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Adding and sustaining benefits: Large-scale mining and landowner business development in Papua New Guinea

Nicholas Bainton*, Richard T. Jackson

The University of Queensland, Australia

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ABSTRACT

This paper provides an overview of local content practices across the mining industry in Papua New Guinea. We present data from the first nation-wide study on local business development, also known as 'landowner business development'. We challenge the common belief that there are weak linkages between the mining industry and other sectors of the economy. We argue that the number of businesses that are created or supported by large-scale mining projects is much higher than typically assumed. We also argue that it is difficult to conclude in simple terms whether many of these businesses have 'failed' or 'succeeded', which is due to the multitude of motivations behind the development of these ventures. Although the mining industry is certainly 'adding' many benefits (to host communities and the government) during the operational phase of these projects, there is less evidence to suggest that these particular benefits will be sustained beyond the life of individual projects in the post-closure era.

1. Introduction

One of the primary questions confronting the captains of the global mining industry, and political leaders and policy makers, is whether it is possible to convert non-renewable forms of natural capital into other forms of capital to create lasting forms of broad-based development. Any attempt to answer this development riddle is complicated by the fact that mining is an activity which transforms a very fixed asset (an orebody) into largely liquid assets—money mainly, but also skills along with some fixed-in-place socio-economic infrastructure. And as liquid generally does, such assets readily run away from their point of creation. This is the one multi-layered aspect common to most mining projects, which largely differentiates mining from almost all other economic activities: mining project location is overwhelmingly determined by geology, and geology usually has little or nothing in common with the factors that stimulate most other economic activities—namely access to markets and modern infrastructure. On the one hand, this means that mining is one of the very few activities which creates the *possibility* of raising incomes and socio-economic opportunities in areas where no other evident means of doing so has ever been, is, or probably ever will be available. On the other hand, this same

geographic factor makes it much less likely that the site of a large-scale mine will be transformed by the project to the degree that, once its life is over, alternative forms of economic activity can be pursued in ways that will maintain the temporary prosperity that mining operations might have brought about (Jackson, 2018).

Even if the extraction of fixed mineral assets is an inherently unsustainable activity, the possibility still exists that the benefits or 'liquid assets' generated by these ventures may continue to 'flow' (in a temporal and spatial sense) well beyond extraction.¹ The benefits of mining usually include royalty payments, taxes raised, wages paid, profits and dividends distributed, community investments, use of local suppliers and, not least as far as impacted peoples are concerned, skills development during operations. Some of these benefits can be classed as forms of 'local content'—project level commitments to local employment and procurement opportunities (Geipel, 2017; White, 2017)—that may support both 'upstream' and 'downstream' economic development. But in each jurisdiction there will be variations in the type and quantum of benefits available and the direction and duration in which they 'flow'. Each benefit will accrue to different groups or individuals, and national laws or negotiations will determine which subset of 'project stakeholders' receive what and will thus assign the responsibility for

* Corresponding author.

E-mail address: n.bainton@uq.edu.au (N. Bainton).

¹ The *sustainability* of these benefits should not be confused with the question of whether or not mining can contribute to a form of 'sustainable development'. That is a separate (albeit related) question that demands, at the very least, a full accounting of the various costs or 'externalities' of extraction, and attention to whether the benefits of these projects have increased the net stock of financial, human, social and natural capital in ways that broaden the options of future generations (see Bebbington and Humphreys Bebbington, 2018: 447).

sustaining such benefits. Mining companies themselves are rarely in a position to exert control over all (or even the majority) of these benefits even if they usually receive the blame when sustainable outcomes are not achieved.

It is also true that some, if not most, stakeholders will need assistance in their efforts to achieve sustainability, and that mining companies are often the most resourced agency in their ‘project area of influence’ to provide support towards these ends. Wage earners may need assistance via savings schemes established by the relevant state or mining company. Recipients of compensation payments will usually need guidance on how to preserve and invest their funds. And cash-strapped governments often need—even if they resent the intrusion—guidance on how best to manage sudden and large increases in taxation revenues. The nature of each project will have an important bearing on the mix of available benefits and pathways for sustainability. For example, a short-lived mine offers much less potential for skills training or for local business development (both of which can take many years to achieve success) than does one with a life span of several decades. If mining benefits are to be converted into sustainable or ‘positive spillovers’, then each project will need to employ a slightly different mix of potential measures and means.

In this paper we are primarily concerned with a single strand of the loosely braided set of benefits (local business development) accruing to one set of stakeholders (project-affected peoples) in a specific national jurisdiction (Papua New Guinea). Even within this highly restricted subset of the global mining industry there are major variations in the circumstances of the different projects, and therefore major variations in the ways in which project benefits might be squandered or sustained. Papua New Guinea is a ‘resource rich nation’. However, unlike many other resource dependent countries, it has been unable to convert its mineral wealth into lasting forms of development for the broad mass of the population. Conventional wisdom says that Papua New Guinea is not a place where one would expect to find strong linkages between the mining industry and other sectors of the economy. This is partly because the industry is thought to consist of a series of economic enclaves that do not produce more businesses (or jobs) in other parts of the economy by means of forward or backward linkages. In this paper, we challenge this common wisdom. We argue that the number of businesses that are created or supported by large-scale mining projects is much higher than typically assumed, but we also argue that it is rather difficult to conclude in simple terms whether many of these businesses have ‘failed’ or ‘succeeded’, which is due to the multitude of motivations behind the development of these ventures. While extraction is certainly ‘adding’ many benefits (to the national budget, and to some portions of the population), it is less certain whether these benefits will be sustained into the future.

