

# The economic causes and consequences of the Bougainville crisis

**Herb Thompson**

Papua New Guinea has, until most recently, shown all the signs of a newly independent developing economy on the move. However, since November 1988 the nation has been overshadowed by the most serious national crisis since independence in 1975. The crisis has come in the form of a rebellion in the North Solomons Province, one of the wealthiest provinces in the nation and home of one of the largest copper mines in the world. The copper mine has closed; the island is under the control of the Bougainville Revolutionary Army; the national government has lost royalties from a mine which has provided 44% of its exports and 16% of its gross domestic product since 1972; and over a hundred Papua New Guineans have lost their lives in battle. This paper attempts to provide an insight into the causes and consequences of a rebellion which, if not successfully resolved, could set back the development potential of this small resource rich nation by a generation.

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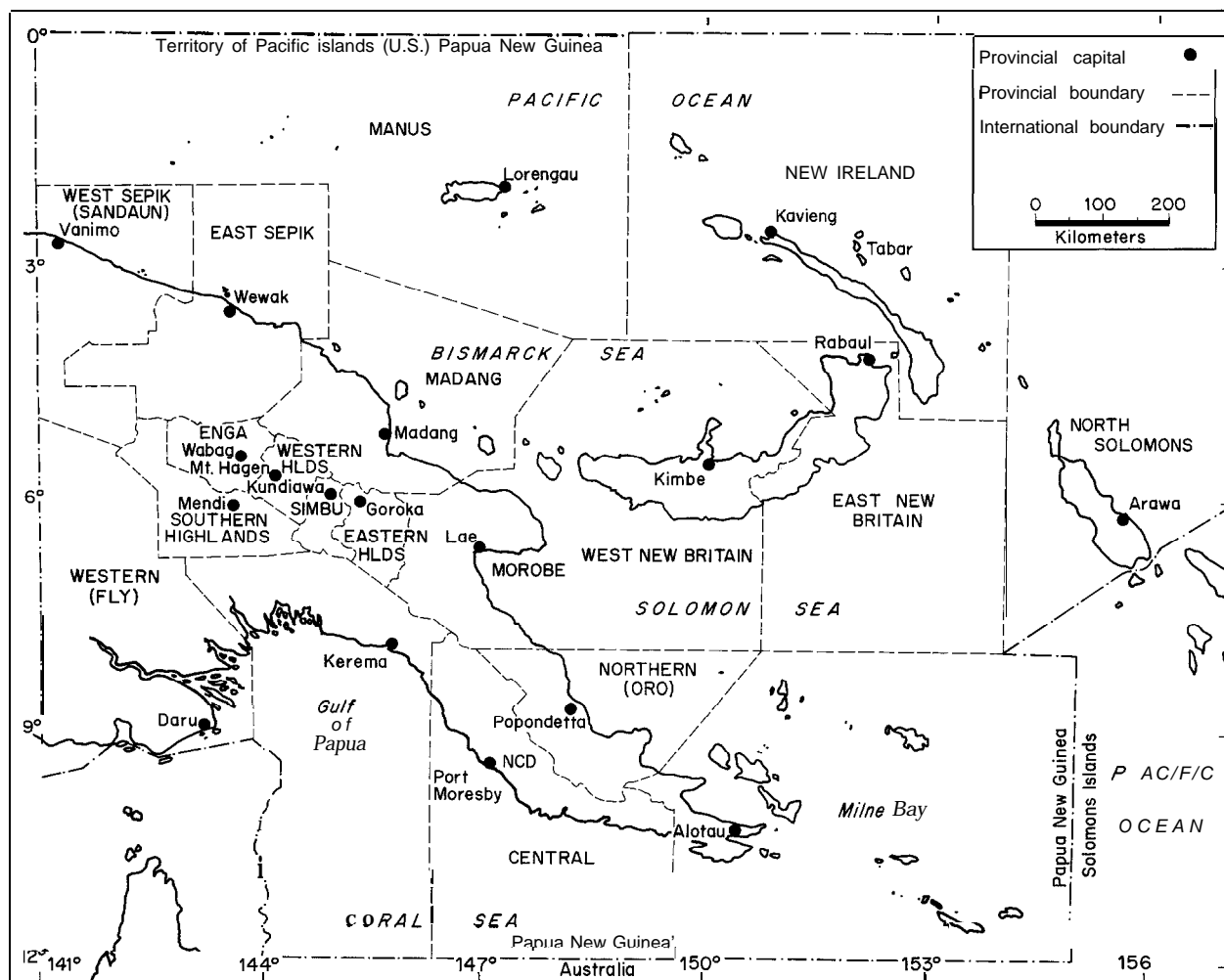
Papua New Guinea has, until most recently, shown all the signs of a newly independent developing economy on the move. Leading up to and following its independence from Australia in 1975, trade has been diversified; commercial agriculture has expanded substantially; dependence on foreign aid is being reduced; two of the largest copper mines in the world have been responsible for an export boom in both the 1970s and 1980s; and most recently it has been discovered that the nation sits on massive supplies of gold and oil. The projected future has looked very good indeed.

However, since November 1988, all of the above has been overshadowed by the most serious national crisis since independence. The crisis has come in the form of a rebellion in the North Solomons Province, one of the wealthiest provinces in the nation. For the past 18 years this province has been the home of one of the largest copper mines in the world, Bougainville Copper Ltd (BCL), managed by the Australian company CRA Ltd. However, because of the rebellion, the mine, which has provided 16% of Papua New Guinea's GDP and 44% of its exports since 1972, has been closed since 15 May 1989.

This paper attempts to provide an insight into the causes and consequences of a rebellion which, if not successfully resolved, could set back the development potential of Papua New Guinea by a generation. It is argued that of the many reasons given for the conflict to date, the economic causes are by far the most important. The consequences of the conflict in economic terms are most serious for the survival of the state and continue to threaten the viability of democratic decision making processes.

Following this introduction, we proceed with a short description of Papua New Guinea (PNG), the North Solomons Province and the people. Given the central importance of BCL to the rebellion, a historical description of the mine and the company is then given followed by an examination of the costs and benefits of the mine to date. The next section examines a hierarchy of analytical variables which have been presented as the cause of both the rebellion and the rejuvenation of the secession movement; conclusions follow.

Francis Ona, leader of the Bougainville Revolutionary Army, and his followers and associates have defined themselves and have been defined



by others as landowners, terrorists, rascals, disgruntled, cargo cultists, a revolutionary army, militants and rebels. The words 'rebel' and 'rebellion' will be used in this paper to refer respectively to a displaced working class and peasantry, and their open resistance to the authority or government in power. The implication is that what occurred is more than an uprising, but less than a revolution (the former referring to a small, limited action and the latter to a radical change in society).

