Mining and Communities: a Simulation Game as an Educational Tool for the International Mining for Development Centre

Researchers: Rita Armstrong, Caroline Baillie & Lara McKenzie
School/Centre: School of Civil, Environmental and Mining Engineering
University/Institutions: University of Western Australia

Key themes: Community and Environmental Sustainability
Key countries: General application
Completion: April 2014

Research aims:
The aim of this Action Research was to develop pedagogical teaching material – a simulation game – in order to:
- Allow the participants to experience the problematic impact of a mining project from a community perspective
- Gain an insight into the nature and genesis of these problems
- Foster the development of a more collaborative, equitable and less adversarial negotiation framework within the participants’ own regions

For further information on this action research:
Contact person: Caroline Baillie
caroline.baillie@uwa.edu.au
Summary of Action Research Activity

Mining and Communities: a simulation game as an educational tool for the International Mining for Development Centre

“Mining and Communities” is a pedagogical game designed to be played by government and NGO representatives who are interested in developing a negotiation framework that is based on a real understanding of community concerns and which will, therefore, ideally deliver more equitable outcomes for communities affected by mining activity. It might also be used as a university teaching tool or by those interested in learning more about the relations between communities, mining companies and other groups.

The two regions of West Papua and Papua New Guinea were selected as case studies, illustrating comparative differences in governance, land rights and attitudes towards regulating the mining industry. The case studies were written with a focus on understanding the social experience of mining with the aim of uncovering some common themes or patterns in how people are affected throughout the life of a mine.

The design of the Game is based on liberative pedagogy, which has been shown to be an effective educational approach to bring in marginalized voices, and on the concept of ‘theatre for development’ as a tool for science communication.

The game consists of two parts in the life of a mine in the hypothetical state of Minadoro: Part I takes place during the construction of the mine site and the development of a mining town, while Part II takes place during the mineral extraction phase. Participants take on roles as members of families belonging to one of two different communities—one that has rights to the land on which the mine is situated and another community that lives further downriver from the mine site. The simulation strives to facilitate a better understanding of the complex nature of community engagement and to act as a catalyst for debate: the discussion following game play will allow participants to raise similar or different issues within their own regions and to analyse how these can be more effectively negotiated.
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REPORT TO IM4DC

Dr Rita Armstrong
Professor Caroline Baillie
Dr Lara McKenzie

University of Western Australia
April 2014
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PART 1: INTRODUCTION
There are four parts to this Report:

- Part 1: Introduction and brief
- Part 2: Presentation of two case studies which illustrate obstacles to resolution of stakeholder conflict
- Part 3: An explanation of the simulation game in which players will experience, through role play, the impact of mining at a community level. The materials for this game are attached to this Report in Appendices A-G
- Part 4: Justification of the budget

1.1 Brief
The commission for this Action Research project was to develop pedagogical teaching material – a simulation game – in order to:

- Allow the participants to experience the problematic impact of a mining project from a community perspective
- Gain an insight into the nature and genesis of these problems
- Foster the development of a more collaborative, equitable and less adversarial negotiation framework within the participants’ own regions

The intended participants are government employees and NGOs who are interested in developing a negotiation framework that is based on a real understanding of community concerns and which will, therefore, ideally deliver more equitable outcomes for communities affected by mining activity. While the Game is intended for use primarily in Africa, the material can be adapted for use in other countries as a teaching tool to enable participants to better understand how communities are impacted by mining operations.

1.2 Theoretical framework
The design of the Game is based on liberative pedagogy which has been shown to be an effective educational approach to bring in marginalized voices (Riley 2003) and on the concept of ‘theatre for development’ as a tool for science communication (Baillie 2007).


PART II: CASE STUDIES

2.1 Introduction
Two broad criteria were adopted for the choice of case study material which would enable us to create a realistic scenario of the potential social impact of mining activity:

- The context should be rich in social, cultural, and societal issues with a variety of stakeholders
- There should be a wide range of literature from various academic publications (anthropology, development, law, environmental engineering and human geography) as well as SIAs, NGO reports, news media and documentary film footage

We then included a third criterion:

- As the game is intended in the first instance to be used in different African countries, a non-African context was to be selected to avoid any controversies or concerns with participants of those or neighbouring countries

The two regions of West Papua and Papua New Guinea satisfied these criteria and were also ideal for considering comparative differences in governance, land rights and attitudes towards regulating the mining industry.

The case studies were written with a focus on understanding the social experience of mining with the aim of uncovering some common themes or patterns in how people are affected throughout the life of a mine. The case studies are not intended to cast those experiences in simplistic terms – being either ‘positive’ or ‘negative’ – or to cast companies and communities in the respective role of ‘villains’ or ‘victims’. Rather the case study material has provided us with the kind of knowledge which can inform a realistic simulation of the common problems facing communities who live within, or alongside, mining leases.
2.2 CASE STUDY 1: The Porgera mine (Papua New Guinea)

2.2.1 Context

Colonial history
Although explorers from Spain and Portugal made landings on the northern coast in the mid sixteenth century, the Dutch were the first colonial power to claim sovereignty over the eastern part of the island in 1828; the German then annexed the northern territories; and Britain declared a protectorate over the southern portions in 1888. Control over the British and German portion was transferred to Australia in trusteeship in 1906 and 1914 respectively and Australia’s trustee role was mandated by the League of Nations in 1920. The Japanese occupied the island in early 1942 but were ousted by the Allies by the end of the year. The Australians resumed control over the eastern part of the island after the War and the first Legislative Council was established in 1951.

Timeline to independence
- 1964 Creation of House of Assembly with 64 members and a majority of Indigenous members
- 1968 Membership of House of Assembly increased to 94 members; introduction of ministerial system
- 1972 Membership of House of Assembly increased 100 members, voting age reduced from 21 to 18
- 1973 Self-government declared on 1 December
- 1975 Full Independence achieved on 16 September

At the present time, members of the National Parliament are elected from 89 single-member electorates and 22 regional electorates (DFAT 2013). The regional electorates correspond to Papua New Guinea’s 20 provinces, plus the Autonomous Region of Bougainville and the National Capital District. Members from regional electorates also serve as provincial Governors. Each province has its own provincial assembly and administration.

