Chapter 7

RESETTLEMENT AND MINING IN PAPUA NEW GUINEA

This chapter is based on a presentation and supporting paper prepared by Colin Filer for the Port Vila Workshop. Filer is with the Social and Cultural Studies Division of the Papua New Guinea (PNG) National Research Institute. His paper deals with a range of relocation agreements in PNG negotiated between project agencies and the local people affected. In the course of his presentation, several other issues were raised. These and the discussion that emerged at the workshop during the presentation are reflected in Section I. Section II of the chapter is the paper prepared by Filer dealing with the relocation agreements, their cost, and their socioeconomic impact.

Relocation Agreements in PNG

Colin Filer of the National Research Institute of Papua New Guinea (PNG) discussed his experience in the forestry, petroleum, and mining sectors. He emphasized that the currently overwhelming concern in PNG for resettlement arose from natural disasters, civil conflict, and urban squatting, rather than as involuntary resettlement from national development projects. Nearly all land available for resource exploitation in PNG belongs to customary owners. As there is no constitutional basis for compulsory acquisition of such land, any conversion of use has to be negotiated between the interested parties with compensation determined by the negotiating process. There had been some resettlement associated with the establishment of oil palm estates in the past, but this approach has since been abandoned. In the case of hydropower, land was acquired, and compensation paid, but there was no physical resettlement required.

Laws introduced late in the colonial period, such as the Land Groups Incorporation Act (1974), were designed to make the alienation of customary land easier. The formal registration of customary landowning groups was expected to facilitate the negotiation of alternative land uses and access by individuals including investors. The process has proved to be too convoluted with different groups making overlapping claims to ownership or land use rights. The procedure has not been used by the main resource-based investors. More recently, development forums which allow all affected parties an opportunity to debate and agree on development alternatives and particular proposals have been established. They appear to work, but are limited by the availability of information and by the lack of analysis of serious developmental alternatives.

Despite these difficulties, compensation and relocation agreements have been entered into by resource-based developers and the local customary owners of the affected land. Generally, the compensation package, as required by the Mining Act, deals with payments made to offset changed land use, damages, restrictions, loss of improvements, loss of earnings, loss of production, and social disruption.

Following problems with the needs of future generations, some recent agreements have included the establishment of trust funds for their benefit. It is not yet clear how well these will work. Relocation has not normally involved very large numbers (200-300 would be in the high range) and, in certain cases, the financial provisions made for all kinds of compensation have been very generous.

In effect, this has meant that, in the case of resource-based projects, the benefits to PNG have been distributed very heavily in favor of those most immediately affected, leaving less to be allocated to other pressing national needs. Incomes for these favored few have grown well beyond the norm for the country as a whole, let alone for the district or province of the investment. It is not clear that this approach is sustainable as a national policy.

Workshop Discussion

The issue of sustainability dominated the discussion that followed. In particular, it was pointed out that the resources sector itself was beginning and set acceptable standards as the present process could lead to precedents of compensation that would stifle many of the more marginal investment opportunities. It has also been proposed that a process of social mapping should be undertaken early in the process to identify the legitimate claimants for compensation. This is specially important for considering the rights of descendants and relatives that have moved out of the customary land area. A notable concomitant of the generous settlements at a time of financial stringency has been that government has abandoned its usual functions in these areas, leaving it to the resource company to provide roads, schools, health services, agricultural extension and supply services. Workshop participants particularly appreciated having specific illustrations of the PNG experience that were drawn from the mining sector. These are set out in the next section.

Village Relocation in the PNG Mining Industry

Introduction

This paper presents a summary of what is presently known about:

- the content of relocation agreements between mining companies and local villagers in PNG;
- the amounts of money that mining companies have actually spent on village relocation, with or without a formal relocation agreement; and
- the socioeconomic impact of relocation on the villagers who have been relocated.

The information about different projects is very uneven in both quantity and quality. Formal agreements for relocation are only found in three mining projects: Porgera, Tolukuma, and Lihir. Tolukuma is a much smaller project than either Porgera or Lihir, and the actual extent and cost of relocation has been correspondingly lower. We now know a good deal about the costs of village relocation for the Lihir project, but much less about the costs borne by the Porgera and Tolukuma projects, or even by the Bougainville and Ok Tedi projects (where relocation has occurred in the absence of any formal agreement). On the other hand, we do have some documented evidence regarding the socioeconomic impact of relocation for the Bougainville and Porgera projects, but virtually none at all about the impact around Ok Tedi, Tolukuma, or Lihir.

Porgera Relocation Agreement (September 1988)

Under the Porgera Relocation Agreement, the Porgera Joint Venture (PJV) agreed to relocate 263 families resident within the boundaries of the Special Mining Lease (SML, hereafter simply the "mining lease"), of which:

- 187 were classified as "traditional landowning families" *(anduane)*; and
- 76 were classified as families which had "traditional rights of occupation [that] do not involve landownership or clan membership" *(epo atene,* literally "come-stay people"*).*

For all these families, the PJV agreed to build a four-bedroom relocation house with a total living area of 42 square meters, supplied with a 500-gallon water tank, an external pit toilet, and an optional internal shower. The "traditional landowners" would be moved to one of five new settlements within the boundaries of the mining lease, while the *epo atene* would be moved (or encouraged to move) back to their places of origin.