### Papua New Guinea, the North Solomons Province and the people

In 1828 the Netherlands took possession of the western half of New Guinea, which has since become the Indonesian province of Irian Jaya. In Papua New Guinea, as now recognized, significant change began at dawn on 6 November 1884 in Port Moresby, when Commodore James Elphinstone Erskine read a proclamation making the south-east part of the island of New Guinea the Protectorate of British New Guinea, after which the HMS Nelson fired a 21-gun salute. While Erskine was proclaiming British New Guinea, German corvettes supervised the raising of the Imperial flag at a number of points along the north and

north-east coast of the mainland. In 1885 the Deutsche-Neu Guinea Kompagnie was formed and made responsible for the administration of German New Guinea.<sup>7</sup>

Between 1885 and 1914, during the historic age of imperialism, the map of New Guinea was to be tidied up in London and Berlin. In 1886 Germany took the Bismarck archipelago (which incorporates the present provinces of East and West New Britain and New Ireland), and the northern Solomons (Bougainville, Choiseul and Isabel). The islands to the south and east of these (such as Guadalcanal and San Cristobal) were placed in the British Solomon Islands Protectorate in 1893. In 1899 Western Samoa was given to the Germans by the British in return for Choiseul and Isabel which were added to the British Solomons. The Solomons were now divided: the northern Solomons of Buka and Bougainville were German and subsequently became part of the Australian Mandated Territory of New Guinea, whereas the southern Solomons remained British until 1978 when they were to be granted independence. In 1906 the mainland of British New Guinea and the Trobriand Islands became Australian Papua; and German New Guinea, following the interlude of World War I, became the Australian Mandated Territory of New Guinea.\* In 1975 Papua New Guinea, an amalgam of the bits and pieces joined together by the colonial powers, gained its independence.

As it exists today Papua New Guinea has a very low population density with approximately 3.7 million people in an area of 462 000 square kilometres.<sup>3</sup> Arable land is plentiful, with extensive forests and rich mineral and energy deposits providing a foundation for the resource base.

Agriculture is the wellspring of livelihood for 80% of the population accounting for as much as one-third of the gross domestic product and 40% of total exports. Coffee, cocoa, coconut/copra and palm oil are the main agricultural exports (90% of agricultural exports) along with limited amounts of tea and rubber. Manufacturing had shown very little growth and makes up about 9% of GDP. The mining sector, particularly the gold and the copper produced by two of the world's largest mines, has provided two-thirds of the country's exports in recent years (65% in 1987 and 67% in 1988), and 15% of GDP.<sup>4</sup> In 1986 PNG was the seventh largest gold producing country and the eleventh largest copper producing country in the world. Bougainville Copper, which is owned 54% by CRA Ltd, 19% by the PNG government and 27% by public shareholders, started production in 1972; and the Ok Tedi mine, which is owned 30% by BHP Ltd, 30% by AMOCO Inc, 20% by the PNG government, and 20% by a variety of German interests, began in 1984. A smaller mine at Misima began production in 1989, at about the time the Bougainville mine was closed. During the next five years four medium to large gold mines, a number of smaller mines and a major oil field are planned to be developed. These ventures, heavily reliant on Australian personnel, technology and capital, assuming the lack of unforeseen intervening circumstances, are expected to provide for major investment expenditure during this period. At stake are investments of more than six billion A\$ in new and existing mines, and a revenue stream worth several times that figure over the next decade.

Real growth of GDP averaged 4% annually during the first half of the 1970s. While agricultural output expanded steadily, the main impetus to this national economic growth was the Bougainville mine. The world-

<sup>7</sup>Hank Nelson, Papua New Guinea: *Black Unity or Black Chaos*, Penguin, Harmondsworth, 1974, pp 1-16.

<sup>3</sup>*Ibid*, p 17.

<sup>4</sup>The population figure is a World Bank projection based on M.L. Bakker, *Population Projections for the Citizen Population of Papua New Guinea for the Period 1980-2075*, National Statistical Office, Port Moresby, March 1985.

<sup>5</sup>The World Bank, *Papua New Guinea: Opportunities and Challenges for Accelerated Development*, Report No 7707-PNG, Washington, DC, 1989, pp 2 and 13.

wide economic recession in the mid-1970s was reflected in PNG by a decline in both demand and the price for copper, making for a revenue loss. Consequently, real growth in GDP fell to 1.5% annually in the latter half of the 1970s.

By 1983-87 the growth rate had again increased to an average annual rate of 4% with the construction and start up of Ok Tedi making a substantial contribution. With increased output of gold, copper, oil and gas looming on the horizon in 1990, all of the predictions are for a further increase in the growth of GDP. However, the mining sector is typically an economic enclave, having few direct linkages with the rest of the economy and heavily relying on imports for both producer and consumer goods. Production, as might be expected, is capital intensive with less than 2% of the total workforce (12 000 people) being employed in the industry. The main benefits provided by the mining sector are financial flows in the form of export earnings and resulting contributions to government revenues. The concern has always been that the revenues from mineral output should be used productively and not squandered on frivolous or inessential consumption in either the public or private sectors. To achieve stronger growth in the non-mining economy, a three-pronged approach is needed: substantial investment and institution building in agriculture to expand tree crop production; a major programme of rural infrastructure expansion, particularly rural roads, in less developed regions; and a continued emphasis on human resource development starting with the improvement in the quality and relevance of basic education.<sup>5</sup>

Only about 12.5% of the labour force is employed for wages; one-third work in the public sector. Another 35% are engaged in informal commercial activity – mainly as self-employed smallholders producing some cash crops; the rest are unemployed or involved in wholly unmeasured subsistence activity. Per capita incomes range from three to four times the national average in the Central Province/National Capital District and North Solomons to less than half that in the Gulf, West Sepik and Southern Highlands provinces.<sup>6</sup>

## **The province**

The first Europeans to sight Buka Island in 1767 were aboard the British ship *Swallow*, commanded by Philip Carteret. Bougainville was first sighted on 4 July 1768 by crew aboard the French ships *La Boudeuse* and *L'Etoile* commanded by Louis de Bougainville. Bougainville Island is situated 6° south of the equator at the northern end of the Solomons Islands chain in one of the most seismically active parts of the earth, and it is the largest island in the Solomons archipelago, being about 200 kilometres long and 60 kilometres wide. Its relief rises to 2600 metres altitude at its highest point, Mt Balbi, one of several extinct volcanoes that form a central mountain band. The smaller Buka Island to the north is part of a single land mass separated from Bougainville by a passage of water only 800 metres wide. Together, they make up the North Solomons Province of Papua New Guinea, with a total dry land area of 8990 square kilometres or 2% of the PNG land mass (equivalent in land size to Corsica or Puerto Rico). The climate is typical of the humid tropics with two distinct seasons. Temperatures, rainfall and humidity are all high and comparatively uniform.