The evidence for this discussion is drawn from the first nation-wide study of local content practices in the Papua New Guinea extractive industries (Jackson, 2015). The study was undertaken in 2014 at the invitation of the Papua New Guinea Chamber of Mines and Petroleum in order to understand the current state of local business development at resource extraction projects across the country. Time was spent at each major mining and oil and gas project in the country, interviewing company managers and representatives of local communities and their businesses. The national government’s register of companies was reviewed, along with data provided by project developers on their commitments to local business development (including the range of contracts that they have in place). While the original purpose of this study was to support the development of policy guidelines to maximise benefits of this sector, it also provides a basis to consider some slightly different questions about sustainability and resource extraction. We begin by sketching the general contours of resource development in this national setting. This is followed by a discussion of the origins and evolution of local business development in Papua New Guinea, some of the economic flows created by these activities, and the complexities and constraints that encompass these local firms. Although we are primarily

concerned with the large-scale hard rock mining industry, some points of comparison are made with the rapidly expanding oil and gas sector.

2. Developing the mineral resources of Papua New Guinea

It is probable, for several reasons, that a mountainous country like New Guinea has not been forgotten by Nature in respect of minerals; but we must await the verdict of a geological survey as to the accessibility and amount of such deposits before we allow consideration of them to enter into any calculation. The postponement of the discovery of gold in New Guinea is doubtless to be desired, for the restraint and assuredness of established law, the existence of easy inter-communication, the creation of sufficient food supply, and the presence of a large balance of population engaged in the regular industry of civilized life are needed to mitigate the evils attending a gold rush, and to turn the new wealth with least delay into its true channels. (Moresby, 1876: 309)

Captain John Moresby’s misgivings on the development of mineral resources in colonial New Guinea now seem prescient. These early apprehensions, arising during his survey of the south coast of New Guinea in the 1870s, capture the challenges that have beset contemporary Papua New Guinea. Since the 1970s, Papua New Guinea has searched for the ‘true channels’ into which it might funnel its mineral wealth in order to achieve more sustainable forms of human development. After more than four decades of independence, Papua New Guinea has become a nation that is highly dependent upon the large-scale extraction of its mineral resources, including gold, copper, nickel, oil and gas. But as countless commentators have observed, this has come at great social and environmental cost, resembling a kind of Faustian bargain with the future.

The most recent attempt to assess the overall impact of the extractives sector in Papua New Guinea can be found in the UNDP’s 2014 National Human Development Report (titled ‘From Wealth to Wellbeing’) principally authored by the New Zealand based geographer, Glenn Banks. That report contains many sobering observations on extraction in Papua New Guinea, which are summed up, rather gently, as:

The effects of Papua New Guinea’s 40 years of mineral resource dependence are ambiguous, contested and run deep. (UNDP, 2014: 3)

This dilemma captures what most Papua New Guinean leaders, including those in project areas and in government, seem to have concluded about resource extraction: while the mining industry has a lot to answer for, mining policy should not be abandoned as too problematic, but instead should focus on how the benefits of extraction might be better shared and used. This more moderate position tends to align with popular views across the nation, and the expectation among project area communities that resource extraction can and should provide the kind of economic and social development that the state has singularly failed to deliver.

Most of these extraction projects are located in rural areas distant from metropolitan centres. The population is similarly dispersed, with the majority of people residing in rural areas with limited access to roads, services, and economic development opportunities. In their recent summary of national employment trends, Colin Filer and his co-authors (2016) broadly divided the country’s rural population into three zones, whereby:

- a) 40% live in areas with good access to markets and towns, thus allowing them to generate income through cash cropping, and also with fair access to education opportunities.
- b) A second 40% live in remoter areas without good access to market opportunities but with some access to education that allows some individuals to gain skills and, after migrating, to support their kin at home through remittances.

Table 1
PNG resource projects by zones (at the time of project commencement).

Mining Project	Start Year	Zone
Bougainville ^a	1972	a/b
Ok Tedi	1981	c
Misima ^b	1989	b/c
Porgera	1989	c
Lihir	1995	b/c
Tolokuma ^c	1995	c
Kainantu	2006	b
Simberi	2007	b/c
Hidden Valley	2010	b/c
Ramu: Kurumbukari mine	2012	c
Ramu: Basamuk refinery	2012	b
Wafi-Golpu	planned	a/b
Frieda River	planned	c
Oil And Gas Projects		
Hides	1988	
SE Gobe	1998	c
Kutubu	1992	c
PNG LNG Project	2008	c
Papua LNG	planned	c
Pnyang	planned	c

^a In 1989 the Panguna mine was forced to close due to local opposition related to socio-economic and environmental impacts (see [Regan, 2017](#)).

^b The Misima gold mine was a short life mine, and closed in 2004.

^c Tolokuma gold mine was a small-medium sized project and closed in 2018.

c) The final 20% live in areas with access to neither markets nor educational opportunities.

This three-fold division also provides a simple frame for characterising the ‘baseline’ conditions at each major resource extraction project across the nation. Based upon existing knowledge of these projects, we have assigned each project to this generalised set of zones as in [Table 1](#).

While some of these assignments might be arguable, what is not is that the majority of these projects were developed in areas where—prior to mining taking place—access to markets and educational opportunities were very limited. This helps to explain, in broad terms, two key aspects of mining in Papua New Guinea. First, the effects of mining, and resource extraction more generally, are highly contentious, and these impacts have been well documented (e.g. [Allen, 2018](#); [Bainton, 2010](#); [Golub, 2014](#); [Filer and Le Meur, 2017](#); [Jacka, 2018](#); [Kirsch, 2014](#)). But in most cases there is surprisingly limited local opposition to extractive projects prior to development; and in some instances it could be argued that local communities have ‘welcomed’ these projects for their potential social and economic benefits. While the actual experience of extraction typically diverges from prevailing expectations—as each project has been the source of severe social and environmental harm—this has done little to dampen the broader enthusiasm across the country for extractive led development. An awareness of these impacts has only increased the political pressure to capture a greater share of benefits from these projects in the hope that this will top-up government coffers and boost other economic sectors. And second, and more specifically to the point at hand, the simple location of the majority of projects adds considerably to the difficulty that will be faced in finding ways of creating sustainable (post-project) benefits for those project-affected peoples.