As "compensation for hardship and disturbance", in addition to any sums payable under the main Compensation Agreement, the head of each traditional landowning family would receive Kina (K)1,000, while the head of each *epo atene* family would receive K500, within six weeks of being relocated. This payment was apparently meant to cover the cost of furnishing the relocation houses with furniture purchased from a specific vocational center in Enga Province (Bonnell 1994). The PJV also undertook to deliver weekly supplies of rations, "in accordance with prescribed Government scales", to the relocated landowners from the date on which each family no longer had access to its traditional gardens until the food gardens in the relocation areas were ready to be harvested, or else for a maximum period of nine months.

The company also agreed to provide some community infrastructure for the relocation areas by:

- relocating two existing churches and providing two relocation houses for their respective pastors;
- relocating two existing aid posts and providing two relocation houses for government health workers (subject to government approval);
- ensuring reasonable road access and clearing sites suitable for community meeting places; and
- seeking the assistance of the Electricity Commission to install standard poles and transformers for those clusters of relocation houses that were situated near to transmission lines.

The agreement did *not* provide for the supply of electricity to individual houses, nor for any maintenance or repair to be carried out by the PJV except for faults arising from poor workmanship or materials.

Robinson (1991) and Bonnell (1994) have described the process of negotiation between the PJV and the Landowner Negotiating Committee over the contents of the Relocation Agreement, which took place between January and September 1988. The company's negotiating position was based on a detailed study by Robinson (1988) that was undertaken at the beginning of this process, and which found that recent migration into the affected area had helped to swell the size of households to an average of 13 members. The main issues in the negotiations were:

- the minimum number of years of continuous residence in the mining lease area that would qualify a family for relocation;
- the relationship between the period of residence of *epo atene* families and the size of their relocation packages;
- the definition of a "habitable house" that would qualify its residents as a separate household and therefore a separate family;
- the size and design of the relocation houses themselves; and
- the level of compensation to be paid for the many trade stores established in the area.

It was finally agreed that three years of continuous residence would be the minimum qualification, and that 10 years would be required for *epo atene* to receive the full package of benefits, but Robinson (1991) still thought that "up to 8 relocation packages should not have been given to the individuals concerned". Although the text of the agreement is silent on the last issue, "trade store owners either received compensation in cash or their stores were moved and rebuilt to the same or higher standard" (Bonnell 1994). No separate compensation was paid for loss of business.

Approximately 120 families had already been relocated by the time the mining lease was issued in May 1989, and the process continued through the construction phase of the project. Similar agreements were subsequently made beginning in 1990 for the relocation of families from the Suyan town site LMP (Lease for Mining Purposes) from the area purchased by the State for the Kairik airstrip (beginning in 1991), and from parts of the Kaiya River LMP (beginning in 1994). According to Bonnell (1994), there was some concern that the Kairik relocation package, funded entirely by the PJV, would set a 'dangerous precedent for future state land purchases'. The negotiation of the Kaiya River package, which was required by the projected impact of the Anjolek waste dump on people living immediately north of the mining lease boundary, has been described by Banks (1994). Bonnell (1994) estimated that the total number of families which would have been relocated under these various agreements would reach 600 by the end of 1994.

Tolukuma Compensation Agreement (November 1993)

In the Tolukuma case, relocation was dealt with under Section 10 of the main Compensation Agreement—"Compensation for Housing Relocation". Under this section, Dome Resources agrees to issue a "Notice to Relocate House" to any residents of the Mining Lease who need to be relocated, with a copy to the Chairman of the Yulai Landowners Association, and "the Landowners shall cause the owner to … remove and relocate his house to another site that is agreeable to the Operator" within 30 days of receiving it. The onus is thus apparently placed on the landowners to accomplish the physical act of relocation without any assistance from the company.

Instead of constructing new relocation houses for such landowners, the company simply agreed to provide them with:

- 12 sheets of corrugated iron and 20 kilograms of assorted nails;
- a "bush materials house allowance" of K100 (as compensation for bush materials to be used in construction of a new house);
- a "relocation allowance" equivalent to the wages of five unskilled laborers for a period of 10 days;
- a "domestic disturbance allowance" of K100 and a "removal allowance" of K50; and
- a "completion payment" of K1,000 (once the relocation process was complete).

The agreement did not contain a schedule listing the landowners or family heads who were to be relocated.

In practice, the company decided to ignore the provisions of the Compensation Agreement, and to build the relocation houses on its own account, using standard housing kits flown up from Port Moresby, rather than just providing the landowners with building materials and money to pay for the building work. By November 1994, nearly all the residents of Boksenda, a hamlet located squarely in the middle of the proposed plant site, had thus been relocated to one of two new settlements whose location was apparently determined by the landowners. Approximately 12 relocation houses had been built at these two sites, and the residents had been supplied with cast-iron, wood-burning stoves which they were apparently reluctant to use. The two men who remained in Boksenda were in dispute with the company over their entitlement to a relocation house, having previously been “guests” of the local chief, whose relocation package had not included them (Filer 1994). This dispute was finally resolved by means of an agreed cash payment.

