LANDOWNERS' MINERAL RENT-QUEST AND USE IN PAPUA NEW GUINEA

by
Agogo Mawuli
and
Ogis Sanida

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CONTENTS

Acknowledgements iv
Foreword v
Acronyms vi

1. Introduction 1
3. Mineral Rent 4
4. The Development Forum 7
5. Compensation and Resource Rent 11
6. Resource Rent Question at the Mining Locations 13
7. The Dynamics of Resource Rents 34
8. Resource Rent-Use: An Empirical Study 36
9. Landowners’ Incomes 45
10. Landowners’ Expenditures 58
11. Landowners’ Investments 72
12. Conclusion 88
References 89

Tables

Table 8.1: Equity Holding in Porgera Joint Venture (PJV), 1996 40
Table 8.2: Change in Equity Holding of PJV, May 1997 40
Table 8.3: Royalty Payments to August 1996 41
Table 8.4: Other Payments to June 1996 41
Table 9.1: Percentage Income Sources for Ok Tedi and Misima, 1996 46
Table 9.2: Landowners’ Income Per Household in Ok Tedi 49
Table 9.3: Landowners’ Income Per Household in Misima 52
Table 9.4: Landowners’ Income Per Household in Lihir 56
Table 10.1: Percentage Composition of Landowners’ Expenditure (in the past 12 months of the study) 59
Table 10.2: Expenditure on Consumables (Ok Tedi) 60
Table 10.3: Household Durable Goods Expenditure (Ok Tedi) 61
Table 10.4: Special Disbursement of Income (Ok Tedi) 63
Table 10.5: Expenditure on Consumables (Misima) 63
Table 10.6: Household Durable Goods Expenditure (Misima) 64
Table 10.7: Special Disbursement of Income (Misima) 65
Table 10.8: Expenditure on Consumables (Lihir) 69
Table 10.9: Household Durable Goods Expenditure (Lihir) 70
Table 10.10: Special Disbursement of Income (Lihir) 71
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Foreword

It is widely believed that the landowners are simply living off their resource rents. Resource rents are all considered as direct benefits in the form of royalties, compensation payments, special support grants (SSGs), or equities not paid for. It is also believed that resource owners in Papua New Guinea exhibit an insatiable drive to continually play ‘little Oliver Twists’ -- always seeking avenues to derive more returns from their land. There has been some concern that resource rents might be dissipated, within a short time, because of heavy or reckless spending. Resource developers and the Government, among others, are concerned about the welfare of resource owners, but they are also concerned about the smooth operation of the mines. These concerns need to be investigated.

The study seeks to:

- find out whether landowners put rents received from mineral and petroleum development directly into productive investments that can contribute to sustainable benefits;
- focus on the landowners' business ventures which would help policy decisions on rent usage; and
- highlight popular beliefs, assertions, and concerns expressed in respect of resource owners.

The results indicate that the cash earning of landowners from royalties and compensation demands might have undermined traditional economic activities. When the mine closes down, the rents will dry up, and so will the businesses that depend on the mining operations. Therefore, non-mine-related economic activities must be encouraged so that incomes can be sustained in the long term.

The expenditure pattern of landowners has been highly geared towards current consumption. This has been shown by the high propensity to purchase consumables, durables, and addictive products. Spending on investments has been very minimal. Every effort should be made to divert spending on heavy current consumption into investments that are sustainable for future generations.

Given the results, the Government should formulate and implement sound policies to ensure the sustainability or survival of landowners' businesses in order to sustain incomes. One approach is to encourage and support businesses that are not dependent on the mining operation. Agro-based activities should be in the forefront in policy formulation in this direction. The mining areas are all suited to cropping or fishing. A cue may be taken from the Kutubu Joint Venture partners who are making efforts to introduce agriculture to the landowners who, until recently, were hunters and gatherers.