The benefits of extraction are not inconsequential, especially in a context where low socio-economic development indicators prevail, and this certainly helps to explain the apparent willingness of some communities to ‘trade’ their land for ‘development’. Under the terms of the Mining Act (1992) mining companies are required to enter into a ‘Development Forum’ process with local project area communities to negotiate the range of ‘benefits’ and the various forms of compensation to be provided by the project, and the roles and responsibilities of the different parties in the development and operation of the mine. The government’s so-called ‘preferred area policy’ effectively creates a set of

concentric rings or ‘zones of entitlement’ around each major mining project. The innermost ring is typically occupied by the local project affected communities (who are often the customary landowners of the mine lease areas), followed by the ‘project area people’ (who reside in the surrounding district), the residents of the region or the province, and finally the outermost ring occupied by the population or government of the nation as a whole ([Filer and Imbun, 2009](#)).

The distribution of project related benefits also entails a spatial and temporal dimension. The inhabitants of the innermost ring often experience the greatest level of project related impacts, but are also entitled to the greatest share of compensation and benefits in the form of royalties, project equity, support for community development programs, and economic opportunities (including preferential employment and business contracts). A distinction can be drawn between ‘benefits’ and ‘compensation’ where the former refers to the broad range of services, opportunities and investments provided by the project, while the latter refers to specific payments made for specific losses (ideally balancing out the damage, deprivation or loss). But in the Papua New Guinean context, a case can be made for a broader view of compensation that recognises that some losses are intangible. Many mining companies tacitly acknowledge this by providing community benefits in addition to the compensation required by the law (see [Filer et al., 2000](#)). From this perspective, all of the benefits that are provided by the developer at their own expense form a legitimate part of the overall compensation environment. This broad definition of ‘compensation’ certainly accords with the perception held by many landowner communities who see a pathway to ‘development’ via the compensation they receive for the exploitation of their land ([Bainton, 2010](#); [Filer, 1997](#)). Nevertheless, for the purpose of this paper, we will continue to refer to landowner business development as a benefit.

The range of available benefits also shifts over time, as some benefits are related to particular project phases, and some benefits are periodically re-negotiated. For example, company-community agreements may include provisions for regular review processes, or changes to the footprint of the project may redefine the ‘affected-areas’ and therefore who is entitled to access specific benefits ([Banks, 2013](#)). The potential ingredients which might be used in the sustainability recipe cooked for any metal mining projects and the quantities of each in use at specific locations will necessarily vary according to site characteristics. The generic range of benefits and payments available to project impacted peoples in Papua New Guinea are represented in [Table 2](#).

3. From landowners to lancos

Unlike many other post-colonial nations, the indigenous inhabitants of Papua New Guinea have more or less retained customary ownership over their ancestral lands, which means that the bulk of the nation’s landmass remains under various customary forms of tenure ([Filer, 2014](#)). These customary rights were generally recognised throughout the colonial period, and following national independence in 1975, these rights were then enshrined in the Constitution and reinforced through various acts of parliament. The national mineral policy framework essentially requires the identification of the customary landowners of potential project areas in order to establish who is entitled to receive specific benefits. These landowners typically occupy the innermost zone of entitlement, which can mean that there is a good deal of competition and conflict surrounding who recognised as ‘belonging’ to this inner zone.

For many landowners business development is one of the ‘true channels’ into which mineral wealth should be directed, just as for many mining companies the provision of ‘local content’ is regarded as evidence of their commitment to the principles of ‘corporate social responsibility’ and proof of their economic contribution to host communities and the nation, and by extension, justification for their presence. The process of channelling this wealth into business development entails a spatial and temporal dimension. Landowners expect these

Table 2
Generic benefits available to impacted peoples at large-scale mining projects in Papua New Guinea.

BENEFIT	DESCRIPTION	BENEFICIARY	RESPONSIBILITY	PROJECT PHASE
Taxes	Employee income taxes, company tax, various excise and other taxes. Taxes form the largest economic flow.	National Government	National Government	Exploration, and operations
Royalties	2% of f.o.b production value payable regardless of project profitability. Landowners receive minimum of 20%; actual share is negotiated.	Provincial Governments, and lease area landowners	Project, and government	Operations
Compensation	For damage to the natural environment, cultural heritage and assets.	Affected landowners, asset owners, or heritage custodians	Project	Exploration and operations
Occupation fees on leases	Range of payments for land use. Effectively a form of 'ground-rent' graduated according to the intensity of project impact; actual amounts are negotiated.	Lease area landowners	Project	Exploration and operations; may continue during closure phase where leases still held by company
<i>Equity (and associated dividends)</i>	Acquired from the equity portion held by the state. State entitled to maximum of 30%. Dividends usually managed by state owned Mineral Resources Development Company on behalf of lease area landowners.	Lease area landowners Relevant province State (usually balance of total)	National Government and lease area landowners	Operations (or until such time that landowner sell down their equity, as was the case at the Lihir gold mine)
<i>Trust Funds</i>	Affected area community trust funds established to provide long-term resource to support community needs; actual amounts invested in the trust, governance mechanisms and beneficiaries are negotiated.	Affected area communities	Project, affected area communities	Operations and post-closure
Employment & Wages	Employment with mining company and other major contracting companies. All projects preferentially recruit from innermost zones of entitlement.	Employees	Project	Exploration and operations; some employment may continue during the closure phase
Training	Preferential recruitment automatically requires training Highly sustainable benefit.	Employees (especially those from project affected communities)	Project	Operations
Community investments	Provision of community infrastructure and services (e.g. education, health, law and order services, and power and water supplies, transport, community facilities, sponsorships etc). Major issues surrounding responsibility for assets and continuity of programs and services after mine closure.	Affected area communities	Project and government	Operations
<i>Landowner Business Development (A)</i>	Representative (aka 'umbrella') company owned by whole impacted community; may include seed money to establish the company and business management support, and preferential contracts.	Whole affected area community (in theory)	Project	Operations
Landowner Business Development (B)	Other smaller local landowner companies, including business development support programs, some seed money, and preferential contracts.	Clans, families, individuals	Project	Operations
Tax Credit Scheme	Up to .75% of assessable company income for approved community investment	Regional project communities	Project and government	Operations

NOTE: Benefits predominantly received by individuals or small groups shown in shaded boxes; benefits which at least in theory must flow to all members of the impacted communities are shown in *italics*.

investments to occur locally, and they hope that business development will provide an ongoing source of income into the future. But as we shall discuss, it remains to be seen whether or not these specific economic benefits will endure and expand beyond individual extractive projects—whether landowner business development can contribute to a more diversified national economy—or whether this is simply another manifestation of uneven enclave economics.