“Unlike many Commonwealth countries, Papua New Guinea has no settler population, and, unlike many African states, it has no majority ethnic group. Furthermore, Australia’s administration of Papua New Guinea was both well-meaning and under-resourced. As a result there has been little alienation of land and it is difficult to recognize Papua New Guineans as “indigenous people” separate from “settler” populations, as is typically done in Australia, Africa, and the New World. At the same time, however, Papua New Guinea is highly reliant on resource rents, and the activities of international logging, mining, and hydrocarbon companies present a picture of a David-and-Goliath struggle between local people and transnational capital that is comfortably familiar to many first-world activists” (Golub 2006a, p. 265)
Challenges facing new government

Political stability
The country was faced with a series of short term governments due to shifting allegiances which resulted in a series of no-confidence votes against the incumbent government. Julian Chan for example became PM in 1980, but was ousted in 1983 after his deputy defected to the opposition party; the new government then lasted two years before another vote of no confidence in 1985, and yet another vote in 1988. All governments have been coalitions: no single party has won enough seats to form a government in its own right (DFAT 2013). At the present time PNG governments are protected by the Constitution from no-confidence motions for the first 30 months of a five-year term (they were previously protected for 18 months).

Regulating the resource sector
The large-scale mining sector in Papua New Guinea has underpinned the formal economy of the nation since independence in 1975. The sector has also been the focus of intense high-profile conflicts over this period; most notably the civil war on Bougainville followed by the less violent, but equally high profile, court case against BHP as the operator of the Ok Tedi mine (Armstrong, Baillie, Cummin-Potvin 2014, pp. 15-43). Gold, copper and petroleum now account for 75% of commodity exports from PNG.

The independent PNG government did not allow free rein to transnational mining companies but attempted to impose strong financial and environmental regulations of the mining industry. The Environmental Planning Act required developers, for instance, to fund social impact studies as a precondition for mining operations. These social impact reports did not achieve long terms results for a number of reasons:

a) In the case of the Ok Tedi mine, for example, the framework of analysis focussed on business opportunities and economic benefits rather than predicting what type of social dislocation might occur with mine construction (Armstrong, Baillie & Cumming-Potvin 2014, p. 21)

b) Very few of these consultancy reports found their way into mainstream literature. “Developers view consultants’ reports as proprietary information and are reluctant to make them public, partly out of nervousness about publicity and partly out of habit: why, after all, should they give away something they spent shareholders' money on?” (Jorgensen 2002, p. 268)

c) Much more money was spent on environmental impact assessments in the early days rather than social impact assessments (Burton 2000, p. 102)

The PNG government also saw mining as a means to rural development, and it was required that mining companies pay compensation to people on whose land they mined. They also supported the unionisation of mine labour. The heavy reliance on mining royalties and taxes, however, placed the PNG government (or, the regional governments) in a difficult position. With regards to Ok Tedi, the government essentially supported the Ok Tedi Consortium and allowed it to dispose of tailings in the Fly River system, and subsequently prevented locals
from instigating law suits in international courts by criminalising such action (Armstrong, Baillie & Cumming-Potvin 2014).

2.2.2 The Porgera Mine

**Location and background information**

The Porgera gold mine is located in the Porgera Valley, Enga Province in the Highlands of Papua New Guinea (PNG). Exploration and sampling (carried out by a consortium of international companies) began in 1964 but results showed the orebody to be low grade and therefore uneconomic to mine (PEAK 2013a). It was not until a higher grade ore was sampled in 1984, twenty years later, that mining was deemed feasible. Production from underground mining commenced in 1990 with an output of one million ounces of gold in its first year of operation (PEAK 2013a).

As the PNG government approved the Porgera mine development plan in 1987, the Ipili people [on whose land the mine is situated] saw that as heralding a new era of modernisation for them. They eagerly awaited the mine, which they expected would generate much needed economic benefits (Imbun 2000, p. 131). Other inhabitants of the Enga province, who did not live within the mining lease, were concerned they might miss out on the potential benefits of the mine and advocated that mine investment in benefits for the whole region - roads, hospitals and schools (Imbun 2000, p. 131).

Overall, however, the Enga people were keen to for mining to arrive and some of their views about receiving these benefits, and the tensions these produced are evident in a film “Mountains of Gold”, produced in 1993. This film, along with later publications, does not depict the Ipili as helpless and hopeless victims of transnational corporations:

In the run-up to mine construction, PJV paid out US$12 million in a variety of compensation claims, and continual negotiation was the order of the day. In a scene that must stand for many, a PJV surveyor relocates a road route to avoid an intransigent landowner’s demands for compensation, the surveyor’s frustration spilling over as he asks, “who else wants to stop the work?” Another company employee complains that as soon as word gets out that PJV is interested in drilling in a particular area, new houses spring up overnight, the better to stake compensation claims. In this part of the story, the Ipili show themselves to be capable and shrewd in their dealings with PJV, much to the latter’s chagrin (Jorgensen 1997, p. 168).
By 2000, Porgera was the largest gold producer in PNG and Australia. However at that time, the mine was also known as "another Ok Tedi" (Kennedy 1996a) “because, like Ok Tedi’s, its tailings are discharged into a river system and, again like Ok Tedi, it has been the subject of attention from Australian and international nongovernment organizations, particularly environmental ones. Unlike Ok Tedi and Freeport, concerns over the environmental effects of the Porgera mine are due less to the deposition of tailings and sediment downstream--which has been largely absent in the Porgera case--and more to do with possible chemical effects and associated claims of deaths” (Banks 2002).

Mine production began in 1990, with Placer Dome as the operator until 2006, when international gold mining company, Barrick acquired Placer Dome. The mine is operated by the Porgera Joint Venture (PJV), which is an unincorporated joint venture between Barrick (95%) and the Enga Provincial Government and the Special Mining Lease (SML) landowners (5%). Barrick operates the mine on behalf of the PJV.

Social impact of the mine
In its early the Porgera gold mine was known as technically one of the most sophisticated and successful mines in terms of gold production (in its second year, it was the third largest gold producing mine in the world). It has created significant changes both to the local Ipilli people, as well inhabitants of the Enga province. Much of the following information about these changes – which are differently perceived depending on residence, gender or age - come from the following sources:

i) *Dilemmas of Development* (Filer 1999), an edited volume commissioned by the PJV and based on consultancy reports prepared for PJV which are not normally released to the public. The editor, Colin Filer, is the former head of the Social and Environmental Studies Division of PNG’s National Research Institute and two of the authors (Aleeta Biersack and John Burton) were asked to provide input into the Porgera Social Monitoring Programme. One reviewer, an anthropologist who worked near the Ok Tedi mine site claimed that “the one major achievement of the current volume was securing the publication of material that might otherwise have remained in corporate files” (Jorgensen 2002, p. 369). This collection focusses on the complex unfolding of the social consequences of mining

ii) Material published by Alex Golub, an anthropologist, who wrote his PhD on the negotiations between the Ipili and the mining company (2006b)

iii) A Scoping Report on the social impact of the mine on women in the Porgera area (Johnson 2011)
The social impacts of the Porgera are complex; what follows are some core issues distilled from the material listed above and is intended to convey how the ‘intentional development’ programs of mining companies (Banks 2013) such as health or education may create positive outcomes while others, such as cash compensation, can generate conflict in unimagined ways.