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Economic Studies Division
National Research Institute
## Acronyms

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<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>BCL</td>
<td>Bougainville Copper Limited</td>
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<td>BDO</td>
<td>Business Development Office</td>
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<tr>
<td>BHP</td>
<td>Broken Hill Proprietary Company Limited</td>
</tr>
<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
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<tr>
<td>CRA</td>
<td>Conzinc Rio Tinto of Australia</td>
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<tr>
<td>DME</td>
<td>Department of Minerals and Energy</td>
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<tr>
<td>DMP</td>
<td>Department of Mines and Petroleum</td>
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<td>DPI</td>
<td>Department of Primary Industry</td>
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<tr>
<td>EPG</td>
<td>Enga Provincial Government</td>
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<td>FRPG</td>
<td>Fly River Provincial Government</td>
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<td>IBP</td>
<td>Integrated Benefits Package</td>
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<td>JV</td>
<td>Joint Venture</td>
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<td>KLMA</td>
<td>Kiunga-Lake Murray Authority</td>
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<td>LMALA</td>
<td>Lihir Mining Area Landowners’ Association</td>
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<td>LMC</td>
<td>Lihir Management Company</td>
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<td>LMP</td>
<td>Lease Area for Mining Project</td>
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<td>MBH</td>
<td>Kupferexplorationsgesellschaft, a German Consortium</td>
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<td>MBP</td>
<td>Milne Bay Province</td>
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<td>MBPG</td>
<td>Milne Bay Provincial Government</td>
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<td>MMPL</td>
<td>Misima Mines Proprietary Limited</td>
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<td>MOA</td>
<td>Memorandum of Agreement</td>
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<td>MRDC</td>
<td>Mineral Resources Development Company</td>
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<td>MROA</td>
<td>Misima Resource Owners’ Association</td>
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<td>MRP</td>
<td>Mineral Resources Porgera</td>
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<td>MTSA</td>
<td>Misima Towoh Sian Association</td>
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<td>NDA</td>
<td>Nimmer Development Authority</td>
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<td>NEC</td>
<td>National Executive Council</td>
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<td>OTML</td>
<td>Ok Tedi Mining Limited</td>
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<td>OTSA</td>
<td>Ok Tedi Supplemental Agreement</td>
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<td>PAL</td>
<td>Pit Area Landowners</td>
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<td>PIP</td>
<td>Public Investment Program</td>
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<td>Porgera Joint Venture</td>
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<td>PL</td>
<td>Project Landowners</td>
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<td>PMV</td>
<td>Public Motor Vehicle</td>
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<td>PNG</td>
<td>Papua New Guinea</td>
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<td>RMC</td>
<td>Resource Management Committee</td>
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<td>RMLTF</td>
<td>Road, Mining and Lease Trust Fund</td>
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<td>RTZ</td>
<td>Rio Tinto Zinc</td>
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<td>SML</td>
<td>Special Mining Lease</td>
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<td>SSA</td>
<td>Special Support Assistance</td>
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1. Introduction

Papua New Guinea (PNG) is endowed with abundant natural resources. There are mineral and petroleum resources, fertile agricultural land, as well as forestry and marine resources. This report focuses on mineral resources. Lying in the so-called 'Pacific Rim of Fire', PNG is a highly prospective region for mineral and oil development. Since the development of PNG's first major mine, the Panguna gold and copper mine on Bougainville in 1972, mining has become the main dynamic sector for the PNG economy.

Other large-scale mines include the development of Ok Tedi in 1984, Misima in 1988, Porgera in 1990, the Kutubu Oil Fields in 1991, and the Lihir goldmine in 1997. All of these ventures, except Misima and Kutubu are world class operations. In addition, medium and small-scale mines have been developed. Mining has brought benefits and costs to the stakeholders, mining companies, the State, and the landowners.

It is widely believed that the landowners are simply living off the benefits (often referred to as resource rents) that have accrued to them. The study examines the rents, landowners' mining quests for cash benefits, and how the benefits are expended. Direct cash benefits have been realised in the form of royalties, compensation payments, and special support grants (SSGs). It appears that resource owners - terminology that is used interchangeably with landowners - exhibit an insatiable drive to continually play 'little Oliver Twists', and are always seeking ways or means to derive more returns from their land.

There is widespread concern that the benefits might be dissipated, within a short time of heavy or reckless spending. The other stakeholders - the resource developers and the Government - might wish to see some constraint placed on the landowners' desires for more and more benefits, notwithstanding their concern for the welfare of the resource owners. Considering these concerns, one can clearly see the desire of the stakeholders to have timely development and an uninterrupted operation of the mines, in order to get access to the resource money.

