.

We conclude by offering the following four points about the construction of value in mining communities and their relevance to contemporary benefit-curse debates about resource development at local scale:

1. Large-scale resource development projects create and exacerbate risk, and the management and materialisation of those risks carry costs. Most of the world’s leading mining companies have signed up to standards and industry associations that require companies to respect human rights. Human rights due diligence is based on the mantra of “know and show”: an approach that discourages companies and other parties from hiding, denying, ignoring, or distracting from harms that might accrue to project-affected people. The marketing of mining-sponsored “benefit-only” landscapes is an attempt a) to mute concerns that companies have not counted the cost to communities and b) are not expending the effort to mitigate the harms associated with their business activities.
2. The localisation of the resource curse is surfacing in different forms in other debates. For commodities like coal, the energy transition implies an eventual ramp down with mine closures for projects that cannot continue to operate against falling commodity prices. In these cases, the cost to communities may not become apparent until long after the mine has closed. As more companies decide to divest from coal, we predict that narratives of “local economic uplift” will become a more prominent feature in corporate sustainability reports, in the absence of narrating the social costs and liabilities associated with deep place attachment. Moreover, emerging research strongly suggests that the national and sub-national political economy will be a major factor in determining whether these transition initiatives will be economically and or ethically feasible (Bainton et al., 2021).
3. There is a well-known adage attributed to Lord Kelvin: “you manage what you measure”. This relates to our point above about human rights due diligence, and reflects an established performance gap in the industry’s measurement and management of issues “outside the fence” of its operations. There is a direct connection between failing to account for local economic dynamics and poor corporate performance in managing high-cost, high-risk activities like resettlement and in-migration (Owen and Kemp, 2015). Social baseline studies and impact assessments can provide performance insights at key intervals over a project’s lifecycle. The use of targeted, interdisciplinary studies deploying communitarian, behavioural or development economics to consider cost to community, is rare in mining – even at the front end of project development where such studies are more likely to be deployed. Without understanding the drivers behind local economic decision making, companies, or for that matter governments, will not be well placed to respond to these issues; or the circumstances they give rise to – such as people electing to live in areas dangerously close to mining operations.
4. People do not get “something for nothing”. These are extractive landscapes in which all parties incur a cost for the benefits they receive. As a working assumption, this is both a naïve and dismissive means of accounting for what communities are exchanging with mining companies – voluntarily or otherwise. Ultimately, this assumption places a zero value on what communities contribute to the exchange, and in doing so also assumes that local parties incur no cost in providing it. Companies do not apply this reasoning in undertaking their own cost-benefit analysis. We simply argue that the

costs of benefits to communities be measured in similar terms. Sometimes benefits cost, and cost dearly.

Author statement

John Owen: Conceptualization, Writing- Original draft preparation, Writing- Reviewing and Editing. **Deanna Kemp:** Conceptualization, Writing- Original draft preparation, Writing- Reviewing and Editing. **Lochner Marais:** Conceptualization, Writing- Original draft preparation, Writing- Reviewing and Editing.

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