**Compensation to people living within the mine lease**

About 500 people were relocated from the mine site. There was a rush to establish house and garden sites within the lease area (ie to provide tangible evidence of residence in the hope of claim a share of compensation). This resulted in complex negotiation of cash settlements and relocation arrangements within those living in the lease area (the ‘old’ and ‘new’ residents). Porgera Joint Venture's task in allocating benefits was immediately complicated by the readiness with which local Ipili welcomed others--Ipili, Enga, and Huli--to settle on their land. While the company probably saw these moves as signs of avarice, what such views missed was the hosts' eagerness to bolster their own base of support with new recruits (Biersack 1999).

Obligation to share based on Ipilli notions of kinship. Also the families relocated to permanent housing ended up hosting large numbers of kin and affines, and the pressure on housing was intensified by the company's failure to make provision for landowners’ children as they grew and married.

Finally, compensation to those living within the mining lease created amongst those living outside it: “there is no doubt that Special Mining Lease landowners have received the vast majority of them [payments], and resentment is both a widespread and justifiable sentiment throughout the valley (Golub 2006b, p. 25).

**Lack of settled and safe township**

The Porgera region does not seem to have developed a settled township like Tabubil near the Ok Tedi minesite. The increasing level of violence in the region, which seems resistant to policing, has “undermined efforts to develop the local township” (Jorgensen 2002, p. 369) which has deterred workers from living in the local town, and increased the FIFO rate (Banks 2012). Most wages were therefore spent outside the Porgera region. Compensation payments were dispersed in consumption or gifts and investments were initially put into shops or transport, ventures which did not always succeed due to lack of business experience, vandalism and robbery. The landowners (Ipilli) wealth from compensation is not sufficient to sustain livelihoods and subsistence farming is still a necessity.

**Influx of outsiders**

However, despite all this, the Porgera region is attractive to people in surrounding regions and the influx of people looking for work is “arguably the single most important social consequence of mining” (Jorgensen 2002, 369). Some
anthropologists have focussed on the negative consequences of this influx (eg Bonnell) and point to the lack of public safety etc. Others like Biersack say that Ipili welcome widened marriage ties, and all the obligations that it entails, because it offers a wider ‘safety network’ in the lieu of a state that fails to provide that network and fails to protect its citizens from violence.

The poorly educated Ipili population had access only to more poorly paid entry-level employment opportunities at the mine, but many sought to transform compensation and royalty payments into business development. Yet, as Glenn Banks makes clear in 'Business as unusual', though several hundred new businesses (mainly stores) appeared, fully two thirds had failed within a year or so and more than half the remainder were ephemeral. Despite a frenzy of economic activity after paydays, creating a fortnightly 'pulsing' of the local economy, most of the new income quickly flowed out of the area, to the larger highlands towns and beyond. There was little prospect of any economic venture surviving the closure of the mine” (Connell 2001).

Anger of younger generation towards older generation

Susanne Bonnell describes the view of the younger generation as being 'characterised by the anger of the children of the first generation of landowners who felt cheated by the greed or ignorance of their parents' (p.26).

Women

In Johnson’s Scoping Study, Porgeran women were asked how the gold mine affected their lives. Here are salient features of her report, written in 2011:

- The Porgera gold mine has been in the valley for 22 years which represents an entire lifetime for some women
- During that time, the mine has provided roads, hospitals, schools, educational opportunities, and has created incentives for women to work on the mine if they wished, and has enabled the women to create the Porgera District Women’s Association
- For these younger women the mine represents “a paternal figure or quasi government authority to whom community members turn, and from whom material things are frequently provided” and consequently they cannot imagine a life without the mine

Yet Johnson also recognized that there was a “a generalised, and often institutionalised, sense of worthlessness and powerlessness for women in Porgera” which was associated with the following:
- Women are more likely than men to talk about the negative impacts associated with the mine: the social disruption caused through the influx of outsiders,
alcohol-fuelled violence, rampant polygamy or extramarital liaisons, and men’s selfishness about sharing money or supporting their families

- When women were asked about life in Porgera they talked about environmental degradation, their fears, their children, their hunger, their increased dependence on money and its subsequent hardship, the loss of land – and envy at the support women in the Mining Lease area receive
- Women receive some financial recompense but men are overrepresented in landowner groups, owing to a predominately patriarchal social structure that limits women in general and also restricts their access to land. For people in Porgera, as elsewhere in PNG, land is everything: it represents wealth and standing and provides food security.

The role of the mining company

The decline of centralised government facilities (lack of basic admin, lack of staff) at the beginning of the mine’s life meant that Porgera was especially attractive to local people as it provided exactly those facilities that the government failed to provide, a “de facto site of sovereignty in the face of the state ineffectiveness” (Jorgensen 2002, p. 369, Bonnell 2012).

As Golub points out (2006b, p. 32) “the government is often more noticeable for its absence rather than its presence in Porgera, and senior mine management often complain bitterly about the fact that the mine must assume the role of the state in Porgera”.

The final chapter in the volume on Dilemmas of Development was written by John Burton who argues that the consultants reports have little impact because they get lost in bureaucracy, and (in those days at least) there were few mechanisms for action and feedback.

He said that a partial explanation for the lack of commitment to acting on these reports came from “the indeterminate nature of social impact crises, when compared to the more definable parameters of engineering or the physical environment. Bridge designers, for example, face calculable fears about what their creations must withstand, so that their specifications for construction are credible and usually uncontroversial. By contrast, the worries of social planners in relation to mining impacts are frequently as convincing as a vague fear of the dark to the engineers and geologists who form the bulwark of mine managements” (2012, p. 295).

He argued that management needed to look beyond the crisis of the moment, and to pay the same attention to social, as to environmental, affairs.