The study addresses those issues that are concerned with the landowners' mineral rent-seeking and rent-use. Section 2 presents Mineral Resource Development. Mineral or resource rent in this study has a special connotation which is explained in Section 3. Rent-quest refers to cash benefits in the form of royalties and compensation, which are the outcomes of a mining operation. The Development Forum is covered in Section 4, and Section 5 focuses on Compensation and Resource Rent. Section 6 addresses the Resource Rent Question at the Mining Locations, while Section 7 presents the Dynamics of the Resource Rents. To exemplify the study, empirical research is presented. Section 8 presents the background of the case study. Sections 9, 10, and 11 present an empirical study of the landowners' incomes, expenditures, and investments, respectively. Finally, the conclusions of the study are presented in Section 12.
2. Mineral Resource Development

Mining and mineral resource development have a long history in Papua New Guinea. This can be seen in terms of the three or four main waves of development, each of which was initiated by a sudden upsurge in the country's mineral prospects. The development of the mining industry may be conveniently viewed in three phases. However, it is the third phase which is the focus of this study.

The first of the three periods began with the fruitless gold rush of 1878, and ended with the fruitful gold rush which invaded Edie Creek in 1926. The second stage began in the late 1920s and lasted until the mid-1960s. During this stage there was a geographical split between a single core complex of capitalist industry, and a periphery where the white descendants of the red-shirt capitalists took on employment with the mining company, before they set out to explore the last colonial frontier. The current third phase, which began in 1969, ushered in the development of the Panguna copper and gold deposits (Nelson 1976).

The academic history of mining (cf. ibid.) lays emphasis on European problems and achievements, whether they concern themselves with exploration (Radford 1972), labour conflict (Newbury 1975), or the colonial administration of the industry (O’Fairchocailleagh 1989). From this perspective, the period between 1964 and the present is classified into two phases.

The present phase encompassed the discovery, development, and closure of the Panguna mine. Filer (1993:4) indicates that there is still no agreement as to the point at which it ended, or the nature of the phase. The period from 1964 to 1988 has a variety of hallmarks. Some commentators point to the first term of the Somare government, particularly as it preceded the formal declaration of national independence in September 1975, and ended with renegotiations of the 1967 Bougainville Copper Agreement, which caused Kennecott to abandon the Ok Tedi prospects. Other commentators point to the 1981 commencement of Ok Tedi Mining Limited. However, while the Chan Government was midwife to this process, it failed to take account of the Bougainville Review in 1981.

Thus, one can state that, what began in 1964 was only redirected or diverted by the deals of 1974 and 1981, the outbreak of the Bougainville rebellion in 1988, and the shutdown of Bougainville Copper Limited's mining operation in May 1989. There was a twelve-year gap between the start of the mining operation at Panguna (1972) and that at Ok Tedi (1984). Both of these mineral deposits had been discovered by a single burst of exploration in the 1960s, which in turn, was prompted and encouraged by the colonial administration. The development of the two deposits was encouraged by the World Bank as the means of establishing the economic foundations of an independent state. The next mineral prospecting did not occur until the mid-1980s, and it was this new wave of exploration which did so much damage to the development which had been established on the earlier foundations.

If the mining industry has entered a new phase of development (or 'undevelopment') since 1988, it is not because there has been another comparable transformation in the technical, economic, and occupational structure of the mining industry. It is because there have been more dramatic changes in the political context, including the assertiveness of mineral resource owners. However, these developments began in the second half of the
1960s, and have been hallmarked by the development of mining projects, initially at Panguna (Bougainville), and later at Ok Tedi, Misima, Porgera, and Lihir.

These developments are more remarkable because so much attention had previously been paid to the formation and maintenance of a 'national mineral policy', as being the distinctive characteristic of the modern era. The formulation of the Mining (Bougainville Copper Agreement) Act of 1974, and the Mining (Ok Tedi) Act of 1976 was the climax of a process of economic decolonisation, which had already started when the Bougainvilleans took issue with the mining plans of Conzinc Rio Tinto of Australia (CRA) and the Australian Administration. The Bougainville issue figured prominently in the process of political decolonisation that was framed by the deliberations of the Constitutional Planning Committee, and the design of the Organic Law on Provincial Government. The Bougainville question was also one of national economic policy, and could not be settled by a new constitutional arrangement.

The 1976 Bougainville Copper Agreement was not a detestable tombstone of colonial mining policy. Rather, it was an imperfect attempt to achieve the best possible deal between a developing national economy and a mining industry which was dominated by large foreign companies. National mining policy decision making can be divided into three different phases:

- 1964-1976 — the formation of technocratic consensus;
- 1976-1988 — the operation of technocratic consensus; and
- 1988-present — the breakdown of technocratic consensus.