The key to this dilemma can be located in the name commonly ascribed to these particular business entities—landowner companies or ‘*lancos*’—which derives from the legal recognition of the customary relationship that the owners or shareholders of these companies have to the areas of land that are the target of extraction. While *lancos* have no precise legal definition in Papua New Guinea, what distinguishes these companies from other national companies is that their owners are also the customary owners of project area lands. The status of these companies, and the preferences they receive, can therefore be understood as a specific function or outcome of the particular political and legal identity that these business ‘directors’ have as ‘landowners’.

Customary landowners may also establish a ‘landowner association’ to represent the interests of the ‘landowner community’, including negotiating benefits on their behalf, such as preferential business contracts. These same representative leaders are often involved in these local businesses—as managers and directors. It is for this reason that *lancos* are sometimes called *repco*s (or ‘representative companies’) which reflects the extent to which these companies are thought to represent the interests of project-affected peoples in their dealings with developers, and the convolution of political and business interests between these companies and associations. Customary landowners may therefore establish one or many *lancos* as a way of exercising their preferential status with the explicit aim of capturing new contracting opportunities or ‘benefits’.

This underlying relationship to the land is both the source of their legitimacy and their greatest limitation, for the simple reason that the customary landowners at each respective project expect to exercise similar forms of exclusivity, which presents a major barrier for those *lancos* seeking to expand their operations into other project areas. This connection to land also means that what is not considered a *lanco* at one stage of a project might become recognised as such as the impact area of the project changes over time, or as different groups gain recognition as project-affected people. And as we shall discuss below, because these companies are anchored to project area lands this tends to mean, in practice, that business contracts are frequently elided with other economic flows that accrue to landowners, like compensation payments for example.

The origins of landowner business development can be traced the development of the Ok Tedi mine in Western Province. More than forty years ago, when Richard Jackson and his co-authors were preparing the socioeconomic impact assessment for the proposed Ok Tedi mine they recommended that the company encourage and build upon an initiative led by its senior employees to establish a business organisation that would benefit the local residents from the project area (Jackson et al., 1979). The idea was to establish a company wholly owned and (eventually) managed by project-affected people that would undertake contract work on behalf of the project and act as an ‘umbrella company’ (the initiators’ own term) under whose auspices independent smaller landowner companies might take on smaller contracts supplying project needs.²

² Richard Jackson was present at a small meeting at the Ok Tedi exploration camp in 1976 when the project employees came up with the terms ‘umbrella company’ and ‘spin off benefits’ to describe their concept. As is usual at that site, it was raining torrentially at the time, and the manufacture of raincoats and umbrellas was one of the first activities suggested for the new company. The former term, according to Wikipedia, seems to have been independently invented in Britain to describe companies that hire contractors to undertake

Such contracts, it was envisaged, would include providing laundry and housekeeping services for workers at site, making uniforms, basic building maintenance work, site cleaning and gardening, and in partnership with experienced external businesses, run supermarkets and stores, petrol stations, the project’s camps and mess facilities, provide the project with its security, establish and run a hotel/guesthouse, and organise the growing of vegetables and other foodstuffs for consumption at site. Project staff would include a small local business advisory service to provide support, especially in the project’s initial stages, for the ‘umbrella company’ and smaller local businesses.

The concept was enthusiastically supported by the national government. In the course of negotiations for the Ok Tedi mine in 1979–81, government officials insisted that a hierarchy of ‘preferential suppliers’ be established to parallel the hierarchy of ‘preferential employees’ for recruitment—with top priority being given to people on whose land the project was developed, second to other people in the impacted province, and third to people and businesses elsewhere in Papua New Guinea. The government insisted that the responsibility for nurturing and supporting local business development should reside with the project developer, while the government should play a much smaller role limited to reviewing quarterly reports on contracts awarded and business support provided (and the origins of all employees).

The concept has been even more enthusiastically embraced by local leaders in subsequent project areas who today expect, as a matter of course, that projects and the national government will provide support for their own umbrella companies or *lancos*, which will capture many of the ‘spin-off’ benefits from project supply requirements. The range of contracts has also been expanded to include mining services (drilling and hauling), civil works (roads and infrastructure), and provision of essential technical trades and services to support daily operations. All mining (and hydrocarbon) projects in Papua New Guinea have since been required to incorporate within their project planning various provisions for landowner business development as part of their ‘local content’ commitments in alignment with the government’s ‘preferred area policy’. Although most of the original body of ideas in the concept as developed for Ok Tedi have remained firmly in place, new emphases have been added while the government’s role has receded.

It remains the responsibility of the project, with no government input (in most cases) to put in place the structures that will support local landowner businesses. However, landowners in project areas have increasingly demanded initial cash support from the state. When the Misima and Porgera mines were negotiated in 1989–90, landowner representatives at the latter insisted, successfully, that the national government provide funds amounting to K100,000 (then worth approximately US\$60,000) for the establishment of that project’s umbrella company and a similar provision has been included in every succeeding project. But the quantum of government support demanded by landowners has also escalated. Under the agreement reached in 2008 between landowners and the state regarding benefits to the former to be derived from the massive Papua New Guinea Liquefied Natural Gas project (PNG LNG), the national government committed to providing K120 million (around US\$40 million at that time) as ‘seed money’ for local business development among the multiple groups of landowners affected by that US\$19 billion project.³ This was augmented by a further K1.2 billion allocated to provincial governments for infrastructure projects under the terms of the benefits sharing agreement, representing a vast amount of contracting opportunities for which these *lancos* could compete. Unsurprisingly, with so much cash available, the goal of most of these ‘business’ groups was to obtain and ‘eat’ some of the seed money, rather than to ‘plant’ it. This has only served to increase the

(footnote continued)

specific tasks coordinated by the ‘umbrella’ organisation.