Rivers on Bougainville are generally short with steep upper catch-

<sup>5</sup>The World Bank, *Papua New Guinea: Policies and Prospects for Sustained and Broad-Based Growth*, Vol 1, Washington DC, 1988, pp xiii-xv and 19–32.

<sup>6</sup>*Ibid*, p 7.

ments and very flat coastal stretches. The Kawerong River and the upper reaches of the Jaba River, the two important rivers most significantly damaged by mining, consisted of long boulder rapids interspersed with deep pools. Upstream of the confluence of these two rivers, the valley was densely forested land and of high relief. Prior to mining operations many of the less steep slopes were used for gardens and a limited amount of cash cropping (coconut, cocoa and coffee). Staple crops included sweet potatoes and to a lesser extent taro and yam with additional sugar cane, bananas, papaya and breadfruit. The land was also used for hunting and gathering and the rivers for fishing.

Until 1964 Bougainville's history was similar to that of many other Pacific islands. The region was settled many thousands of years ago by Melanesian people in Papua New Guinea, the Solomon Islands and Vanuatu; Micronesians in the Caroline Islands and Kiribati; both Melanesians and Micronesians in Fiji; and Polynesians in Hawaii, Tonga and Samoa. Then, in the sixteenth century, explorers began to arrive in ships from Spain, Portugal, the Netherlands and Britain. Bougainvilleans were 'discovered' by Europeans, began bartering with European traders, were 'recruited' by Europeans to work on their sugar plantations, subjected to colonial rule, converted to European religions, shown how to dress like Europeans, and caught up in a war between Europeans and Asians.<sup>7</sup> Then with the arrival of CRA Ltd in 1964 they began to witness changes only recognizable in their wildest dreams.

The Bougainvilleans have puzzled scholars for quite some time: they are among the most diverse people biologically and linguistically in the world. Twenty different languages are known to be spoken with at least fifty dialects among a population estimated at 175 900 (approximately 4.8% of Papua New Guinea's total population).<sup>8</sup> A visitor to the North Solomons is also struck by the comparatively darker skin of the people here as compared with the rest of Papua New Guinea. The islanders often distinguish themselves from the less darkly pigmented people in the rest of the country, whom they sometimes refer to derogatorily as 'redskins'. To date there is no sufficient explanation for this significant darkness in skin pigmentation which begins and ends in the Solomons. At the same time, like other Papua New Guineans, until the last generation, Bougainvilleans made their living primarily as tropical agriculturalists; local village autonomy and isolation were considered normal. As recently as 1975 95% of the islanders were living within 10 kilometres of where they were born.<sup>9</sup>

The population of central Bougainville is divided into a number of dispersed matrilineal clans which provide a fixed reference point for individuals. Those residents of a clan who reside in a particular place share the right to exploit a particular tract of land. As a result the possession of cultivation rights, but not ownership of land, revolves in a tight circle with control changing hands in the male line in each succeeding generation so that tracts of land are strongly identified with a particular clan or subclan groups. Although matrilineal kinship was important to the transmission of land rights, such rights were normally exercised by men. Any clan which lost its land, or alienated it in some way (leasing, selling or having it taken by the government) would find it difficult to get access to other tracts of productive land in the same area, much less in different areas of the island.

The planting of cash crops converted many tracts of land used for gardening into areas now regarded as 'belonging' to particular indi-

<sup>7</sup>For a regional perspective, see Christopher Browne with Douglas A. Scott, *Economic Development in Seven Pacific Islands and Countries*, IMF, Washington DC, 1989.

<sup>8</sup>The World Bank, *Papua New Guinea: Policies and Prospects for Sustained Broad-Based Growth*, Washington DC, 1988, Vol 2, Table II6, p 107.

<sup>9</sup>John Terrell, *Prehistory in the Pacific Islands*, Cambridge University Press, Cambridge, 1986, pp 155-158.

viduals or small groups. Land has also increasingly been purchased for cash which individualizes ownership patterns in areas such as Nagovisi. As pressures on the land have increased as a result of population growth, mining and cash crop production, fragmentation of land use has become more common, and disputes over ownership have become more frequent.<sup>10</sup>

## **Bougainville Copper Pty Ltd**

In looking at copper, almost certainly the element in the four major base metals which has the most assured future, there is no doubt that in the eye of the public both down under and on this side of the world the brightest potential star in the firmament is the Rio Tinto-Zinc Corporation's Bougainville prospect."

In 1963 the International Bank of Reconstruction and Development, at the request of the Australian administration, visited the island to establish recommendations for the subsequent official economic planning for the territory. Some say ironically, whereas others might suggest typically, representatives of the World Bank concluded in their report that 'Current data indicate only a limited potential for mining'.<sup>12</sup> One year later, CRA Exploration, a subsidiary of Rio Tinto Zinc, arrived in Bougainville and went in search of low grade, high tonnage copper porphyry deposits on an authority to prospect over 630 square kilometres. At that time Papua New Guinea was an external territory of Australia governed by the Australian administration which granted the authority. Before the end of 1964 prospecting was facing intense opposition from villagers in the area and the reaction to the arrival of construction teams was invariably hostile. In 1966 a patrol report on the area near Dapera and Darenal villages recorded:

[T]he people along this ridge were against any interference by the Company. They told me they owned the land and thus the copper and didn't want the Company to take it away. They said they wanted to wait until their children had received an education to handle the Company.<sup>13</sup>

In the face of this opposition the administration was prepared, and occasionally found it necessary, to use force to uphold the rights it had awarded CRAE. At a well publicized event at Rorovana police removed protesting women attempting to protect their land by lying in the path of oncoming bulldozers. The reason for this was that besides the mining lease, hundreds of acres were needed by the company to provide long-term staff with houses, stores, schools, recreation places and a hospital. It was decided to establish a new town on and around the tract occupied by the European owned coastal plantation of Arawa. This involved no problems for the company, until moves were made to expand and acquire some nearby indigenously owned properties for the port. When the Rorovana people refused to sell them the administration forced the sale and sent in the police to clear the area. Photographs of this event focused national and international interest on both the island and the company.<sup>14</sup> In response to the internationally voiced concern and in an attempt to mollify the protestors, the mining laws were amended in 1966 to provide for compensation payments to landowners for the use of their land. This did little to alleviate the opposition to CRAE, by the landowners and other protestors, which continued throughout the next decade.