We understand that Dome Resources is about to embark on a second round of relocation, because one of the original relocation sites is now threatened by a landslide, while another hamlet located between the mine site and the processing plant also needs to be removed. No amendments have been made to Section 10 of the original Compensation Agreement, so it is not clear whether relocated households will receive the same “package” as that provided in 1994, or whether some further changes will be made to its contents.

Lihir Integrated Benefits Package (April 1995)

In this section, we consider the three agreements in Chapter I of the Lihir Integrated Benefits Package (IBP) that are directly connected to the relocation of landowners resident in the mining lease area, and a number of additional “benefits” that are to be provided by the Lihir Management Company (LMC) to members of the local community under the IBP, but which do not seem to be directly related to the damage or destruction of natural or cultural resources.

Relocation Agreements

Under the Putput/Ladolam and Kapit Relocation Agreements, the LMC agreed to provide two types of relocation house for those residents of the affected areas who had established their claim to be counted as “landowners”:

- a three-bedroom high-set house (here called a “big house”); or
- a two-bedroom low-set house (here called a “small house”).

The choice between the two depended primarily on the actual or anticipated size of the household to be relocated.

A further distinction was made between:

- those existing households for which the company agreed to construct a (big or small) relocation house immediately after the relocation agreements had been signed; and
- those members of existing households (mostly adolescent children of older landowners) who were to be provided with a kit of materials to construct a small house, either three years or five years after the agreements had been signed.

Furniture and maintenance allowances for the relocation houses were determined as follows:

- the occupants of each big house were to receive a furniture allowance of K2,000 (or furniture of equivalent value), 100 meters of pig wire, and a maintenance allowance of K200 per annum throughout the period of relocation;
- the occupants of each small house built at the mining company's expense were to receive a smaller furniture allowance of K1,000 and a maintenance allowance of K200 per annum;
- the recipients of a small house kit in 1998 were to get a furniture allowance of K1,000, but no maintenance allowance; and
- the recipients of a small house kit in 2000 would only get a furniture allowance of K500.

Forty-eight of the 77 households which were due to receive a relocation house in 1995 comprised a senior landowner with one or more dependents. All but three of these "family heads" were male, and all but two were to be given a big house (see Table 7.1). Each was also due to receive a "family allowance" of K10,000, of which:

- K2,000 was to be paid immediately into a "customary payment account" for the benefit of the clan hosting the relocated family;
- K50 per family (or K10 per family member) was to be paid in cash to the family head each month for a period of two years as a "garden subsidy"; and
- the balance was to be paid into the family's bank account on the date of relocation.

The wives of these family heads account for the great majority of those residents who would receive no personal benefit from the relocation agreements (see Table 7.1).

A number of other benefits were prescribed for specific categories of residents:

- Eight other senior landowners who were not counted as "family heads"—mostly widows whose children had already left home—were each to receive a lump-sum "special allowance" equivalent to 50 percent of the family allowance.
- All the 181 children of senior landowners, whatever their housing entitlement, were to receive a lump-sum "child allowance" of K500 each. These "children", some of whom already had families of their own, and therefore qualified for a big relocation house in their own right, accounted for 62 percent of the resident population.
- Nine other residents qualified for relocation houses without being entitled to any of these allowances. It is not clear how these individuals were related to the rest of the landowning population.
- Fourteen residents were to receive various amounts of cash compensation in respect of houses that they had already built or occupied in the affected areas, either because they were not due to receive a relocation house until 1998 to 2000, or else because they were not counted as "landowners", and would therefore never get one.
- Finally, lump-sum cash payments of K5,000 each were to be made to the relatives of two old men who had already received "experimental" relocation houses, but who had then died before the date on which the agreements were signed.

Table 7.1
Lihir Project—Residents of Affected Areas by Type of Benefit

Category	Putput		Kapit		Total
	m	f	m	f	m+f
Heads of Landowning Families:					
big house in 1995 + full family allowance	34	–	11	1	46
small house in 1995+ full family allowance	–	–	–	2	2
Other Senior Landowners:					
big house in 1995 + half family allowance	–	1	–	–	1
small house in 1995 + half family allowance	–	2	1	3	6
small house in 1998 + half family allowance	–	–	–	1	6
Children of Senior Landowners					
big house in 1995+ child allowance	7	4	1	–	12
small house in 1995+ child allowance	–	–	4	–	4
K3,000 + small house in 1998 + child allowance	–	–	1	–	1
K3,000 + small house in 2000 + child allowance	–	–	2	–	2
K1,000 + small house in 2000 + child allowance	–	1	–	–	1
small house in 1998 + child allowance	7	8	2	5	22
small house in 2000 + child allowance	7	4	1	1	13
K3,000 + child allowance	1	2	–	–	3
Child allowance only	47	45	20	11	123
Other Landowners:					
big house in 1995 (no allowance)	1	1	–	–	2
small house in 1995 (no allowance)	–	1	–	–	1
K1,000 + small house in 1998 (no allowance)	1	–	–	–	1
Small house in 1998 (no allowance)	1	–	2	–	3
small house in 2000 (no allowance)	1	1	–	–	2
Other Residents:					
K5,000 cash compensation	3	–	–	–	3
K3,000 cash compensation	–	–	2	–	2
K1,000 cash compensation	1	–	–	–	1
K500 cash compensation	–	–	1	–	1
No personal benefit	–	32	4	14	50
TOTAL RESIDENTS	111	102	52	38	293