The first period, 1964 to 1976, was characterised by Australian colonisation. Hence, numerous policies were borrowed from the Australian Government, including the Queensland Mining Act.

The development of the Bulolo and Wau goldfields was in line with the colonial mining ordinance of 1927. However, after independence, subsequent policies led to the introduction of provincial governments. The post-independence phase, from 1976 to 1988, was characterised by mining regulations and legislation, such as the development of the Environment Legislation of 1978. This period also saw the Department of Minerals and Energy sponsoring socioeconomic impact studies during the feasibility stages of projects. Attention seemed to be diverted from Bougainville to Ok Tedi, for which a number of social impact studies were done (Jackson 1976; Filer, Jackson and Ilave 1986). Subsequent mining developments were increasingly wary of the issues and problems related to the Bougainville crisis, which erupted in 1989 because of inadequate compensation or 'resource rent' for some landowners.
3. Mineral Rent

‘Resource rent' may be considered as a particular form of 'economic rent'. For most people, rent is what a landlord collects periodically (for example, monthly) from a tenant, or what a car-rental agency charges for the use of a car. In economics, rent means economic rent. Ross Garnaut, one of the original architects of the Papua New Guinea Mineral Development Policy, defines 'economic rent' as 'the surplus generated from sales after paying the supply prices of all goods and services for production' (Garnaut 1995:61). According to Garnaut (ibid.), economic rent is the financial benefit that is distributed between those stakeholders who have some kind of veto power over the process of resource development. However, such rent is also liable to be reduced by the impact of stakeholders' conflict on what he calls 'supply price of investment' (ibid.).

In Papua New Guinea (PNG), the concept of resource rent in the mining sector began with mineral resource development at Panguna, in North Solomons Province. This was the beginning of the third phase of development in the mining industry, as multinational companies became interested in the exploitation of mineral resources in PNG. This phase has been dominated by large-scale projects which have been operated by transnational corporations, and financed by venture capital and foreign direct investment. The post-independence government policy towards mining and petroleum has been a continuation of that which was originally formulated by the late colonial administration in relation to Panguna. Successive governments have looked to the mining sector, not only for direct benefits to the resource owners who are involved in particular projects, but as a source of revenue for financing national development — or at least the national budget (Daniel and Sims 1987).

The concept of resource rent in the mining sector was first applied at Panguna, alongside colonial legislation such as the Mining Ordinance of Queensland (from which the Mining Ordinance 1928-1966 was derived) (Hunt 1989). The issues of royalties and occupation fees were addressed under the colonial mining ordinance, but did not translate into significant cash benefits. Under the terms of that legislation, royalties were calculated on the basis of the value of the resource being exploited, and were paid to the administration. This related to British law, whereby ownership of minerals was vested in the Crown. The Crown did not suggest that a share of the royalties should be paid to the landowners, so consequently, no amendment was made to this section of the original ordinance.

The question of royalties had been the subject of much confusion and heated debate on Bougainville, until Paul Lapun, the then member for South Bougainville, introduced an amendment to new mining legislation in June 1966. This was a watered-down version of the Bougainvillean claim, which proposed that five percent of the total royalties paid to the administration should be returned to the landowners (Bedford and Mamak 1977). The Bill received considerable support from other members from the New Guinea region. One member insisted that there was no reason why Papua New Guinea should ‘slavishly follow the custom of other countries in this matter', while another member pointed out that ‘the law of Papua New Guinea states that the ground on top, and anything underneath belong to the owner himself'.

However, the representatives of the administration — in particular, the Director of Lands, Surveys, and Mines, and the Assistant Administrator for Economic Affairs —
advised persistently that the landowners would be adequately compensated through payment of the proposed occupation fee. They argued that royalties belonged to the nation and should be used to promote development throughout Papua New Guinea, not just on Bougainville or in any area where a resource is located. The Director of Lands, Surveys, and Mines stated that the amendment 'cuts right across the principle on which the mining legislation is based'; that is, that the Government and the people of the territory own the minerals.

It was generally believed that Australian law regarding mineral rights was irrelevant in the New Guinean context of landownership. However, the new mining legislation was pushed through the House of Assembly without any change to the provisions governing royalties. This added to the confusion on Bougainville, and made those groups who were opposed to CRA’s operation even more determined to reject the whole mining development. Occupation fees were regarded as inadequate. As Oliver (1973:164) commented, 'the principle that royalties paid on the treasure from one's own land would be used for the territory as a whole, and not the landowners, or even for Bougainvilleans in general, was considered by some Bougainvilleans to be insanely alien, or transparently deceitful'.