The prospecting continued until 1968. In 1967 a mining agreement

"Applied Geology Associates Ltd, 'Environmental socio-economic and public health review of Bougainville copper mine, Panguna', A review completed for the National Executive Council of Papua New Guinea, January 1989, pp 2.3-2.5.

<sup>11</sup>*Financial Times*, September 1971, as cited in Richard West, *River of Tears: The Rise of the Rio Tinto-Zinc Corporation Ltd*, Earth Island Ltd, London, 1972, p 109.

<sup>12</sup>International Bank for Reconstruction and Development, *The Economic Development of the Territory of Papua and New Guinea*, Johns Hopkins Press, Baltimore, MD, 1965.

<sup>13</sup>Quoted in *op cit*, Ref 10, p 2.8.

<sup>14</sup>See *op cit*, Ref 11, pp 109-138. This section of the book on Bougainville has been referred to repeatedly by Bougainville landowners in meetings with company and government officials including the 1988 meeting where the young PLA members stormed out to begin the rebellion.

was drawn up with the administration, legislation was passed in the National House of Assembly allowing the mine to go ahead and Bougainville Copper Pty Ltd (BCL) was incorporated. In 1969 forest clearing took place with the aerial spraying of defoliants and the sluicing or hydraulicking of the soil, volcanic ash and superficial weathered rock into the Kawerong River. The port mine access road up the Pinei valley and across the Crown Prince Range into the Panguna area was completed between 1969 and 1970. Between 1970 and 1971 the relocation of 289 people from eight villages in the Kawerong and Jaba valleys took place: the port of Loloho began receiving shipments at its wharf: an oil burning electric power station was built; and the ore crusher and concentrator were constructed. These were heady times and the Melanesian notion of consensus decision making as to what, how, where and when things were to be done was not very relevant to the administration or the Company.

The mine commenced production in the Panguna valley in 1972, 14 air kilometres from the east coast, at a rate of 82 000 tonnes per day of copper ore containing some gold. Its rate of operation at the time of closure in May 1989 was 140 000 tonnes per day of ore and 120 000 tonnes per day of waste material. When it was closed the mine was one of the ten largest copper mining operations in the world and had a probable future life to 2001 AD. It employed 3700 people, 19% of whom were expatriates.<sup>15</sup>

In 1969 a new organization called the Napidakoe Navitu emerged in the Kieta area with Paul Lapun (later to become minister of mines in the House of Assembly) as chairman, to oppose the taking back of land in the Arawa and Rorovana district and the continuing exploration carried out by the company. Napidakoe (an anagram of the names of ethnic units in the area) Navitu (grouping in the Nasioi language) held a public meeting on 27 April 1969, at which a manifesto was drawn up which requested the administration to desist from resuming Arawa land and to sit down to a fully representative conference on land problems in the CRA mining area. 'We realized', wrote the organization's secretary, 'that the Administration was determined to adhere to its policy of small-scale compensation and that it had no coherent plans to safeguard the economic rights or the social integrity of the local people.' Subsequently, Paul Lapun requested the Australian prime minister, John Gorton, who was on a brief visit to Kieta, to permit the people of Bougainville to carry out a referendum to determine the future of Bougainville. The prime minister, for the benefit of the general interest of the country, denied the request.<sup>16</sup> Shortly thereafter the people of Pakia village (whose entire village was to be burnt down in 1989 by the military in retribution for attacks from the rebels) sought a court declaration which argued that the administration was acting illegally in granting land to BCL – a claim which was disallowed on technical grounds in the High Court of Australia. However, this does make it clear that over twenty years ago, certain people and/or groups on Bougainville were using every legal means at their disposal to stop the resumption of land for mining.

In fairness it should also be noted that the area around the present mine site was one of the least developed areas of the island. Most villages in the Guava census division depended on subsistence production although some were experimenting with cocoa cultivation. For people living in the area around the present tailings lease, cash income

<sup>15</sup>*Op cit*, Ref 10, p 1.2.

<sup>16</sup>Douglas Oliver, *Bougainville: A Personal History*, Melbourne University Press, Melbourne, 1973, pp 173-177.

was gained primarily from working on plantations on the east coast and in East New Britain. Some areas, like Nasioi, which is inland from the town of Arawa on the coast, had become prosperous from the cultivation of cocoa.

In general, therefore, the areas most directly affected by mining operations had limited development potential, were already dependent on external income generated by plantation labour and had some access to modern health and educational services. When mining commenced there were fewer than 500 people in the immediate vicinity of Panguna and about 2000 people in the area that is now within the various lease areas.<sup>17</sup> The more prosperous areas were those along the coast where cash crop production was developed.

### **Costs and benefits of mining: 1972 to the present**

They do not want royalties; they do not want money for damage caused to their land; and they do not want the occupation fees which the law says the company shall pay to them. They simply want the company to go away.<sup>18</sup>

Since 1972 BCL has contributed 16% of Papua New Guinea's internally generated income and 44% of its exports. In 1988 alone BCL increased its own net profit 16% to \$150.8 million. This contributed to the massive 94% increase in net profit, after equity accounting, of the parent company CRA Ltd to \$449 million.<sup>19</sup> The 54% asset stake of CRA in BCL is valued at \$478 million. According to BCL figures Papua New Guinea has received more than 1 billion kina (the kina, valued at approximately A\$1.45 in December 1989 was devalued 10% in January 1990) from a total earnings of 4.4 billion kina since 1972. Landowners had received 17.2 million kina in various forms exclusive of social services. CRA Ltd was also spending 10 million kina on exploration in PNG and reinvesting 250 million kina per year from 1988-90 to extend the life of the Panguna mine.<sup>20</sup> The distribution of cash benefits (calculated in kina) from the mine over the ten-year period 1978 to 1987 was as follows:<sup>21</sup>

National government (taxes, fees, dividends):	919 million or 57.5%
Provincial government (taxes, fees, dividends):	75 million or 4.8%
Foreign shareholders:	577 million or 36.0%
Other PNG shareholders:	6 million or 0.3%
Landowners (royalties):	22 million or 1.4%

The total compensation paid to landowners is not included in the above list because it was considered an operating cost by BCL, representing the purchase of goods and services. The amount averaged 1.2 million kina per year.