Aside from this combination of short-term relocation housing and cash benefits, the LMC undertook to establish a Putput and Ladolam Relocation Trust (PLRT) and a Kapit Relocation Trust (KRT) to provide “assistance to those Residents who are Landowners and any other persons who have a customary right of ownership to the Land” and “for the future housing needs of those Residents who are not Landowners and the children of those Residents, but not the grandchildren, or other descendants, of those Residents”. Both of these trusts were to be structured in the same way as the two trusts established by the main Compensation

Agreement (see above), with trustees to represent the LMC and the national government, as well as the residents themselves. These trusts were to be capitalized in three ways:

- The LMC would provide a cash grant whose value reflected the number of residents (or landowners) in each village: K500,000 to the PLRT and K203,500 to KRT.
- Further grants were to be calculated according to a pair of formulae whose rationale remains obscure. The PLRT would receive a sum equivalent to the cost of building one big relocation house, plus K90,000 or the difference between the cost of building 17 big houses and 17 small houses (whichever proved to be the greater), while the KRT would receive a sum equivalent to the difference between the cost of building five big houses and small houses. It turned out that the cost of building one big house was approximately K100,000, and the cost of building one small house was only K9,000 less, so the result was an additional grant to the PLRT of approximately K250,000, and an additional grant to the KRT of only K45,000.
- In the case of Putput and Ladolam, the LMC was to provide an interest-free loan of K10,000 to the Lihirian "business entity" that participated in the joint venture company that won the contract to build the relocation houses, with provision for the profits of this local company to be remitted to the PLRT. In the case of Kapit, an equivalent loan would be provided directly to the KRT for the purchase of shares in Lakaka Ltd (a Lihirian business entity).

The relocation agreements also include a number of further undertakings by the LMC, which are related to the special circumstances of individual landowners:

- Construction of a new men's house *(haus boi)* and a new pig or chicken enclosure, for those family heads who already possessed such assets, in the vicinity of their relocation houses.
- Payment of compensation to the owners of nine hamlets in Putput and Kapit for the "temporary loss of customary village land" at the rate of K5,000 each per annum during the relocation period, preservation of the existing men's houses and one village cemetery, rehabilitation of these hamlets at the end of the relocation period, and permission for the owners to take possession of buildings constructed by the developer that could be used for commercial purposes.
- A grant of K30,000 to a separate "Ladolam Residents Trust" to be established for the benefit of the residents of the two hamlets located within the prospective pit area, whose trustees would be four persons elected by these residents; and in respect of one of these hamlets, a "special compensation payment" of K19,000 to the principal landowner and his immediate family, as well as relocation of the men's house and the grave located there.
- Relocation of businesses out of the affected areas, and payment of compensation to the owners for temporary loss of associated buildings and assets, for loss of reasonable profits during relocation, and for any other inconvenience arising from the move, or else a payment to compensate them for winding up the business altogether, at rates to be agreed between the parties.

Although the relocation agreements allow the individual recipients of relocation houses (and housing kits) to choose their own relocation sites, the LMC agreed to provide various types of physical infrastructure for the "relocation areas" to which it was assumed that most of the recipients would move:

- In the case of Putput and Ladolam, these were to include a sealed main road, unsealed feeder roads, small boat passages through the fringing reef, a new community center and church (both furnished and supplied with electricity), a small relocation house for a Catholic priest, a medical clinic, and a sports field.
- In the case of Kapit, they would include the unsealed feeder roads, community center and church, and a big relocation house for a United Church pastor.

The “social interests” of the residents of these relocation areas would also be included in the duty statement of a community welfare (social services) officer employed by the mining company.

It should finally be noted that the relocation agreements specify that all the entitlements of residents of the affected areas who die during the relocation period shall be inherited by their “next of kin as determined by custom”. Since this provision does not appear in any of the other agreements contained in the IBP, it would seem to be directed primarily towards the inheritance of relocation houses and the other personal benefits provided to the “relocatees”.

Table 7.2
Lihir Relocation—Value of Package Components (K million, 1995)

	Putput		Kapit		Total
Category	**m**	**f**	**m**	**f**	**m+f**
Relocation Houses					
(including furniture and maintenance)					
big house built 1995	48	4.94	14	1.44	6.38
small house built 1995	3	0.28	10	0.93	1.21
small house built 1998	17	1.29	10	0.76	2.05
small house built 2000	14	1.06	5	0.38	1.44
Personal Allowances					
Family Allowances	37	0.36	19	0.17	0.53
Child Allowances	133	0.07	48	0.02	0.25
Miscellaneous Cash Compensation					
For loss of housing	9	0.03	6	0.02	0.05
For loss of village land	5	0.12	5	0.13	0.25
For loss of business	–	n.a.	–	n.a	
Cash Grants and Loans to Trust Funds					
to Relocation Trusts		0.76		0.26	1.02
to Ladolam Residents Trust		0.03		–	0.03
Other Costs Borne by Lihir Management					
Company for community infrastructure, etc.		n.a.		n.a.	