³ The agreement document can be found at: http://ccsi.columbia.edu/work/projects/cda_papua-new-guinea/.

expectation for similar (if not larger) forms of support at other prospective projects, including the proposed Wafi-Golpu mine in Morobe Province. And this also demonstrates the ways in which the gains that some landowners make in the oil and gas sector sometimes leach into the hard rock mining sector, which might be regarded as a ‘positive spillover’ from the perspective of the landowners, or a ‘toxic spill’ from the perspective of the industry.

4. Weak links or limited data?

Ever since [Sachs and Warner \(1995\)](#) identified a relationship between an abundance of natural resources and lagging economic growth, economists and other social scientists have been seeking explanations for the so-called ‘resource curse’. A good deal of literature has since focused on issues of economic incorporation and absorption. Commentators on the global mining industry generally agree that the industry is often poorly integrated into the economies of developing countries and thus, its potential to ‘kick-start’ wider socio-economic change is severely constrained. This line of thought tends to hold that resource sectors have weak linkages with the rest of the economy because imported inputs and capital intensive production generate little employment ([Fischer, 2007](#)). In broad terms, we are generally in agreement with this view, but the almost universally held assumption that Papua New Guinea resource extraction projects are poorly linked to the national economy deserves some scrutiny in terms of employment and other financial flows related to business development.

There are at least four interconnected factors that help to explain why extractive-based development has not been inclusive or reached as many people as it could, or should have in Papua New Guinea: the very low starting point for rural development; the highly dispersed nature of the country’s population; the low capacity of sub-national levels of government and; the fact that the mining industry has not required the large-scale mobilisation of the labour-force or land use (as, for example, commercial agriculture or manufacturing does) or new technologies ([UNDP, 2014: 3](#)). Within this generally sub-optimal set of outcomes, we might therefore ask what kinds of economic flows or impacts have been created by the requirement to support landowner business development, and are these benefits likely to be sustained into the future?

In 2014 it was estimated that around 30,000 people were directly or indirectly employed in the Papua New Guinea mining industry, along with some 10,000 people in the oil and gas sector as represented in [Table 3 \(Jackson, 2015: 7\)](#). This figure was based upon employment data provided by the operators of these projects (their direct workforce), data on the contracts they provide (their ‘indirect’ or contractor workforce), and employment data contained in the annual returns submitted by specific lancos. In that year alone, mining projects employed around 10,000 people and provided contracts worth one billion kina (around US\$386 m), and thereby generated approximately 19,000 jobs. But they also provided contracts worth K1.65bn to other

companies based in Papua New Guinea. If we compare the goods and services obtained from lancos against the value of those from non-lancos (the latter being rather higher than the former), and use the lanco employment figures as a ‘baseline’, then it is likely, as a rough estimate, that the industry generated or supported another 15,000 jobs in other national companies that supply mining project needs. Coupled with the oil and gas sector, in 2014 the total employment related to the extractive industries was estimated to be around 60,000 persons. On the one hand, this remained a relatively small proportion (less than 10%) of the total number of paid jobs in the country where the total population amounted to nearly eight million people in that year. On the other hand, these employment figures, along with local and national contracts worth over one billion US\$ annually complicates any simplistic statements about ‘weak linkages’ and ‘little employment’.

The Papua New Guinea Chamber of Mines and Petroleum has previously claimed that the extractive industries create somewhere between 4 or 5 additional jobs for each job directly or indirectly linked to the work of exploration and project operations in this country (see [Filer et al., 2016](#)). If this were the case, then the number of jobs generated by the extractive industries would be much higher than the figures that we have cited. Evidence from other countries suggests that the multiplier effect is not that large ([Fleming and Measham, 2014; Rolfe et al., 2011](#)). While it is not possible to verify the Chamber’s claims due to the lack of reliable national employment data, a multiplier of this magnitude may be possible if the claim is slightly modified to include the contractor or lanco workforce, and those working in other sectors servicing or supporting the industry, and those who gain employment in the informal sector. A much larger number of people derive a livelihood from informal economic activities than the number of people engaged in formal employment or the number of people who are reported to have a formal business ([Sharp et al., 2015](#)). Further work would also need to factor in the provision of compensation and royalty payments to land-owning communities and the range of other jobs (formal and informal) that may be supported through the patterns of consumption enabled by these payments. In the end, all of this points to high levels of dependence upon the economic flows (i.e. contracts and compensation) provided by these mining projects. Or in other words, a decline in extractive activities will be mirrored in other economic spheres.

5. Measuring successes and failures

Even if investment in landowner business development can be shown to generate some positive effects (with the caveat that these are contingent upon ongoing resource extraction), the question remains as to how we might measure the relative ‘success’ or ‘failure’ of these lanco ventures. A good starting point is to ask, whose aims are we discussing when trying to assess such success? For example, the government may regard investment in landowner business development as a fulfilment of its policies to support the growth of small and medium enterprises. On the other hand, resource companies may view this activity as a way of fulfilling agreement terms and securing community consent, or as part of their contribution to ‘sustainable mine closure planning’ (with the hope that business skills absorbed during the mine life will be extended to businesses after mine closure). Communities may regard these economic activities as a form of compensation for destruction to their land, a benefit, an entitlement, a vehicle for community development, a means for asserting their identity (and rights), or a mechanism for capturing and maximizing financial benefits from the mine, or a combination of them all. In this section we consider some of characteristics of these companies that confound attempts to arrive at simple definitions of success based upon standard measures of financial progress.

In 2014 close to 5000 project area landowner companies (from mining and oil and gas sectors) were listed on the Papua New Guinea Investment Promotion Authority (IPA) Register of Companies (the government function responsible for regulating business and

Table 3
Employment in the mining, oil and gas sectors in Papua New Guinea in 2014.