While a large proportion of the financial benefits gained by the national government from mining on Bougainville have been utilized for the benefit of all Papua New Guineans, the social costs have been borne largely by the Bougainvilleans themselves. The impact of the environmental cost alone is shown clearly in a report, by environmental consultants, commissioned by the national government. According to the report:

There is now a large pit, approximately 3,000 hectares of land covered by tailings, and a delta of tailings at the Jaba River mouth approximately 900 hectares in extent. This all adds up to a massive change; in effect a new environment has been created being essentially an inhospitable replacement for

<sup>17</sup>*Op cit*, Ref 10, p 2.6.

<sup>18</sup>D. Grove, Director of Lands, Surveys and Mines for the Territory of Papua and New Guinea, *Territory of Papua and New Guinea Hansard*, 14 June 1966, cited in *op cit*, Ref 11, p 117.

<sup>19</sup>*The West Australian*, 9 March 1989, p 16.

<sup>20</sup>Wally Hiabohn, 'Landowners resort to sabotage in Panguna', *Pacific Islands Monthly*, January 1989, pp 16-19.

"Carrie Albon, 'Francis Ona: the man behind the legend', *Island Business*, May 1989, p 30.



the natural ecosystem. These issues cannot be resolved in the short-term, irrespective of the life of the mine.

Some changes, particularly the economic, may be seen by local people (mostly those who have retained their land) as beneficial but other people believe that the changes have been disastrous.

By definition every village considered in this review has been directly affected by the loss of land. Most villagers have little ability to establish land rights elsewhere and therefore no opportunity to migrate into other land areas. Loss of land has almost completely destroyed the agricultural base of Dapera and Moroni villages. In these and other villages there is serious concern over these losses. Pressure on both food production and cash-cropping systems, recurrent statements that villages could not produce enough food for consumption and/or marketing and that there was inadequate land for cash-cropping of cocoa. Dependence on purchased foods has caused considerable concern. Prices of such foods are rising.

The pit will remain, more or less in its present form for hundreds of years. It will never recover to its pre-mining condition ... Waste rock dumps and tailings deposits are unlikely to ever recover to the state of the surrounding country.

The most serious problem confronting villagers who have lost significant areas of land is therefore that, at the termination of mining, they will be left with only a fraction of the land that they previously owned whilst, at the same time, all compensation payments will be concluded and employment opportunities at the mine site and in Bougainville generally will dramatically decline.

All the rivers of the Jaba River catchment have been detrimentally affected by the mining operation ... We do not see any prospect of recovering this lost source of freshwater in the foreseeable future. Even in the longer term when the waters are chemically fit to drink, they will not be attractive and are likely to be avoided by local people for cooking and drinking ... Both physical and chemical conditions in the Jaba River will prevent fish from passing upstream for some considerable time to come .. [Also] we are not so optimistic about the resources of Empress Augusta Bay. Stress on the fish in the Jaba delta area may have allowed the 'ulcerative' fish disease to establish.

The impact on the physical environment of the mine has been extreme by any measure and most of the adverse impacts are long lasting; in some cases permanent. They were permitted, even to some degree encouraged, by the Australian Administration initially and then by the Government of Papua New Guinea. On a national scale they have been judged an acceptable cost. While the National Government particularly, and the Company have enjoyed the benefits, the costs have not been borne by them but by the Nasioi people.\*\*

The Panguna ore body covers an area approximately 2.5 kilometres by 1.0 kilometre to a depth of 350 metres beneath the Kawerong valley. It is an open pit which originally contained 950 million tonnes of ore grading 0.48% copper, 0.55 grams per tonne gold and 3 grams per tonne of silver. Each day about 300 000 tonnes of ore and waste were blasted, excavated and transported to conveyors or dumps. Gold and traces of molybdenum are collected with copper sulphides and piped in slurry form to tanks and then through a pipeline to the port for shipping to Japan, Spain, West Germany, Philippines, South Korea and China. The tailings are collected and piped to the headwaters of the Kawerong River in which they are discharged, which was seen to be the least costly method of disposal. Since 1972 a total estimated 152 million tonnes of fine overburden and waste rock have entered the river system. This compares with the original estimate that only 40 million tonnes would have been disposed of by this date.<sup>23</sup>

The overburden makes a significant impact on the river aggradation rates upstream and in the vicinity of the Kawerong/Jaba River confluence where 40% of the tailings are deposited. Sixty per cent of the

<sup>22</sup>*Op cit*, Ref 10, pp 7.24-8.1.

<sup>23</sup>*Ibid*, p 3.11.

tailings (78 000 tons per day or 28 million tons per year) which move past this point to the sea have created a large 900-hectare delta in Empress Augusta Bay, and little of the material moves away from this region. Side creeks have been blocked and made unusable and large areas of the Jaba Valley forested area are dead and swampy because of the elevated water table. To deal with the problem of tailings back up in the river system the company in 1986 began to build a 31.7 kilometre long pipeline to carry the mine tailings from the concentrator at the mine site down the valley to the delta in slurry form. The plan was to extend the pipeline 7 kilometres off shore as the delta expanded, resulting in a projected area of tailings of 5600 hectares.

In return for usage, damage and being a general nuisance, the company has paid the province and/or landowners an average of 5 million kina per year in compensation and royalties. Royalties were calculated at 1.25% of BCL net revenue. Ninety-five per cent of this went to the North Solomons provincial government and 5% was distributed to owners of land in the special mining lease area. Compensation was paid for occupation of land, physical disturbance of the bush, crops and property, river and fish destruction, social inconvenience and nuisance and condolence payments for any death which occurred on the mining lease. The social inconvenience compensation was contributed to a road mining tailings lease trust fund established in 1980. Capital was maintained in perpetuity and profits could be distributed only for the purpose of community development, although loans for specific projects were advanced. Finally, since 1974, 50 toea (100 toea – 1 kina) per tonne of contained copper shipped has been paid to the provincial government.

There has been a significant improvement in availability and access to services since the mine began operating, especially in community education and health services. The province ranks second only (out of 20 provinces in the country) to the national capital district in per capita income, per capita income growth, and the percentage of the school age population actually enrolled, and it has the highest life expectancy and lowest infant mortality in the entire country.<sup>24</sup> However, the improvements have not been equitably spread. The significance of hunting and gathering has declined. Freshwater fishing has been reduced. And in some villages in the mining lease area, such as Dapera and Moroni, there is a critical shortage of land.

Many deprived parts of Bougainville can be found in the mountain villages to the north or south of the cross island road. These villagers have sought better access to potential cash cropping land and services and have been attracted to the Panguna-Arawa-Kieta location. This has caused the development of urban fringe squatter settlements by about 5000 people.