Putput Community Agreement

The Putput Community Agreement is evidently intended to compensate those residents of Putput #1, Putput #2, and Lipuko villages, who were not themselves due for relocation under the relocation agreements, for the impact of the relocation program on their own lifestyles and resources. It therefore seems rather odd that the parties to this agreement, aside from the LMC, the LMALA, the 98 residents of Putput #1 and #2 who were not due for relocation, and 9 "clan representatives" of Lipuko village, also include 24 "clan representatives" of the customary owners of the land required for the plant site at Putput Point, since this was part of the area from which people *were* to be relocated, and none of the 24 "clan representatives" is also counted as a "family head" under the Putput and Ladolam Relocation Agreement.

For the residents of Putput #1 and #2 who were specified as beneficiaries of the Putput Community Agreement, the LMC undertook to pay cash compensation of:

- K2,000 to each of the "family heads" (i.e., "clan representatives"), with an additional K100 per dependent for each family head with more than five family members;
- K1,000 to widows with children; and
- K500 to other senior residents living alone.

The company also undertook to make an immediate payment of K300,000 to the Putput Plant Site Trust Fund, established under similar conditions to the Relocation Trusts, whose beneficiaries would be the 98 residents, their children, and "any other persons who at any time have a customary right of residency on the land on which the plant site is constructed", and whose purpose would be to provide for their future housing or land purchase needs.

The LMC also agreed to provide additional community infrastructure for all three villages, in the form of village water supplies, a garbage and waste disposal service, realignment of the main road (to keep traffic away from the villages), and village electrification (at least to Putput #1 and #2) before the end of the third year of mine production. From that point on, the LMC would allocate K35,000 each year (at 1995 prices) for new projects in Putput #1 and #2, to be selected by the Ward Committee, but implemented by the LMC.

Other Community Development Benefits

The preamble to Chapter 1 of the IBP states that three separate trust funds are to be established for Londolovit, Kunaie, and Zuen villages in order to provide for "housing assistance" to each of these villages. The Londolovit and Kunaie funds were each to receive initial grants of K75,000, and the Zuen fund to receive an initial grant of K50,000, and all three "will be topped up annually at the damaged land rate of K60 per hectare for land that each of the villages contributes to the project in the various leases". These trust funds appear to have the same rationale as the Putput Plant Site Trust Fund (above), and might therefore be interpreted as compensation to the residents of these three villages for the impact of the Kapit relocation program. The preamble to Chapter 1 also indicates that Londolovit, Kunaie, and Zuen villages are to be provided with the same types of community infrastructure as those specified in the Putput Community Agreement. However, there is no other mention of these undertakings in any of the actual agreements contained in the IBP.

Table 7.3
Lihir Project Relocation Agreements—Trust Funds Established by Lihir Management Company

Name of Trust	LMC Funding	Trustees	Purpose (benefit)	Beneficiaries
Putput and Ladolan Relocation	c.K750,000	4 elected landowners 1 LMC nominee 2 Government nominees	Housing	Landowners and residents
Kapit Relocation	c.K248,000	4 elected landowners 1 LMC nominee 2 Government nominees	Housing	Landowners and residents
Ladolam Residents	K30,000	4 elected residents	Residential land	Residents
Putput Plant Site	K300,000	4 elected landowners 1 LMC nominee 2 Government nominees	Housing or residential land	Residents
Londolovit Residents	K75,000 plus annual top-up	n.a.	n.a.	n.a.
Kunaie Residents	K75,000 plus annual top-up	n.a.	n.a..	n.a.
Zuen Residents	K50,000 plus annual top-up	n.a.	n.a.	n.a.

How much developers have actually paid for village relocation

Bougainville

The costs associated with village relocation were not covered under the Panguna Compensation Agreement of 1980 or its immediate successors. According to Corren (1989:29), Bougainville Copper Limited (BCL) followed a determination made by the Mining Warden's Court in 1969, under which it was obliged to provide relocated villagers with:

- permanent houses with 1,000-gallon water tanks and external toilets;
- weekly rations for six months plus one third of same for another six months;
- payment for damage to previous improvements (buildings and crops);
- A$50 for severance of land from other land and another $50 for loss of hunting tracks and footpaths; and
- A$200 per person for loss of traditional lifestyle.

In the 20 years following this decision, almost 200 households were relocated in the various leases allocated to BCL (Corren 1989).

According to Corren (1989), BCL spent a total of just over K1.6 million on the relocation of 195 households from 28 villages between 1969 and 1989 (see Table 7.4). However, this does not mean that 28 entire villages were relocated. The only village communities to be relocated in their entirety were:

- Uruava, whose inhabitants were moved from the Loloho lease area to the existing village of Rorovana;
- Moroni and Dapera villages, with their associated hamlets, which were relocated within the mining lease; and
- Kuneka village, in the tailings lease area, whose inhabitants moved to a variety of new locations.