Understanding local culture: negotiating with local elites and the mining company

Alex Golub characterizes the Ipili as “some of the most active and successful indigenous people in the world to have pressed claims against the state and global capital” (2006, p. 267). They are also seen as ‘truculent’, difficult and greedy. Yet Golub argues that their
consumption patterns (houses, cars, etc) are a reflection of their desire to benefit from mining and to have the ‘stuff’ that white people have, although they are deeply critical of white people because they do not understand kinship and value everything in terms of money. Ipili have a long standing history of welcoming certain aspects of colonial and post-colonial rule if it benefits them, or at least shaping these changes to benefit themselves.

As landowners of the mine site, the Ipili received compensation “beyond their wildest dreams” (p. 278) – money, electricity, houses, roads etc. Over time the Ipili have “gained self-confidence in their dealings with outsiders. Experience with court cases at the national level, the work of hiring lawyers, making depositions, and so forth has given a small but significant number of Ipili a chance to experience the operations of the legal system in a nonlocal setting. Among these people and those close to them, the law is not seen as a way through which white men pursue peace, but the arena in which they undertake conflict. Litigation, in other words, is the lawa of tribal fighting, and courts, as one man said to me, are “how white men fight” (Golub 2006, p. 285).

The first negotiators: the senior men who negotiated the Porgera compensation agreements with the government in the late 1980s were the first Ipili men to have gone to college. In their interviews with Alex Golub, they drew clear analogies “between pre-existing aggressive cultural structures and the Western legal system. One of the Ipili’s most experienced negotiators, Jonathan Paraia, made this particularly clear to me (Golub) when he discussed the formation of the Porgera Landowners Association in the mid to late 1980s:

They [less educated landowner leaders] didn’t know all this “companies” and “associations” and all that, so I had to put it in a local context where they can understand what it’s like, you know, how it operates. And they knew what akali anda [the men’s house] was. The men’s house is where you sit down and talk and plan and how to go and attack other people and how to go and take things from other people. (laugh) How to negotiate. And they were already used to that. And I was saying, you know, we’ve got to build our own akali anda now, and some of you guys are going to be leaders like clan leaders and subclan leaders, you’re going to be leaders like that. And that is where you are going to deal with . . . national government, provincial government, and company on behalf of the landowners (Fieldnotes 1999).” (Golub 2006, p. 285).

Golub feels this idea of “going on the attack” is idiomatic of Ipili culture which is at odds with the ideology of western ideas of procedural justice, but sits quite nicely with the realities of dealing with mining companies. He says their long history of litigation (2006, p. 286) had equipped them to deal with mining companies.
2.2.4 Reference list


2.3 CASE STUDY 2 The Grasberg mine (West Papua, Indonesia)

2.3.1 Context

Colonial history

Those indigenous to what is now known as West Papua occupied the Sahul continent—that is, Australia, Tasmania, New Guinea, Seram, and their neighbouring islands—at least 40,000 years ago. In 1828, the Netherlands claimed the western area of New Guinea. As discussed above, the Germans and the British claimed the north-eastern and south-eastern portions of the island respectively. Control of the western area of the island later passed from the Netherlands to Indonesia (although the north coast was briefly held by the Japanese in WWII).

Timeline: The Netherlands, Indonesia, and West Papua

- **1945** following the end of WWII, Sukarno and Hatta declare Indonesian independence. Sukarno is appointed as the first President of Indonesia
- **1949** Indonesia gains full independence from the Netherlands, but West Papua remains under Dutch control (with the Dutch having plans to grant it independence in the future)
- **Early 1960s** Sukarno gives support and protection to the Indonesian Communist Party (PKI)
- **1963** following pressure from the U.S., the Dutch cede control of West Papua to Indonesia, who declare it a province of the federated state of Indonesia
- **1965** the OPM (Organisation Papua Freedom) movement is formed in West Papua. They aim to gain independence from Indonesia
- **1965-66** massacres and mass arrests of the Indonesian Left are perpetrated by Suharto
- **1967** Suharto becomes President of Indonesia
- **1969** West Papua votes to join Indonesia in a referendum (The Act of Free Choice). The vote is later revealed to be flawed
- **1998** the fall of the Suharto government. Indonesian provinces including West Papua receive greater regional autonomy
- **2001** West Papua is granted “special autonomy” status. This is framed as a compromise between the central government and the secessionists, although it is not fully implemented
- **2003** the West Papua region is divided into the provinces of Papua and West Papua.¹ This is seen as an attempt to weaken the West Papuan independence movement

¹ Technically, the Grasberg mine is located in the province of Papua, but both provinces are still generally referred to as West Papua, particularly by those supporting West Papuan independence. As such, I make no distinction between the two provinces, referring to the area as a whole as West Papua.
“Being Papuan or Melanesian rather than Indonesian is a central political claim and a key feature of identity politics for West Papuans, whose attitudes towards Indonesians have been shaped by the racialized discourse that discriminates against them… One acquires a radically different view of West Papua depending on whether it is approached from an Indonesian perspective, emphasizing continuity and integration, or the view of West Papuans, who stress separation and difference” (Kirsch 2010, p. 4).

Challenges facing new government

Political stability

From 1965 to 1966, Suharto perpetrated the massacre and mass arrest of the Indonesian Left, and in 1967 he became the second Indonesian President. Due to the previous President Sukarno’s support and protection of the Indonesian Communist Party (PKI), Suharto was favoured by the Western powers of the day, and he quickly set about forging economic links with the United States.

“Suharto's Indonesia was a favourite of the Western powers. Indonesia's anti-communist credentials after the massacres and mass arrests that destroyed the Indonesian Left in 1965-66 were second to none. Suharto's reputation also stood high for allowing economic technocrats (the ‘Berkeley Mafia’) to reconstruct the inflation-ravaged economy inherited from Sukarno, and for presiding over the so-called ‘economic miracle’ that followed. Moreover, the civilian facade that his regime eventually presented was partly designed to appease Western opinion. From 1971 onwards, there were regular, if painfully predictable, elections; competing, albeit closely controlled, political parties; a semi-demi-autonomous parliament, and a faintly beating pulse in civil society” (King 2004, p. 96).

Under Suharto’s regime, the military played a central role in performing “domestic security” functions, and members of the armed forces were also active in politics and business (King 2004). West Papua—although problematic in “security” terms—was rich in resources, on which Suharto was keen to capitalise. The region’s newly established mines also provided numerous economic opportunities for the Indonesian military.