Villagers close to the mining lease would deny that their lives are better economically and/or socially. They point to a measured increase in the number of acute respiratory and diarrhoeal diseases in their communities; increased pollution of their rivers, air and land; the loss of fresh water for drinking and washing; they claim an increase in the incidence of malaria; antisocial behaviour such as crime and drunkenness have become more common; and disputes between clans and villages are said to be increasing because of the diminishing availability of land. Correlatively, the cause of these problems is seen to be the mine. There is no way, they would argue, that BCL had predicted or

<sup>24</sup>*Op cit*, Ref 5, Table 11.4, p 101.

that they had imagined the level and amount of destruction which would occur to their land and ecology.

There is insufficient recent information as to income generated by cash cropping; but according to the 1980 Census 77% of all rural households grew some cocoa and the extent of cocoa growing in the mine affected area was very high with an average annual return per household of 807 kina. Comparatively, compensation payments in 1988 to households living in the various lease areas amounted to 500 kina per capita. Every village had at least one trade store and the larger villages may have had several. Overall, cash income in the mining lease villages increased dramatically between 1972 and 1989. Commercial agriculture has been replacing subsistence output on the island and wage employment has also increased more rapidly in the North Solomons than in the nation as a whole. This has been offset by an increased dependence on store bought food as hunting, gathering and fishing has declined, as well as the loss of land and continuing social disruption. With the shutdown of the mine it is going to be very difficult for central Bougainvilleans, in the short run, to return to self-sufficient agriculture.

### **Insights into causes and consequences**

There are a number of analytical components which can be, and have been, identified as responsible for the rebellion in the North Solomons Province. These include colonialism, racism/ethnicism, the environment, financial compensation, economic decision making, land availability and class structure.

Because of the tribal fragmentation and isolation in Papua New Guinea there has always been a strong sense of parochialism or balkanism. Desire for autonomy in the North Solomons has usually been portrayed in two dimensions: one dimension in relation to colonial presence, activities and institutions, which the copper mine symbolizes; and another, in relation to other indigenous groups, evidenced by the historical bitterness between mainland Highlanders and the Bougainvilleans. It is very easy to overdramatize both of these facts as essential rather than phenomenal to the present crisis. The colonial experience in Papua New Guinea was much too brief and shallow to allow the Papua New Guineans to forge a unity of opposition or revolutionary reaction 'against the Australians as invaders'. This is not to excuse the legacy of a naive but real German, British and finally, Australian colonialism in the history of the Papua New Guinea nation. Many decisions made by these powers were racist, exploitative and self serving, helping to create memories of bitterness which continue to be held today by many Bougainvilleans.

The Australian administration during the mandate period from the late 19th century until 1975 was less exploitative than other colonial regimes throughout the world because many Australians, both in and out of the government, were sincerely embarrassed by the responsibility passed to them by the British. This is not to deny that many decisions made by the Australian administration were simplistic, paternalistic and detrimental to the livelihood of the comparatively young nation; one of which, of course, was the way in which the Bougainville copper mine was established. The mine itself stands as a colonial symbol of the Bougainvillean heritage and is raised every time a grievance needs attention. A young Papua New Guinean government that continues to

require expatriate advisers in many spheres of proficiency, and 'allows a foreign-owned corporation' on its soil leaves itself open to a political left enamoured of dependency theory and a nationalist-populist alliance of pressure groups and political representatives. But colonialism (as well as its antithesis, nationalism), while it does provide an embellishment for political rhetoric, is not the cause of the armed rebellion which began in November 1988.

Second, communal ethnic and racial antagonism exists not just in Bougainville, but throughout Papua New Guinea. The lines drawn by the German and British colonial progenitors to tidy up the maps are responsible for throwing together people from the Solomons and the New Guinea mainland who are obviously racially and ethnically distinct. It is unarguable that this was done with little input from the people themselves. A noted American jurist, Oliver Wendell Holmes, once said, 'The art to civilization is the act of drawing lines'.<sup>25</sup> If so, it was a botchy effort by the Germans and British in this instance.

Racially, as a result of their contacts with the lighter skinned Papua New Guineans, Bougainvilleans have developed a sharpened sense of common racial and ethnic identity among themselves. So, while many Buins, for ethnic reasons, will dislike Nasiois, or Bukans, or other islanders, they are nearly all united in a more intense dislike of their stereotypes of Chimbus, Sepiks, Papuans, and others living on the mainland, a feeling which inspires much of the emotional sentiment for secession. However, too much can be made of this (and usually is) as an essential factor in the present crisis. Like racial conflict in many other parts of the world, the bitterness between mainland redskins and the Bougainvillean blacks is exacerbated by economic opportunities and class relations. Plantations and the use of wage labour from the mainland have been on going phenomena for much of this century. Outbreaks of fighting due to drunkenness, sexual jealousy, or payback for some violent deed perpetrated by one group against another have occurred regularly over this time. And like many other places in the world, race or ethnic backgrounds have been stereotyped as correlated to aggressive behaviour, trouble making or laziness etc. These attitudes, like those regarding colonial exploitation, may be used as reasons for aggression or secession and may even fuel the fire but they should not be confused with the real cause.

The degradation of the environment is a more serious issue for the villagers around the mine site in particular and for the central Bougainvilleans in general. The tributaries and river systems of the Kawerong and Jaba, and Empress Augusta Bay, have been visibly and unalterably destroyed for many years to come. Since 1972 an estimated 152 million tonnes of fine overburden and waste rock have been flushed into the river system congruent to the mine. This is nearly four times more than predicted in the original estimate of the company.<sup>26</sup>

Side creeks have been blocked and made unusable and large areas of the Jaba Valley forested area is dead and replaced with swamp because of the elevated water table. Freshwater fishing has been dramatically reduced and hunting and gathering has declined as the ecology has been changed. Given the reduced availability of land, many of the mountain people who would normally have migrated to set up their homes near the river, have chosen instead to move near the mine and into the town, thereby creating squatter slum settlements. The government's own consultants, in a report cited above, were condemnatory of both the

<sup>25</sup>Quote in Tracy Kidder, *House*, Picador Books, London, 1986, p 3.

<sup>26</sup>*Op cit*, Ref 10, p 3.11.

company and the government for doing too little, too late, in compensating the people for the damage done to their own and their children's lives. Environmental degradation is a crucial reason for the rebellion because it has been largely borne, as a detrimental externality, by the people of Bougainville with insufficient compensation. However, if the people had been given sufficient financial compensation for the destruction of the environment as well as for the loss of land, and had they been provided with the skills and opportunities to use the compensation productively and beneficially for the community as a whole, rebellion would have been delayed but not prevented. While the destruction of the environment and inadequate financial compensation are more important reasons for the rebellion than colonialism or racism/ethnicism, they are necessary but insufficient as explanatory causes.