BCL's contribution to the cost of this last exercise, which only took place in 1987, has been summarized in the socio-environmental monitoring report of 1988:

> *"The total cost of new buildings was K342,102 (at 1986 prices) with houses varying in cost from K3,533 to K11,624. The single most expensive new building was the church, costing K18,070. The 30 kitchens cost a total of K560 and the toilets cost K885 (although installing septic toilets cost a further K1,500 each). The cost of providing a water supply for each house was K1,200; constructing access roads and bridges cost K130,000. With various other costs, the total cost for the resettlement of Kuneka was about K290,000" (Applied Geology Associates 1989:4.8).*

Unfortunately, these figures do not seem to add up.

Table 7.4
BCL's Village Relocation Costs, 1969-1989

Lease	Villages	Houses	Cost (kina)
Rorovana	1	11	73,854
Access Road	2	11	62,692
Mining Lease	10	80	412,633
Tailings	15	93	1,089,760
TOTAL	28	195	1,638,939

Source: Corren 1989:30.

Ok Tedi

There was initially no need for a relocation package or relocation agreement in the development of the Ok Tedi project, but Wangbin village, located within the boundaries of the Tabubil town lease, was eventually relocated in 1990. The establishment of "New Wangbin" involved the construction of 32 high covenant houses for about 200 landowners at a total cost of K350,000 *(Post-Courier 9/5/90).* We are not aware of any formal agreement relating to this relocation, nor have we been able to discover the extent to which Ok Tedi Mining Limited (OTML) was responsible for organizing and funding the whole exercise. According to Jackson (1993), the main aim of the exercise was to discourage the continuing growth of squatter settlements on Wangbin village land, but this proved to be a vain hope because "the villagers promptly rented out the old village site and houses" to the squatters.

The only information available from recent OTML company records regarding the costs of village relocation indicates that a total of just over K1 million (K1,025,000) was spent on the relocation of households from Wangbin and four other villages in the period from 1984 to 1996. There is no indication of the composition of this expenditure.

Porgera

PJV company records do not provide any separate calculation of actual village relocation costs, either under the original relocation agreement with mining lease landowners or under subsequent agreements that have involved additional relocation.

Tolukuma

Actual relocation costs for the Tolukuma project are shown in Table 7.5.

Table 7.5
Tolukuma Project Relocation Costs, 1994-1997 (40 months)

Category	Value (K)
Relocation Houses: Materials and Freight	340,000
Contract Labour: Relocation Houses Construction	150,000
Earthworks: Relocation Houses and Villages	120,000
TOTAL	610,000

Source: Tolukuma Gold Mines internal records.

Lihir

More detailed information is available for relocation costs incurred by the Lihir Management Company, as a result of a (World Bank-sponsored) visit to the mine site in October 1998. Even so, the only reliable figures that I have been able to obtain for the actual level of expenditure by LMC on the cost of the relocation housing construction contracts are those for Kapit village alone (see Table 7.6). This is somewhat ironic, given that most of the Kapit villagers had not even begun to occupy their relocation houses at the end of the construction phase. From these figures, it is possible to arrive at an estimate of the cost of relocation housing for Putput village (Table 7.7), making allowance for the fact that the unit costs of site preparation were approximately 30 percent higher for Kapit than for Putput, because the Kapit relocation houses were constructed at several different sites (Dave Emery, personal communication). The aggregate figure of almost K13 million does not exhaust the cost of the total relocation package, because it excludes some of the other costs arising from the relocation agreements, such as the furniture, maintenance, and personal allowances; the cash compensation paid for losses incurred by the relocatees; and the cost of additional items of community infrastructure. One estimate provided by LMC puts the value of these additional costs at US$1.7 million (or K2.4 million). Table 7.8 shows that relocation allowances and housing compensation alone accounted for more than K1 million, and cash payments under the relocation package would have been higher if the Kapit villagers had actually been relocated before the end of the construction phase.

Table 7.6
Actual Cost of Constructing Relocation Houses for Kapit Village, 1996-1997

Item	Cost (K)
Site preparation costs	2,078,336
13 Type A houses @ K72,106	937,378
10 Type B houses @ K61,586	615,860
1 special house @ K99,833	99,833
Installation costs	277,907
SUB-TOTAL	4,009,314
Contractors' profit (10%)	400,931
TOTAL	4,410,245

Source: Lihir Management Company internal records.

Table 7.7
Estimated Cost of Constructing Relocation Houses for Putput Village, 1996-1997

Item	Cost (K)
Site preparation costs	3,400,677
47 Type A houses @ K72,106	3,388,982
3 Type B houses @ K61,586	184,758
1 special house @ K99,833	99,833
Installation costs	590,552
SUB-TOTAL	7,664,802
Contractors' profit (10%)	766,480
TOTAL	8,431,282

Source: Lihir Management Company internal records.