“[P]olicing in the problem provinces [including West Papua] was often just another dimension of counter-insurgency and political persecution… Through its yayasan (trusts or foundations established to oversee military businesses) the military became a largely self-financing ‘industry’ in its own right—its impunity on this front strengthened by the absence of any serious accountability to the civilian authorities of the state” (King 2004, p. 101).

Suharto resigned from the Presidency in 1998, following a severe financial crisis and widespread protests. However, “many militaristic features of the Suharto regime either survived his downfall or have since reasserted themselves” (King 2004, p. 95). Furthermore, links between the military and business remain.

“The military has remained essentially immune from the checks and balances of political and parliamentary give and take, and the leading generals also remain essentially beyond the
reach of justice in answering for the abuses of the past. These generals now owe their power largely to the fact that they are representatives of a ‘security’ institution without which... the Indonesian state would disintegrate or dissolve” (King 2004, pp. 96-7).

Unsurprisingly, violent conflict between secessionists (including the OPM), police, and the military has been common (Wessel & Wimhofer, eds 2001). However, it is increasingly suggested that collaboration, rather than resistance, has been an overlooked feature of the West Papuan independence movement, and that an overemphasis on West Papuans as “violent” can have damaging consequences (Kirksey 2012, p. 11).

“By keeping West Papuans in the ‘savage slot’, and in particular by representing them as dangerous and violent, these narratives also legitimate the continued militarization of the Indonesian province. By attributing violence to West Papuans while ignoring the violence of the state, they also impair the efforts of West Papuan political actors” (Kirsch 2010, p. 10).

Regulating the resource sector

Timeline: Government regulation

- **1959** Sukarno government nationalises all Dutch mining companies
- **1960** Indonesia’s Basic Agrarian Law (BAL) (Undang-Undang Pokok Agraria or UUPA), Law No. 5, is among the most progressive of any country for its time, yet it is not fully implemented (Thorburn 2004, p. 34). Its purpose is to create a single land law applicable to all citizens of Indonesia, and to impose a ceiling on private landholdings. “The state reserves the right to reclaim any land for purposes of ‘national good’ (social function)” (Thorburn 2004, p. 36).
- **1967** Suharto introduces policies supporting the expansion of the mining industry. Law 1/1967 and Law 11/1967 allow foreign capital to enter the mining sector in Indonesia. Law 11/1967 introduces the Contract of Work (CoW) scheme, under which mining investors and operators are defined as “contractors” of the Indonesian government. This establishes obligations to the government on the part of mining companies (including taxes, royalty production and import duties, and employment of Indonesian nationals). At this stage, mining companies receive highly favourable conditions, although this gradually shifts over time (Devi and Prayogo 2013; Gandataruna and Haymon 2011)
- **2007** the introduction of mandatory legal requirements for corporate social responsibility in Indonesia (Law 40/2007). These are the first laws such as these worldwide, but are not implemented by the Indonesian government, due to close ties between them and the industry (Rosser & Edwin 2010)
- **2009** in response to the shift to regional autonomy and the 2007 Investment Law (equal treatment of foreign and domestic investors), Law 4/2009 decreases the maximum operation period of mines, alters the designation of mining areas, allows recognition of the 100 per cent foreign investment, delegates authority to regional governments, and introduces a ban on the export of raw material (Devi and Prayogo 2013; Gandataruna and Haymon 2011)

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2 The police and the military were formally separated between 1999 and 2000, following Suharto’s resignation.
“Although in theory Indonesian law recognizes customary land rights under adat or customary law, in practice traditional land rights carry no legal weight, as the Indonesian legal system is based on cultural values not sympathetic to the Papuans’ spiritual relationship with the land and their hunter-gatherer existence” (Leith 2002, p. 86).

The rights of traditional land owners are therefore minimal. They have virtually no right to stop a contract from going ahead so long as “adequate compensation” is offered by the mining company (as defined by the Indonesian government). According to Gundataruna and Haymon (2011), this commonly results in drawn-out negotiations.

“[There has been a] growing recognition of the rights of indigenous communities, a process marked by events such as the establishment of the United Nations Working Group on Indigenous Populations in 1982, the subsequent development of a U.N. Draft Declaration on the Rights of Indigenous Peoples, and the increasing prominence of indigenous social movements and non-government organizations (NGOs) dedicated to indigenous rights” (Ballard and Banks 2003, p. 288).

2.3.2 The Grasberg (Freeport-McMoRan) Mine

Location and background information

The Grasberg gold and copper mine is located in West Papua, Indonesia. It is 4,100 metres above sea level, near Puncak Jaya, the highest mountain in Papua. The mine’s history is closely linked to the nearby Ertsberg mine, which closed in the 1980s.

In 1936, Dutch geologist Jean-Jacques Dozy discovered (and named) the Ertsberg deposit of copper, gold, and silver. Yet because of the Second World War, which was quickly followed by Indonesian independence (1945-9) and Sukarno’s nationalisation of the country’s mines (1959), the deposit went undisturbed for many decades. It was not until Suharto rose to power that mining was again opened up to foreign capital. Following this, in 1967, Indonesia signed a 30 year Contract of Work (CoW) with a New Orleans mining company, Freeport-McMoRan, for the rights to the Ertsberg deposit and its surrounding area. Freeport then began construction of the Ertsberg mine, yet because of the mountainous terrain and tropical climate, the roads and helicopter pads took a long time to build, and the construction process was dangerous, with landslides being commonplace. During this period, the company built a
116 km road and pipeline, a port, an airstrip, a power plant, and a town called Tembagapura (“copper town”). After five years of construction, the mine was ready for operation.

In the 1980s, when the Ertsberg mine was exhausted, Freeport sent geologists to look for other deposits in the area. The Grasberg deposit was then discovered. It was the largest gold deposit and third largest copper deposit ever found. Again, roads were constructed to the mine, with Freeport facing similar problems to those encountered during the construction phase of the Ertsberg mine.

Grasberg operates as an open pit copper, gold, and silver mine, with processing occurring by crushing, grinding, flotation. The mine site is open 24 hours a day, 7 days a week. Weather conditions can be unpredictable and sometimes dangerous, with heavy fogs being common. Twenty percent of the mine’s workers are from the surrounding areas.