The government was more than willing, very early on in the dispute, to discuss increased financial compensation with the rebels. In direct financial terms the government is the biggest loser since the high copper price in 1988 and 1989 for the first time pushed BCL earnings beyond the point where the additional profits tax of 70% is triggered. In a full uninterrupted year of 1989 BCL would have contributed 30% of total exports equal to 430 million kina; 11% of the total GDP equal to 315 million kina; 4000 direct and 8000 indirect jobs; gross salary payments of 52 million kina; government revenues of 162 million kina and 22 million kina in employee income tax; 19% of the national government's budget of 184 million kina; and foreign exchange earnings of 200 million kina.

Given the severe impact closure of the mine would have on the revenue base of the national government, the minister for finance and planning indicated that the government had prepared a new Bougainville mining package to get the mine reopened. The package included additional local projects by the government and BCL worth several million kina; 150 million kina for roads, schools, technical and trade colleges, hospital and health services and business development; an equivalent to the newly signed Porgera contract with improved business spin offs, training, a support grant of 1% of total sales, reallocation of royalties with 20% to the landowners and 80% to the provincial government, and up to half of the national government's equity in the mine to be made available to landowners and the provincial government under extended pay back arrangements." On the other hand, as long as the mine remains closed the fiscal effects of national government policy will be felt by all of the people of Papua New Guinea.

In a report by the secretary for finance, Paul Pora, in May 1989, the implication of a BCL shutdown for the nation as a whole was fully drawn out. He argued that a full government response was necessary with fiscal, monetary and wages policy all being utilized. On 9 January 1990, the governor of the Bank of PNG, Henry ToRobert, announced a zero credit growth rate for 1990, down from the previous year's 10% increase. New lending would be made by banks only as existing loans were repaid. Individual borrowing was limited to kina 2000 maximum. The next day the minister for finance and planning announced that the kina had been devalued by 10%, that the i.25 billion kina government budget for 1990 would be chopped back by 100 million kina, and that the government would seek wages restraint measures.<sup>28</sup> A high level 'razor gang', chaired by the prime minister, was set up to identify areas of expenditure cuts. In addition the PNG government requested a \$US50 million 'structural adjustment' loan at 6% interest from the

<sup>27</sup>Data and the negotiating package were provided in a statement made by Paul Pora, Minister for Finance and Planning, on 29 July 1989.

<sup>28</sup>Frank Senge, 'Counting the losses in a state of war', *Pacific Islands Monthly*, February 1990, p 12.

**Table 1. The BCL corporate situation in 1988 (actual) and 1989 (under normal operating assumptions) in million kina.**

	1988	1989
<b>Net revenue</b>	<b>493.4</b>	<b>480.0</b>
<b>Operating and other expenses</b>	<b>244.8</b>	<b>250.0</b>
Depreciation	43.9	45.0
Exchange gains/losses	(2.9)	
Earnings before tax	201.8	185.0
Corporate tax (at 35%)	93.2	82.0
Other taxes (additional profits tax)	72.0	69.8
	23.2	17.2
<b>Summary of government revenue collections in 1988 (actual) and in 1989 (under normal operating assumptions) in million kina</b>		
	1988	1989
Corporate tax	93.2	82.0
Dividend withholding tax	15.3	14.4
Royalties	6.0	6.0
Dividends	20.7	19.4
Customs duties	20.0	20.0
PAYE tax	10.0	10.0
<b>Total</b>	<b>165.2</b>	<b>151.8</b>

World Bank, and \$US70–80 million from IMF facilities. In March 1990 representatives of the World Bank and the IMF stated that the requests would be granted to support PNG's structural adjustment programme;<sup>29</sup> and although initially reticent, Australian representatives gave a positive response to additional aid requests at the third annual consultative group meeting of donors to PNG in Singapore on 18 May.

The data in Table 1 show the government calculations of the financial magnitude of the mine's impact on the Papua New Guinea economy and the relevance of Pora's argument.<sup>30</sup>

In terms of decision making, the Panguna Landowners' Association (PLA) was established in 1979 and was made up of all the customary landowners in the mining lease areas. Due to pressure exerted by this group the company agreed in 1980 to revise and increase the compensation payments and to set up the road mining tailings lease trust fund, into which social inconvenience payments were made. The trust fund was set up and incorporated in October 1981, with an executive committee which included several members of the PLA. The basic assumption underlying the establishment of the trust fund was that it would act as a 'business arm' for the landowners, generating an alternative source of income, in place of the land that had been lost. It would also be used to provide assistance to education, health and other basic services on the island.

Over time the trust fund became the source of antagonism between the executive and other members of the community (mainly the younger generation) for a number of reasons including the belief that the directors were 'eating the money' of the trust fund themselves; inequitable distribution of the income; the concern that actual expenditure of the trust fund on social amenities was trivial; irregular holdings of meetings and lack of information; and the belief that outsiders were manipulating the board. Overall, there was a widespread view among many villagers that the trust fund's management was corrupt and self serving. During the first few years of the trust fund's operation, more than 300 000 kina had to be written off as bad debts. Because of these facts, beliefs and perceptions, there was a coup in 1988, with the old PLA being replaced by a new group of generally younger people led by Perpetua Serero and Francis Ona.

Almost immediately opposition to BCL in almost every sphere of its operations increased. Demands were made for basic services (education, health care, housing etc), amendment of the 1969 land title awarded to landowners, greater control of erosion and pollution and a new land survey. The focus of the complaints and demands at this point had to do with land availability and its control. At first BCL took little notice of these demands. Therefore, on 17 May 1988, the new PLA escalated their demands by setting up road blocks and sit ins to close down the mine; and insisted that the national government turn over to the landlords its 20% share ownership in the mine as well as 10 billion kina in compensation for past damages. The connection was made directly between the scarcity of productive land and the necessity to provide increased ownership in the mine and alternative productive opportunities which had been progressively closed off by the company's actions. No one took these demands seriously at the time and the protest slowly dissipated. However, support for the new PLA was growing rapidly in the Pinei valley, Rorovana and south of the Jaba River estuary. Claims for crop compensation, damages or cemetery

<sup>29</sup>Rowan Callick, 'World Bank to support PNG aid', *Australian Financial Review*, 12 March 1990, pp 1 and 10.

<sup>30</sup>Confidential Report on the 'Implications of the BCL shutdown and appropriate economic policy responses' by Morea Vele, Secretary for Finance and Planning, and submitted to the National Executive Council, 31 May 1989.

destruction and fish losses, relocation payments etc, started coming in from all directions.