Table 7.8
Additional LMC Expenditures under the Lihir Relocation Agreements, 1996-1997

Item	Cost (K)
Relocation allowances and housing compensation	1,007,814
Business relocation and compensation	626,500
Compensation for loss of village land	15,000
Special compensation to Ladolam residents	20,500
Putput Community Agreement compensation	75,000
Advances to various trust funds	444,000
Construction of additional community infrastructure	n.a.

Source: Lihir Management Company internal records.

Only a limited proportion of LMC commitments to various landowner trust funds was realized during the construction phase, because the trust deeds themselves were not finalized until 1998. By July 1998, LMC had accumulated financial commitments to these trust funds with a total value of US$968,000 (then worth more than K2 million). Of the money advanced to these trust funds during the construction phase, some was used to purchase Lihir Gold shares, while some was used to pay for the cost of additional community infrastructure or to purchase other assets, e.g.,

- a K98,000 advance to the PLRT was used to pay for additional shower and toilet facilities for the relocation houses;
- a K75,000 advance to the Londolovit Trust Fund was spent on the construction of the new Catholic church; and
- a K75,000 advance to the Kunaie Trust Fund was used to purchase a community truck.

Socioeconomic impact of village relocation

Bougainville

The impact of BCL's relocation program in the mining lease was the subject of a study conducted by a team of students from the University of PNG in April 1988. The results were included in an appendix to the Lihir socioeconomic impact study. The following passages are taken from that appendix:

> *"The Moroni site now contains 16 houses, but only one of the original fibrolite constructions has survived, and that is in a very poor state of repair. The 4 water tanks installed by BCL have long since rusted away, and the villagers now collect rain water (sometimes mixed with dust) in 44 gallon drums, which constitute a fertile breeding ground for mosquitoes. The Moroni people are now largely dependent on royalties and compensation payments for their livelihood: hardly any are employed by BCL, they have no business worthy of the name, and their gardening activities are severely restricted by the lack of suitable land. They say their cash incomes are entirely consumed in the purchase of imported food (and drink) at the Panguna supermarket and in the payment of school fees. They complain about the effects of environmental pollution on their state of health, the tendency of adults to grow fat and die young, and the tendency of young men to drink too much and do no work. The physical appearance of the village and the people suggests a state of demoralisation and dependency which might, without too much exaggeration, be compared with that of long-term recipients of state welfare benefits in a developed country.*
>
> *The situation of the other artificial villages created by BCL's resettlement programme is not quite as depressing as that of Moroni, but that is partly because they have existed for a shorter period of time. New Dapera is a larger, and apparently more vigorous, community, which was created in its present form in 1976. Here too the original fibrolite houses have deteriorated through lack of maintenance, and some have been abandoned altogether, even while their former occupants have been obliged to con-*

> *struct additional dwellings for themselves and their growing families. If New Dapera was originally intended as a showpiece in the art of resettlement, it would certainly not qualify for that title today. The Dapera people do seem to be rather better organised, and to have a generally higher standard of living, than the people of Moroni, and they may be less exposed to the environmental hazards created by the mine. On the other hand, they exhibit the same distorted consumption patterns, the same obsession with the deterioration of their health, and the same feelings of dependency, frustration and resentment towards BCL and all its works. One Dapera villager described the staff of BCL's Village Relations Office as our enemies" (Filer and Jackson 1989:388-9).*

These findings were repeated in the socio-environmental monitoring study conducted by Applied Geology Associates later in the same year, and subsequently published in an article by one of the consultants, John Connell. Connell noted six areas of particular concern among the beneficiaries (or victims) of BCL's relocation packages:

> *"the lack of houses for newly married couples of the next generation; maintenance of BCL houses; inadequate water supplies, toilet facilities, etc.; poor quality housing; and limited facilities in the resettled villages" (1991:66).*

The relocatees could not understand why their relocation houses had not been built and maintained to the same standard as those which accommodated BCL's own employees at Panguna and Arawa, while BCL was reluctant to contribute to the maintenance of relocation houses in case this fostered a dependency syndrome or handout mentality. However, the dependency of the relocated villagers in Moroni and Dapera was not just an attitude problem, but had a valid physical explanation in the fact that the amount of land that [was] owned by clans from these villages and not already occupied by the mine [had] shrunk to a tiny proportion of [their] historic land area (Applied Geology Associates 1989:4.8).

Porgera

The impact of PJV's relocation program was the subject of an entire chapter in Bonnell's (1994) report for the Porgera Social Monitoring Programme. Information in this chapter was derived from a survey conducted in mid-1993, covering 96 of the 420 relocation houses that had been built by the start of that year. Bonnell found that many of the relocation houses were overcrowded, with a mean household size of 8.1 persons. This phenomenon was attributed to a number of causes:

- "polygamy, especially the case of men who had taken new wives since moving into relocation houses;
- Porgeran relatives moving in because they felt they were entitled to relocation houses;
- non-Porgeran relatives moving in to gain the advantages of living near the mine;
- married children continuing to live with parents because they wanted relocation houses of their own" (Bonnell 1994:23).