In 1991, the original Contract of Work (CoW) was replaced with a new one (Freeport-McMoran Copper & Gold Inc, 2013, p. 99). According to Freeport’s 2013 Annual Report:

| “The initial term of the current Contract of Work expires in 2021 but can be extended by PT Freeport Indonesia for two 10-year periods subject to Indonesian government approval... Given the importance of contracts of work under the Indonesian legal system and PT Freeport Indonesia’s approximately 40 years of working with the Indonesian government, which included entering into the Contract of Work in 1991 well before the expiration of the 1967 Contract of Work, PT Freeport Indonesia fully expects that the government will approve the extensions as long as it continues to comply with the terms of the Contract of Work” (Freeport-McMoran Copper & Gold Inc, 2013, p. 99). |

The Grasberg mine is currently owned jointly by Freeport-McMoRan (91%) and the Indonesian government (9%), and is operated by Freeport. However, in 2008, Freeport signed a Memorandum of Understanding with the Papua provincial government “whereby the parties agreed to work cooperatively to determine the feasibility of an acquisition by the Province of the PT Indocopper Investama [mine] shares at market value” (Freeport-McMoran Copper & Gold Inc, 2013, p. 99). This is yet to yield any results, however.

**Social impact of the mine**

The area surrounding the Ertsberg and Grasberg mines is home to the Kamoro and Amungme peoples. These groups are not recognised as traditional owners by the Indonesian government, which does not acknowledge ownership unless land is being cultivated. Indeed, according to the terms agreed to by Freeport and the Indonesian government, the company has the right to resettle people living in the project area provided that they give some compensation.

In the mine area, containing tailings has been an ongoing problem due to the steep terrain, high rainfall, and weak geomorphic structures of the area, and Freeport argues that it is not

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3 There were changes, post-Suharto, in how mining contracts were negotiated (including new laws making it necessary for Indonesians to own a larger proportion of the company). Indeed, over time (including in the later part of the Suharto-era), the Indonesian government has received a larger share of the mine’s profits than previously.
feasible as a result (Banks 2002). The mine’s tailings are therefore discarded in the Aikwa River. The mine disposes of tailings of 230,000 tons per day, and this is expected to rise to at least 300,000. As the mine is relatively close to the coast, and rivers have low discharges, the effects of the tailings are felt intensely within a relatively small area (Banks 2002, p. 46). Environmental damage has been particularly extensive downstream, which is home to the Kamoro people. Here, the Aikwa Deposition Area is located: about 120 square kilometres comprising dead trees and thick tailings sludge.

The river carrying tailings runs beside one of the Amungme villages (located in the highlands). There are also roads and pipelines located on their land, and mine infrastructure has been built in areas of cultural significance (e.g., for hunting). Additionally, they have been subject to human rights abuses perpetrated by the Indonesian military, with the cooperation of Freeport. The military presence in the area has increased over time, ostensibly to protect the mine (Banks 2002, pp. 56-57). The Kamoro’s land has been used for the tailings retention area and for mining infrastructure, and as such they have suffered more environmental damage to their lands than the Amungme. For instance, the Kamoro community of Paumako had to be relocated by the company. Moreover, communities living downstream of the mine site, such as the Kamoro, were not included in discussions or negotiations for the mine (Banks 2002, p. 46).

In addition to the issues with tailings, Freeport has cleared vegetation in the Contract of Work (CoW) area to allow for the mine’s construction. There have also been ongoing problems with the removal and disposal of waste (garbage) from the mine (Mealey 1996). Both of these have had a negative environmental impact on local inhabitants.

For both the Amungme and Kamoro, loss of control over land and resources appear to be central concerns. Banks (2002) posits that there is no direct link between local protest and environmental damage, and that resistance is more often about loss of autonomy over cultural and subsistence resources. According to Banks (2002), controversies linked to large-scale mining in Melanesia (including Ok Tedi, Grasberg, and Porgera) wrongly focus on issues like waste management, framing issues in terms of environmental problems alone. Banks says “a strict environmental view of the conflict misses much of the intent of indigenous responses to the mines” (Banks 2002, p. 40).

There has been ongoing conflict between the Amungme, the Kamoro, Freeport, and the Indonesian military and police. This includes:

- **1973** protests when the mining began. This was followed by an agreement in 1974 for Freeport to build schools, clinics, markets, housing, and a shopping centre (Mealey 1996)

- **1996** class action lawsuit lodged by an Amungme landowner, Tom Beanal (Beanal v Freeport-McMoRan). It included claims of human rights violations, cultural genocide, deforestation, and water contamination. The case was dismissed after two years because of their “inability to demonstrate the financial link between Freeport and the Indonesian military” (Kirsch 2010, p. 11), although this has since been established

Protests have frequently ended in arrests, deaths, and displacements, brought about by the military and police in particular, and justified on the (unproven) basis that protesters were involved with the OPM. Freeport security has also been implicated at times. (See section on NGOs and the media for details).
Moreover, there have been a series of protests and actions organised by or attributed to the OPM (which includes some Amungme and Kamoro members, among others). These include:

- **1977** attack on the Ertsberg mine, when protesters blew up the main slurry pipe and the attached mine facilities. The Indonesian military retaliated, killing over 900 people (King 2004, p. 126)

- A number of violent ambushes near the Grasberg mine. There were a string of attacks in July 2009, and in 2011 two people were killed. It is unclear whether the OPM, Indonesian police, or military were responsible. It has been suggested that shootings have been orchestrated by the Indonesian military and police so that OPM could be labelled as a terrorist group, and also to discourage Freeport from cutting back on the hiring of Indonesian military/police as mine “security” (Global Witness 2005)

> “New standards for transparency and accountability forced the American mining company to disclose the payments it made to the Indonesian military to protect its operations from the West Papuan resistance movement… [When Freeport then sought to end military payments] shootings on the road to the mine revealed the violence of state actors” (Kirsch 2010, p. 5).

In addition, there has also been conflict between Freeport and their workers:

- **2011** workers’ strike, when workers requested a raise from US$3.50 to US$7.50 an hour. A very low share of mine’s profits go to local workers, and many have only received partial pensions. Shares given out years earlier are not cashed by Freeport. The workers stopped mine production for a week. Indonesian police shot at the striking workers, who were blocking the road into the mine. They killed at least one person.

There are also numerous other examples of strikes, which have also ended violently. Moreover, there have been frequent landslides at the mine. For instance, a mine tunnel collapsed in May 2013, killing 17 people and burying 11 more.

Much of this conflict has been argued to be the result of the close relationship between Freeport and the Indonesian military and police.