The crucial point to remember is that class antagonisms had been amplified because of the declining availability of land for either cash crop or subsistence production. A small indigenous capitalist class has not been able to amplify the accumulation of capital in the plantation sector; a peasantry has seen a decline in the availability of useful land with inadequate opportunities to sell their labour power; younger Bougainvilleans have been shut out from smaller entrepreneurial activities, such as retail shops, which have been under the control of the company, indigenous and expatriate capitalists, or the old Panguna Landowners Association; and the population of the North Solomons continues to expand faster (3.4% per annum) than the population of the country as a whole. The symbols of colonialism such as the white advisors or BCL, or the elements of racism, and ethnicism portrayed by the epithet redskins, which is directed against other Papua New Guineans by Bougainvilleans, are convenient semiotic metaphors for the underlying economic problems emerging in the province as a whole. It is not that the foreign owned mine or racial differences are unimportant to a complete analysis, but that they must be seen in articulation with the developing class structure and antagonisms connected with land and economic development.

The new PLA, under the leadership of Francis Ona and Perpetua Serero, had acted as the catalyst for villagers, peasantry and workers to begin to voice their complaints, bitterness and frustration. The primary cause of this increasing disenchantment and alienation of the people was their vivid recognition that land was no longer sufficient (non-existent for some villages) for either subsistence or cash crop purposes. Business development had stagnated, housing was inadequate and the remaining lifespan of the mine was less than one generation. People in villages such as Dapera and Moroni, on the mine lease site, would be left with no land, no employment opportunities, no compensation payments, fewer services and a decimated landscape which could no longer provide them with even rudimentary food and shelter. The children on the island would receive a large hole and little else as their future endowment. Development was coming inexorably to an end and the people of the North Solomons Province had very little to show for it.

In 1989 all these factors came together. The rebels saw their land appropriated, destroyed, made less productive, and more scarce in proportion to the rapidly increasing population; increasing antagonism between classes; the ecology being decimated, leaving dead rivers and a bay full of tailings and fish with skin ulcers; foreigners coming and going, taking the riches produced by their land with them; compensation squandered on loans written off as bad debts; a collapse in the subsistence base and an increasing reliance on cash; fewer opportunities to earn cash either through the sale of labour power or the production of cash crops: squatter villages without urban amenities being established around the towns; increased alcoholism; and a vision of the future which indicated that it could only get worse.

On 2 March 1990 a ceasefire was agreed upon by both sides providing for a cooling off period as a prelude to talks between the two sides. As Lewis Carroll put it:

‘The time has come’, the Walrus said,  
To talk of many things:

<sup>31</sup>Lewis Carroll, *Through the Looking Glass: and What Alice Found There*, Victor Gollancz, London, 1986, p 70.

Of shoes – and ships – and sealing-wax –  
Of cabbages – and kings –  
And why the sea is boiling hot –  
And whether pigs have wings.<sup>31</sup>

## Conclusion

As has been the case in the Bougainville situation, both the state and the company have used the logic of the Kaldor-Hicks 'possibility of compensation' argument which proposes the criterion that there is a social improvement if the gainers can fully compensate the losers and still be better off.<sup>32</sup> The difficulty has been to agree on what amount provides full compensation (the BRA has demanded a payment of 10 billion US\$ as proper compensation), as well as how to determine what constitutes a 'fair' distribution of the compensation given.

Four outcomes are obtainable in the decision making processes of the state:

- gains for both general and narrow interests;
- losses for both general and narrow interests;
- gains for the general interest and losses for the narrow interest; and
- gains for narrow interests and losses for the general interest.

Each of these outcomes is based on a probability of achieving expected results, which is a function of making correct rather than incorrect decisions. Whether or not a decision is correct depends both on the competence of the decision makers as well as the complexity of the decision.

For instance, utilizing BCL revenues to fund agricultural development throughout PNG results in both gains for the national interest and the interests of Bougainvilleans producing copra and cocoa on the island. However, to accomplish this required a decision to pollute waterways and damage the land throughout central Bougainville, which is definitely contrary to the interests of the people who have based their lives on the land around these rivers, tributaries and the bay. Over time it was realized that the decision to allow pollution was incorrect because the damage engendered was far beyond what was reasonably expected at the time of the original judgement. Therefore, the state offered increased compensation to assist the narrow interests of the people of Bougainville, even if that meant sacrificing a more general interest in the long term. The offer was rejected out of hand by the rebels, who were now settling for nothing less than secession. Tragically, all of these decisions have culminated in the destruction of property, the closing of the mine, and of the deaths of at least a hundred Papua New Guineans in the rebellion. Costs can be determined which, depending on calculated values, assumed discount rates, and the somewhat arrogant presumption that human life can be valued in quantitative terms, might conceivably lead to a conclusion that the overall narrow and general benefits of mining for seventeen years have not been worth it. The conclusion would be not that we have witnessed the actions of a malevolent state; or that that state has acted consciously in the interests of capital on all occasions; or that multinational corporations have pillaged the land; or that colonialism and imperialism have left a legacy of Dante's *Inferno* on the island. Rather, the conclusions are that state apparatuses are sites of struggle where decisions are made with

<sup>32</sup>Nicholas Kaldor, 'Welfare propositions of economics and interpersonal comparisons of utility', *Economic Journal*, Vol 49, September 1939, pp 549–552; and John Hicks, 'Foundation of welfare economics', *Economic Journal*, Vol 49, December 1939, pp 696–712.



inadequate information, in an uncertain milieu, providing for results that may be unintended; and that economic development and the expansion of capitalism is a costly enterprise. To be surprised by the prerequisites of capitalist development processes is not to have done one's homework.

The standard assumption of optimal choice is that decisions are always made correctly; and by simplistic Marxist theory, that capitalists and the state are always capable of colluding for their best interests. Here it is suggested that what is correct or incorrect is based on probabilities at best (risky) or, in the conceptual terms of Frank Knight, uncertain (impossible to determine).<sup>33</sup> Risk, uncertainty, inadequate information, transaction costs, imperfect decisions, unintended consequences, limited competency, increasing complexity etc are all overlaid by at least two classes in struggle; and the dynamic shifts in *ex ante* to *ex post* probabilities in historical time all supersede the initial motivational assumptions. Objective, behavioural issues must replace the subjective, motivational issues in the priorities of analysis if we are to comprehend what appear, on the surface, to be the fleeting vagaries of historical and material circumstances.

<sup>33</sup>Frank H. Knight, *Risk, Uncertainty and Profit*, Houghton Mifflin, Boston, MA, 1921.