Employment	Direct	Indirect
Mine employment	10,000	
Lanco employment		15,000
Lanco employment (not contracted to the mine)		4000 +
Mine generated employment in other national companies		15,000
Total mining	44,000	
Oil/gas company employment	4000	
Lanco employment		5800
Oil/gas generated employment in other national companies		6000
Total oil and gas	15,800	
Total extractives sector	59,800	

investment activities).⁴ More than 80% of these had only a single entry in that register: their initial request to be registered. This might be interpreted as a failure but it can equally be interpreted as a signal of the immense interest landowners have in entering business—which might be regarded as ‘a success’, especially so when most people in Papua New Guinea (particularly in project areas) have had limited exposure (as shareholders, or via the media) to the ways in which ‘business’ operates. In all likelihood, these figures are probably also a poor indication of whether or not these companies are ‘active’ (whether they are currently operating or servicing contracts related to specific extraction projects). While it may be easy to assume that the great majority of lancos are inactive or have ‘failed’, in practice very few of these companies are actually ‘inactive’—if they do not have contracts of their own, then their directors are often busy knocking on doors seeking them. This appetite for business appears to be especially strong around the Lihir gold mine, where some 650 lancos were listed on the IPA Register in 2012. A similar story is to be found at the Porgera gold mine, where the developer regularly deals with some 300 local contractors, while its business development staff estimated in 2014 that there were perhaps another 1000 companies or business entities in the area seeking contracts with the mine. Both the Lihir and Porgera examples illustrate that there are hundreds of entities or associations (many of which are not listed with the IPA) who see themselves as being involved, or wish to be involved, in business. Even allowing for multiple directorships, there is probably a higher proportion of the local population at these project sites who can genuinely claim to be company directors than is the case in more famous global commercial centres in economies usually described as capitalist. In other words, while the IPA data sets are impressive they underestimate the eagerness of people in Papua New Guinea to be involved in business.

Beyond the voracious desire for business, we know much less about the economic flows that occur once contracts have been awarded and employment has been provided. This is largely because very few extractive companies conduct the sort of regular socio-economic monitoring that would provide optics on these micro level flows. Although some researchers have provided fine grained qualitative analysis on landowner engagement with resource economies, and the symbolic, social and political dimensions of their business ventures (e.g. Bainton and Macintyre, 2013; Banks, 2007), there is a dearth of quantitative data to complement these studies, which partly reflects the difficulties in obtaining accurate information on the ways in which people use economic benefits in these settings. While mining companies may publicly report the total value of their local contracts, and can usually disaggregate their data according to individual lancos (even if this information is not often publicly reported), there have been very few attempts to connect commercial data with other social and demographic data sets. As a result, when mining companies boast about their contributions to local content, there is generally much less clarity around who is benefiting from these contracts and in what ways, or who is being excluded and for what reasons. These information gaps become especially apparent when issues and conflicts arise over the unequal distribution of contracting and employment opportunities, and the difficulties that emerge when attempting to verify these claims.

Of the approximately 5000 lancos listed on the IPA Register in 2014, around 400 of these were listed as being ‘active’. A sample of 95 lancos from mining project areas were selected for further examination (the balance being companies either connected to the oil and gas sector, or which although apparently active, had no employees).⁵ The level of compliance required of these lancos is not onerous. A clause in the

Papua New Guinea Companies Act exempts most companies from submitting independently audited financial returns. Of the companies reviewed, the majority were so exempted. Nevertheless, compliance was not strong. All of these companies were required to submit annual returns to the IPA, but in 2014 only 14% of them were not in arrears with such returns. On average, companies were 2.7 years in arrears. Some of the largest companies, wholly owned by the state, and in control of large dividend payments on behalf of landowners, were many more years in arrears, which set a rather poor example for smaller companies. In simple terms, this makes it much harder to make any definitive claims about the economic success or failure of these companies, or their potential to be sustainable in the post-extraction phase.

Of these 95 lancos sampled, only 22% had a constitution. While this may not appear to be of great importance in business generally, it is much more important in contexts where most of these businesses are nominally established to benefit the community or groups of local individuals (which is the rationale for receiving preferential treatment). None of these companies are publicly traded and all of them are effectively in the position of demanding subsidies not only from the project company through the preferential award of contracts but from the rest of Papua New Guinea (since the state, on behalf of all the people of the country, owns a share of most major resource projects). Under these circumstances there is an increased need for a document that lays out the company’s goals and the owners and beneficiaries and how profits are to be used and distributed. This also underscores the need for socio-economic monitoring programs to map economic flows within local communities, and the actual beneficiaries of these companies—since the unequal distribution of economic opportunities and the elite capture of benefits is a primary source of local conflict and a threat to stable operations at every resource project.

Overwhelmingly, lancos have ‘traditional leaders’—or local, politically powerful male leaders—as directors. This highlights the political and symbolic dimensions of business, where involvement in this economic domain is often an expression of their engagement with ‘modernity’ and ‘landowner status’. If this reflects the strong gender distinctions found in these ‘mining communities’, where males argue that ‘modern’ economic pursuits are the preserve of men, while women are relegated to ‘traditional’ domains, it also constitutes another form of gender-based discrimination where women are excluded from positions of authority to direct the flow of benefits arising from extraction (Macintyre, 2011). Of the 95 companies sampled, only 6% of these company directors were female, which coincidentally, mirrors the proportion of female directors of the mining companies operating in Papua New Guinea. The average annual turnover rate for directors was 8% which might be taken to reflect shareholder satisfaction with their representatives on the board, but in some cases rather more certainly reflected the fact that opportunities to replace directors were restricted by a failure of some companies to hold annual general meetings and the determination of these leaders to maintain their stronghold on these economic streams.