> “The minerals-driven boom around the colossal Freeport mine in the southern highlands, particularly in the 1990s, has given rise to a whole raft of ancillary military-dominated industries centred on the lowland town of Timika… Freeport's cosy and closeted thirty-year relationship with the Suharto regime and tacit complicity in the army's appalling record of human rights abuse in the Concession of Work (CoW) area, was rudely shaken in 1995. It was then that local church leaders and NGOs, and the Australian Council for Overseas Aid (ACFOA—an NGO consortium), identified the Freeport security staff as active alongside the military in the abuses that were being revealed... the company tried to distance itself from the soldiery. But ABRI struck back by stage-managing a riot against the company in Tembagapura itself, which was obviously meant to show Freeport who was master and who really needed whom. The company has been picking up the lion’s share of military expenses in the CoW area for years (King 2004, pp. 124-5).
Yet, in their 2013 Annual Report, Freeport claims:

“Between July 2009 and February 15, 2013, there were 37 shooting incidents in and around the Grasberg minerals district, including along the road leading to our mining and milling operations, which resulted in 15 fatalities and 57 injuries. The investigation of these matters is continuing. We have taken precautionary measures, including limiting use of the road to secured convoys. The Indonesian government has responded with additional security forces and expressed a commitment to protect the safety of the community and our operations (40). (Freeport-McMoran Copper & Gold Inc, 2013, p. 40).

The central government has effectively delegated responsibility for any social and economic development to the company (Leith 2002, p. 85). Thus, Freeport has paid for some infrastructure and services in the mining area.

“In 1996, PT Freeport Indonesia established the Freeport Partnership Fund for Community Development (Partnership Fund) through which PT Freeport Indonesia has made available funding and technical assistance to support community development initiatives in the area of health, education and economic development of the area. PT Freeport Indonesia has committed through 2016 to provide one percent of its annual revenue for the development of the local people in its area of operations through the Partnership Fund. PT Freeport Indonesia charged $39 million in 2012, $50 million in 2011 and $64 million in 2010 to cost of sales for this commitment” (Freeport-McMoran Copper & Gold Inc, 2013, p. 100).

The area as a whole is “a magnet for population transfer”, with “increasing economic activity, both legal and illegal”, as well as being a “high-profile target for anti-Indonesian protest” (Leith 2002, p. 85).

“While traditional tribal life was difficult and dangerous, before the company came everybody had a job, a home, land, and most important, a strong, spiritual culture as a point of reference. Today the negative effects of development are evident everywhere within the concession as the social fabric of Papuan life disintegrates. Unemployment, lawlessness, AIDS, drug abuse, and social, spiritual, and economic dislocation are evident. As the government established twelve transmigration camps in and around the Freeport concession and the area became a magnet for migrants, the traditional landowners were displaced and marginalized... Moreover, with the concession now awash with Freeport development funding, [there are] disagreements within and between once relatively harmonious indigenous tribes over the payment of compensation and access to development funding” (Leith 2002, p. 88).

The role of NGOs and the media

NGOs and the media have documented various human rights abuses (of Indigenous people) through a series of reports. These include:

- **Human Rights Abuses by Freeport in Indonesia**: Discusses human rights conditions in Papua in the Freeport areas. Violations that emerge are: killings, torture, rape,
restrictions on movement, interference with legal representation, and forced resettlement (Abrash 2002)

- **New York Times investigation:** An investigation of the links between Freeport and the Indonesian military. “Months of investigation by The New York Times revealed a level of contacts and financial support to the military not fully disclosed by Freeport, despite years of requests by shareholders concerned about potential violations of American laws and the company's relations with a military whose human rights record is so blighted that the United States severed ties for a dozen years until November” (Perlez and Bonner 2005)

- **Trouble at Freeport:** Reports on information gathered through eyewitness accounts from local people, relating to conflict around the Freeport mine area between June 1994 and February 1995. From June to December 1994 about 300 or more indigenous people, mostly from the Amungme tribe, were involved in a series of protests against Freeport (ACFOA 1995, p. 3). Activities included “uprising, flag raising and peaceful demonstration” at Bella village in June, in Tsinga valley from July to December, and in Tembagapura on December 25 (ACFOA 1995, p. 3). “As the authorities claimed this ‘movement’ was rebellious, many troops equipped with automatic weapons, lodgings, communication devices and aircraft, dropped into Hcea, Tsinga, Tembagapura and Mile 50”. When the Tsinga valley “became a battle field”, more than 200 civilians fled into the forests. Troops clear-cut plants in the traditional fields of the people, burned down their houses, and took away cupboards, kerosene and other materials. About 10 civilians were killed and many more related to the “rebels” were captured, interrogated, tortured, and six of them disappeared. Meanwhile, Tsinga civilians were left helpless in the forests, and struggled to survive for 6 months (ACFOA 1995, p. 4)

- **Violations of Human Rights in the Timika Area of Irian Jaya:** Discusses human rights violations in the area of Timika, West Papua, from 1994 to 1995, linked to the Freeport mine in the area. The report describes the incidents in detail, which include summary executions, arbitrary arrest and detention, torture, disappearances, surveillance, and destruction of property (Catholic Church 1995)

- **Paying for Protection:** A report on Freeport’s dealings with the Indonesian military, whereby they paid the military to guard the mine site (Global Witness 2005)

- **Indonesia: Keeping the military under control:** This report outlines the decline in military control, post-Suharto. It also pinpoints areas of continued military control (e.g., the military's raising of money through business enterprises), and points to further measures that should be taken in order to keep the military under civilian control. Recommendations include making changes to military doctrine, military representation in legislatures, territorial structure, domestic intelligence, military finance, military discipline and cohesion, accountability, and fostering international support for civilian government (International Crisis Group 2000)
• *Risky Business*: This report explains what the problems surrounding Grasberg are, and details some of the steps that might be taken to improve the situation (Project Underground 1998)

“Mining has been central to the evolution of the notion that resources can be a curse that gives rise to a lack of development, internal tensions, human rights abuses, and conflict at the national level” (Ballard and Banks 2003, p. 295).

2.3.3 Reference list


PART III SIMULATION GAME: “Mining and Communities”

3.1 Aims and outcome of the game

“Mining and Communities” is a pedagogical game designed to be played by government and NGO representatives. However, it might also be used as a university teaching tool or by those interested in learning more about the relations between communities, mining companies, and other groups.