The effects were said to include:

> *"…family disputes, wear and tear on the house itself, plus the damage caused during these disputes. It was also a strain on already limited water resources and food gardening land. There were possible health consequences from communicable diseases" (ibid:23-4).*

On the other hand, the women who occupied the houses were generally satisfied with both their size and their amenities:

> *"…and this was reflected in the care they were taking of them. If the people did not like the houses, they would have destroyed them or not cared for them. The demand for relocation houses by those who did not qualify, as well as the adult children of those who did, indicates that the relocation house was definitely the status symbol of Porgera" (ibid:24-5).*

A number of problems had been identified in the design and maintenance of the houses, and some of these had already been addressed by PJV. The small size of the water tanks had proved to be especially problematic in light of the tendency to overcrowding. The relocated households were also suffering from a shortage of gardening land, firewood and building materials, and inadequate sanitation and rubbish disposal arrangements. And the children of these families had become a problem in their own right:

> *"Older children were putting pressure on their parents by bringing their spouses to live with them in the relocation houses. The children wanted their own relocation houses, and were accusing their parents of selling them short when they entered into the relocation agreement. Many women said that their big worry was, Where are our children going to live? This was expressed as part of their concern for the children's future in the survey form, as well as in informal meetings with groups of women in the relocation areas. Some women were very concerned that their sons were idle, and all they did all day long was drink and play cards. The problem of idle, unemployed youth, who felt they had been left out of all the benefits of compensation and relocation that their parents received, was considered by some to be near the explosive point. Some people I spoke to thought it was quite possible that in the near future some relocation houses in Kulapi and Mungalep would be destroyed by angry children" (ibid:37).*

An increase in the rate of polygyny among the male beneficiaries of the relocation package had also induced a series of disputes between co-wives over the tenancy of the relocation houses.

Despite the efforts of PJV's (understaffed) Relocation Section, most of the problems identified in 1993 were still present three years later, when the total number of relocation houses had increased to 506. Communal water supplies had been routinely vandalised, and the Electricity Commission had abandoned its electrification programme because the first group of households to be connected had consistently refused to pay their bills (Banks and Bonnell 1997:36-8). At the same time, the growing shortage of subsistence resources in the relocation areas was creating a situation in which some of the relocated households might have to be relocated again if indeed the necessary space could be found outside the mining lease.

Conclusion

Comparison of the Bougainville, Ok Tedi, Porgera, and Lihir cases indicates that the cost, complexity, and formality of relocation packages in the PNG mining industry has increased markedly since BCL embarked on its original relocation program in 1969. The same tendency is evident in the larger landowner compensation packages of which these relocation packages are only one component. The Tolukuma case indicates that a distinction may still need to be made between large-scale and medium-scale mining projects in this respect, for the simple reason that big projects (and big companies) can afford to pay more, and may have to pay more, in order to retain the goodwill of their local communities. This in turn is related to the fact that an escalation in the value and complexity of local compensation regimes has owed rather less to the inherent generosity of mining companies, or even to international pressure for them to do the right thing by indigenous peoples, than it has to the pressure which those same indigenous peoples have brought to bear in their negotiations with the companies and with their own national government.

The outbreak of the Bougainvillean rebellion (in 1988) certainly had a catalytic effect on the dynamics of stakeholder relations in the PNG mining industry, but major changes had already been evident in negotiations over the development of the Porgera project, which included the groundwork for the Porgera relocation program. OTML may have embarked on its own relocation program as part of a general effort to provide a better deal for local landowners, but the Lihir landowners (or their leaders) drove a very hard bargain with LMC, partly as the result of the lessons which they thought they had learnt from the leaders of the Bougainville rebellion, and the fruits of that bargain are evident in the details of the Lihir relocation package. The Tolukuma landowners (or their leaders) knew much less about the precedents which had been set in other parts of the country, and might seem to have been short-changed as a result, but the fact was that the company could not have afforded a Lihir-style package, and when Melanesian villagers negotiate with mining companies, or any other resource developers, their demands are commonly framed by an estimation of the other side's ability to pay.

Finally, it seems that certain problems of adaptation or dependency are liable to be recurrent features of the actual impact of relocation packages on the villagers who are relocated, regardless of the relative generosity of the settlement. Further investigation of the impact of relocation around the Ok Tedi and Tolukuma projects, and even more especially the Lihir project, might cast further light on this issue.

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Acronyms

BCL	Bougainville Copper Limited
GOPNG	Government of Papua New Guinea
IBP	Integrated Benefits Package (Lihir)
K	Kina (PGK)
KRT	Kapit Relocation Trust (Lihir)
LMALA	Lihir Mining Area Landowners Association
LMC	Lihir Management Company
LMP	Lease for Mining Purposes
OTML	Ok Tedi Mining Limited
PJV	Porgera Joint Venture
PLRT	Putput and Ladolam Relocation Trust (Lihir)
PNG	Papua New Guinea
SML	Special Mining Lease

Currency Conversion Table

US dollars per PNG kina, 1988–1998 (year end).

Year	US$
1988	1.2100
1992	1.0127
1994	0.8485
1996	0.7553
1998	0.4500