A major area of risk among some of the larger lancos resided in the fact that although the company was purportedly owned by the original residents of the project area and the transfer of shares to outsiders was strictly prohibited, few of these companies had shareholder registers and, in many cases, the shares of clan groups were held by the clans’ representatives on the board. When this factor is combined with a low turnover rate, irregular annual general meetings and exemption from independently audited returns (plus large sums of money), it is evident that the temptation for directors to self-service, especially since they are also political leaders, must be high. Or to put it more bluntly, it may be argued that these companies simply serve as vehicles for the personal political agendas of elite male leaders, and their lancos are often little more than rent collecting agencies.

A major challenge in the governance of landowner companies now becomes evident: if these companies are mismanaged, how is the situation to be corrected, and who is responsible for doing so? Situations

⁴ The register can be found on the IPA website. See here: <https://www.ipa.gov.pg>.

⁵ There is, however, nothing especially unusual in such seemingly high rates of ‘inactivity’; of the 26 million businesses registered in the USA in 2015, for example, twenty million were reportedly ‘inactive’ (Clifton, 2015).

where companies collapse are usually dealt with later, but where a company is profitable yet managed for the benefit of its directors rather than the community as a whole (or its nominal clan base), the problem is more complex. At the Porgera mine, an extreme case, two factions have contested leadership of the highly profitable landowner company for well over a decade; one faction is led from the lobby of a luxury hotel in the nation's capital and the other by an unprosecuted parricide. The one matter on which both are agreed, as are landowner company directors at other project sites, is that both the state and project owner are legally bound by the terms agreed to prior to operations to continue to support the umbrella company and, indeed, all landowner companies. The landowners are by no means powerless to enforce their wishes in this matter, as in other regards. Any 'interference' by the project company or the state is often strongly resisted (Bainton, n.d.).

Small and medium size business failure rates in the richest countries where access to markets, modern infrastructure, capital, and transport services are excellent are reported to be in the order of 50% after five years of operations (Australian Government, 2012). This appears to also be the case at those mine sites in Papua New Guinea which are well established. In 2014, the average age of landowner companies at the Ok Tedi mine, for example, which has been in operation since 1981, was 16 years. However, at all the early large-scale projects (Ok Tedi, Porgera and Lihir), the flagship companies (the large, community-owned 'umbrella' or representative companies) had *all failed*. Those at Porgera (trading as Ipili Porgera Investments or IPI) and Lihir (LAKAKA, and later rebranded as Anitua) both failed twice during their first ten years of operations and on each occasion had to be rescued by cash inputs and, in Porgera's case, by secondment of mining company senior staff. The local political significance of these two companies meant that they were too important to fail. It might be argued that project intervention in these cases has been justified. Both Anitua and IPI are (now) relatively successful (and independent) companies, with a combined workforce in excess of 5000 people, in control of many millions of kina-worth of assets, and with diversified operations (in both geographical and sectoral terms). Both now operate in other parts of Papua New Guinea and internationally (in Australia and Pacific Island countries) and both now obtain a good portion of their revenue from places other than their place of origin. From this perspective, these companies are often presented in the media as 'success stories' and models for emulation. Their ability to break through the land-based constraints that often prevent many lancos from gaining contracts in other areas is partly based upon a strategy of partnering with local lancos at other projects. But this approach generally requires scale and resources (to be attractive to other firms).

On the other hand, these companies occupy precarious positions and are subject to intense political and commercial pressures. The landowner-business nexus presents a direct challenge for mine operators and their commercial contracting processes, and when large lancos are perceived to be relying too heavily upon local landowners for political support, mine operators are just as likely to treat them as a threat and exercise (commercial-political) means to dissolve their power or their ability to leverage contracts. These responses often undermine any long-term gains that have been made. This situation is further complicated by the tendency of some companies to award contracts to landowners in response to compensation demands—which then makes it rather more difficult for these companies to later maintain the distinction between 'benefits' and 'compensation' or to uphold their commercial tendering processes. And the existence of many hundreds of other smaller lancos in these project locations that are all competing for limited contracting opportunities from the same source, tends to weaken the potential for economies of scale and the sustainability of individual companies. The company that gave rise to the original concept of the umbrella company and was the starting point for landowner business development policy in Papua New Guinea, the Cloudlands Investments company developed at the Ok Tedi mine in the early 1970s, suffered a different fate. When it ran into the same sort of

problems that later afflicted IPI and Anitua, it was rescued, not by the project company, but by the local Member of Parliament who simply bought out all the other shareholders (clan representatives) with the intention of running it as a private company. Unfortunately he, and his management plan, then died. The only references in the IPA Register today to Cloudlands have the appended information: 'Removed'.

The success of landowner companies (especially larger overarching ones) presents several issues for consideration. The first issue concerns the constraints on competition, and whether or not these larger companies are incubators or killers of smaller lancos. For instance, while the umbrella company at Ok Tedi failed, that project site has witnessed the flourishing of more than thirty medium sized, locally owned businesses all of which were operating in 2015. This distinguished Ok Tedi from some mine sites where landowner business development consists of a single, overwhelmingly dominant company with few, if any, other sizeable companies but a host of smaller operations.⁶ This suggests that in most cases one of the original anticipated functions of the umbrella company concept—to provide shelter as a sort of incubator for local businesses—has not been fulfilled, but rather that the main community-owned company has effectively hindered and prevented the growth of any local and similarly sized rivals rather than assisting their development. This may also explain why the term 'umbrella company' has been swapped for 'representative company' since the latter term more accurately describes the function of these companies and the tensions that arise when umbrella companies are competing against their infant companies for the same lines of business.

As a final point, it is also worth considering the extent to which these economic opportunities or 'benefits', which are intended to offset the impacts of extraction, are also a major source of impact in themselves. We have noted the economic inequality and the social and political fragmentation connected to the competition over contracts. The development of local business opportunities is also a primary driver of in-migration, as people seek employment with these companies, or to partner with local lancos to obtain access to these contracts. Elsewhere we have made the case that project-induced in-migration is one of the most profound disruptions for local communities (Bainton and Banks, 2018; Bainton et al., 2018; Bainton, 2017). While there are a host of 'pull factors' that attract migrants to mining centres—including access to economic opportunities and social services—there is a need for greater attention on the ways in which these population flows, and their attendant impacts, are enabled and exacerbated by the very benefits that are intended to support more sustainable outcomes at the local level.