The purpose of the game is to:

- Allow the participants to experience the problematic impact of a mining project from a community perspective
- Gain an insight into the nature and genesis of these problems
- Foster the development of a more collaborative, equitable, and less adversarial negotiation framework within the participants’ own regions

Participants will engage in a simulation exercise based on the history of a mining project in a fictional nation state, Minadoro. They will take on roles as members of families belonging to one of two different communities—one that has rights to the land on which the mine is situated site (the Forst) and another community that lives further downriver from the mine site (the Andra). How participants in each of these communities respond to social and economic change will shape their relations with the mining company and with Minadoro’s government. The game revolves around a series of crucial decisions made by participants as members of communities, family groups, and as individuals.

The game consists of two parts: Part I takes place during the construction of the mine site and the development of the mining town, Toko, while Part II takes place during the mineral extraction phase. This historical trajectory, which draws attention to the different experiences of family groups within the two communities, highlights the complex nature of mining companies’ relations with those living within and near to their mine sites. For instance, the implications of family decisions will differ depending on which community the family belongs to and in what phase of the game the decision is made.

The material contained in Part II of this report reveals some common issues and problems that hinder the delivery of community benefits as espoused by mining companies and governments. The game will take into consideration these particular issues as well as the need for their amelioration.

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4 See Armstrong, McKenzie, & Baillie (n.d.) for a further discussion about the development of our case study material.
Issues include:

1. The changing responsibilities of governments and mining companies. For instance, should companies provide services normally associated with government, such as health, education, and law enforcement?

2. Governments’ financial regulation of mining companies

3. The long term social impact of mining on local communities

4. The impact of mining on people living outside of, but near to, mine sites: for example, who do companies define as belonging to ‘local communities’

5. Communication about the potential impact of mining in specific terrains

6. Understanding local culture and the local economy: for example, should wage labour supplant subsistence economies? What does development mean, to men and to women?

7. The need for both governments and companies to be proactive, rather than reactive, to community demands, and to adopt long term strategies that take points 1-6 into account

The simulation does not cover all the issues that impact on relationships between mining companies, governments, communities, and international and local NGOs, and is not intended as a comprehensive analysis of these groups. In highlighting various core themes, however, the simulation strives to facilitate a better understanding of the complex nature of community engagement and to foster an improved ability among governments and NGOs to negotiate and consult with local people. Promoting greater awareness of and sensitivity to unequal power relations and cultural differences is a central aim of this game.

Furthermore, the simulation is intended as a catalyst for debate: the discussion following game play will allow participants to raise similar or different issues within their own regions, and to analyse how these can be more effectively negotiated.

3.2 Brief outline of how the game is played

Facilitator A will provide an overview of the game and of the Minadoro Brief. Participants should have read the “Participants Overview and Brief” the night before. Participants are designated as Forst community members (who live on the land where the mine is situated, and who therefore receive cash compensation) or Andra community members (who live downriver and who, at the beginning of the game, do not receive any cash compensation but hope to benefit from work on the mine site).

Each Part of the Game includes four Phases. At the beginning of (and occasionally during) each phase, a series of announcements will be made by the Facilitator A. The content of these
announcements are known to the facilitators, but not to the participants, before the game begins.

These announcements will include

- A brief overview of what is happening on the mine site or at Toko
- A reminder to each family in each community about what decisions they need to make. Many of these decisions are ongoing and relate to subsistence and mine work: families must decide if, and who, is going to work on the mine site and they must also decide how they will provide food for themselves to eat. These decisions will be made by each family depending on family composition (if they have mainly young children or older dependants for example). Decision-making will always include subsistence and work, but the range of decision-making will expand as the game progresses and might include, for example, whether to send children to school, or whether to join a local NGO group concerned about mine waste.

Participants, as members of families or communities, must respond to announcements in their role playing capacity. Often, their decisions will have unforseen repercussions, which may be experienced either immediately or later on in the game. These are experienced in the following ways, for example:

- Chance Cards: Facilitator B will periodically issue each family a Chance Card which might say, for example, “your kin from the neighbouring province has come to borrow money and you are obliged to provide it”
- Work Decision Cards: “you have been injured on the mine site but you have no insurance. You must return home but won’t be able to help on farm work for this Phase”

Some Cards have negative impacts and some have positive impacts.

Part 1: This takes place during the construction phase, that is, when the mining consortium is building roads to the site, accommodation for mine workers, and setting up the facilities for for mineral extraction and processing; the consortium is also planning to develop a township, Toko, to facilitate the delivery of services to the mine site. Part II takes place during mineral extraction and processing. The final decision which has to be made – by both communities – concerns the riverine disposal of mine waste.

3.3 Duration of the Game
The Game is intended to be played in the following format:

<table>
<thead>
<tr>
<th>Introduction</th>
<th>30 minutes</th>
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<tbody>
<tr>
<td>Play</td>
<td>90 minutes</td>
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<td>[Break]</td>
<td>15 minutes</td>
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<tr>
<td>Discussion</td>
<td>45 minutes</td>
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NB: These times are flexible: it could take longer depending on the number of participants and the level of complexity – e.g. some Facilitators may wish to extend some Phases – to allow more time for decision making or to complicate decision making by issuing more Chance Cards.

3.3 Feedback from trial

A trial was held on 19 March 2014 with 10 participants. Participants included PhD students from Anthropology, an MA student in Environmental Engineering (with an interest in mine waste management), a PhD student in Environmental Engineering, a PhD student in Forensic Science with a background in science communication, a University lecturer with expertise in academic literacy, and a private consultant with experience in theatre and simulation games. The game was deemed to be a success and rich feedback was received to improve the Game further which have been incorporated.

Before the Game is used by external parties and to ensure the best possible outcome, we recommend a further trial. This trial can be completed by our team within Baillie’s class of 87 engineering students.
# APPENDICES

Full appendices are available from IM4DC: [admin@im4dc.org](mailto:admin@im4dc.org)

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<td>Appendix A. Facilitator Overview &amp; Instructions</td>
<td>This document explains</td>
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<tr>
<td></td>
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<td></td>
<td>• the sequence of the game and how it is played</td>
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<td></td>
<td>It also contains</td>
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<td></td>
<td>• the Minadoro Brief</td>
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<td>• instructions on Facilitator roles, room layout</td>
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<td></td>
<td>• a summary of each phase of the game</td>
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<td>Appendix G. Participant Resource Kit</td>
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