6. Conclusion

From a social perspective, local business development in Papua New Guinea can be understood as a very specific form of 'levelling' whereby local project-affected communities assert their rights and interests as the customary owners of the land upon which these extractive ventures are occurring through their demands for preferential business contracts in order to increase their share of the social and economic benefits arising from these projects and to decrease the economic monopoly of developers (Bainton and Macintyre, 2013). These levelling acts are directed both vertically toward dominant forces (corporations) and horizontally towards 'peers' or other landowners as part of the broader competition over access to benefits within these 'mining arenas' (Bainton and Owen, 2019).

This dimension provides another angle for considering success: even when a business 'fails', it may still be successful in social and political terms, especially if it provides a platform for local leaders to

⁶For example Anitua (Lihir), IPI (Porgera), Trans Wonderland (Oilfields area), Raibus (Ramu Nickel mine) and NKW Holdings (Hidden Valley gold mine).

demonstrate their power and largesse. That is, while a company that fails to make a profit may eventually go out of existence, it is important to recall that venture failure often exhibits more subjective than objective qualities: the perspectives of the owner of the business are important (Australian Government, 2012: 8). When lincos falter or collapse this often only serves to reinforce the interconnection between the rhetorical and commercial forms of viability that underpin these entities. The former relates to claims about landownership and the rights entailed in this status. This form of viability is generally both easier to demonstrate and more 'sustainable' in the sense that it will endure beyond individual business ventures. The latter form is typically much harder to achieve, and extractive companies increasingly require lincos to demonstrate their commercial viability (through compliance with safety and other commercial-industrial regulations) before they can even bid for contracts. But in practice, the former often overrides the latter and provides the grounds for reinvesting in these companies even when they become insolvent. It is at this point the conflation between compensation and contracts becomes apparent, as contracts are regularly provided and expected as a form of compensation for the social and environmental impacts arising from these large-scale economic development projects.

Two further issues arise from the preferential treatment of local businesses. The first is that whilst it is improbable that any business owned by people in existing project areas would have arisen without some form of initial protection, preference or subsidy, difficult questions remain concerning whether or not, or at what point such protection should be removed. Mining companies find themselves caught between their commitment to local content opportunities and their commitment to free market ideologies and competitive commercial processes. Some lincos have achieved a measure of 'success'—and a degree of sustainability—because they have diversified geographically and sectorally away from pure dependence on servicing the needs of the projects that gave rise to them. But when these companies successfully compete against other national companies for contracts elsewhere, mining company managers often begin to ask whether these lincos should still be entitled to preferential treatment and whether the continuance of this 'right' is distorting local competition and undermining long-term commercial viability (and their own corporate profitability).

The second issue arising out of the preferential system of contract awards (which equally applies to the preferential system of project labour recruitment) is that when there are only a couple or so projects then conflicts are unlikely to arise, but when there are a dozen or more resource projects across the nation, preferential treatment will automatically limit the extent to which local businesses established successfully at one site might facilitate their own sustainability by expanding their operations into new sites (where local preferences will act against them). In Papua New Guinea this limitation arises for the simple fact that each set of project area landowners expects exclusive access to economic opportunities arising from 'their' project—in recognition of their status as landowners—and any attempt by other landowner groups from other resource projects to encroach on their 'rights' is typically met with great resistance. Notwithstanding the success of a very small number of companies who have been able to partner with other lincos at other project sites, this option is not available for the majority of lincos (who do not have the scale or capability to do so).

Papua New Guinea was one of the least industrialised countries in the world when it started to develop its mineral resources some four decades ago. At the time it was reasonable to expect that linkages between these mining projects and the rest of the economy would be minimal. It is still true that Papua New Guinea has a largely non-industrialised economy, even though extractive companies have expended billions of US dollars on national suppliers. If this seems like a significant amount of money in a country of this size, these kinds of figures (regularly boasted by the industry) often provide little comfort for project-affected communities who still feel as though they have failed to benefit from extraction in the ways that they had anticipated,

which is symptomatic of the deeper inability of the industry and the government to convert this mineral wealth into lasting forms of development in these resource enclaves. These development failures (and the uneven distribution of other project payments, like royalties and compensation) create even greater levels of competition and conflict over business contracts as one of the few alternative means for accessing project-related benefits. Many challenges in the management and support of such landowner businesses remain, and any degree of success in local business development achieved by some extraction companies does not exculpate them from criticism in respect of other aspects of their impact on the country.

Occasionally, mining has successfully transformed an isolated and marginalised region into one where more integrated and reasonably sustainable economic activities can flourish. Much more frequently, mining towns and their associated socio-economic infrastructure do not survive long once mining ceases and whole mining regions, even in the most wealthy of societies, languish in economic depression for decades after closure (Bainton and Holcombe, 2018). One may conclude therefore that, in most but certainly not all cases, opportunities for maximising benefits and sustainable outcomes for project-affected peoples will be found away (and even a very long way away) from the site itself. In the case of Papua New Guinea, it certainly seems like this will be the case. The most sustainable benefits will continue to arise through the employment skills imparted during operations that allow some people to move to other places to find employment, while those businesses that can service industry needs (but are not tied to specific places and projects) will be more likely to thrive and prosper. Investment in local project area businesses is evidently adding to the overall quantum of resource benefits in these extractive enclaves and beyond. But it is much less clear whether the overall benefits outweigh the enormous subsidies that a very large number of these local businesses have received from project developers and the national government or whether these benefits and subsidies are translating into forms of economic activity that will survive—or be sustainable—beyond the life of individual projects. Even if these landowner companies are 'successful', there is much less evidence to suggest that these benefits will sustain these communities or make up for any community development shortfalls or other expectations placed upon these companies once the dozers stop and the dust settles in these enclaves.

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