The matter was raised again in the House of Assembly in November 1966. By this time, the royalty issue and the continued opposition of Bougainvillian landowners to CRA's activities were well-known to all members. The second debate on the amendment saw several members arguing in favour of a small share of the royalties being returned to Bougainvillians, if this would be accepted as satisfactory compensation. The Director of Lands, Surveys, and Mines was not convinced that this move was appropriate, so he opposed it. However, Paul Lapun stated that the Panguna people would be content with five percent, and largely on this assurance the amendment was passed.

The new forms of compensation that were introduced in November 1966 included occupation fees and royalties, which are forms of resource rent. Compensation that was covered in the earlier legislation included payments for:

- damage to improvements on the surface (including crops and economic trees);
- severance of the land from any other land of the owner;
- loss of surface rights of way; and
- a blanket provision for 'all consequential damage' (Section 56, Mining Ordinance, 1928-1966).

The various Regulations seemed to cover a number of contingencies that would give very few cash benefits, because, except for the minimum payments for occupation fees, no precise amounts were specified in the legislation. There was scant information that could be given to the Bougainvillian landowners about the amount they would receive, until these issues had been established in the mining warden’s court. In the case of royalties, this would not be possible until mining had actually commenced.

Under those circumstances, it was not surprising that there was no positive response to the amendment in the Panguna area. In 1966, the people who lived around Panguna were hostile to CRA’s activities, and by the end of November, there had been little change in this attitude.
However, in December 1966, the landowners finally agreed to listen to Lapun's explanation of the new benefits that they were to receive as a result of changes in the legislation. Early in 1967, the company's seven prospecting authorities were due for renewal. Consistently, CRA disregarded the Bougainvillean protests. CRA was determined to get what it wanted, irrespective of the wishes of the local landowners.

In February 1967, at a meeting of the House of Assembly, there was an interesting debate on a progress report which the Director of Lands, Surveys, and Mines, Mr. Grove, presented regarding CRA's activities. Following Grove's statement, there were speeches by expatriate and New Guinean members supporting CRA's activities. They condemned the Bougainvillean's for their continued opposition to the venture, in spite of the royalty concession and the provision for more compensation under the Mining Ordinance. The House of Assembly ultimately endorsed the future plans of CRA, for mining on Bougainville.

Grove introduced the Mining (Bougainville Copper Agreement) Bill. The Bill sought the approval of the House of Assembly to an agreement which had been drawn up and signed by the administration and Bougainville Copper Pty. Ltd., a company which was registered in the Territory and controlled by Conzinc Rio Tinto of Australia. The Bougainville prospect and project were negotiated prior to independence and the mine started operations in April 1972. The fiscal provisions of the Bougainville agreement were renegotiated in 1974, without any significant changes being made. The Bougainville Copper Agreement Bill included royalties and the payment of occupation fees for resource owners, who were excluded from participating in mining negotiations.
4. The Development Forum

The Development Forum is a policy dimension which involves all parties of a mining project. It has become a channel for consultation by the various parties to a mining agreement. The Development Forum was born at the height of the Bougainville crisis, in an attempt to solve the problems that were associated with resource rent-seeking. The forum process originated during the development of the Misima goldmine, which was delayed because of the marginal economics of the project, and the Government's indecision on the question of equity participation and other terms of resource rents. The Development Forum concept dates back to June 1988, at which time a Mining and Petroleum Working Committee was set up by the National Premiers' Council.

The mover and seconder of the motion to set up the committee were the premiers of Enga and Southern Highlands Provinces, who were considering their provinces' prospective wealth. They called for greater participation by the provinces, in the financial benefits and development of major mineral projects. The motion received instant support from North Solomons and Western Provinces, as the custodians of the Panguna and Ok Tedi mines, respectively. Not surprisingly, they were enthusiastically joined by the rest of the council.

The resolution was primarily concerned with the lack of consultation by the national government, with the provincial governments and the landowners. The general perception was that the national government was about to completely overhaul the Mining Act; that is, the legislative framework for the development of the mining industry in the country, and had not bothered to incorporate the views of the provincial governments or the landowners. The resolution asked the committee to come forward with recommendations on twelve key issues:

- the financial benefits likely to be accrued by provincial governments as a result of an increase in royalties or a share of national government taxation;
- the environmental and social impacts of mineral developments;
- compensation to landowners for environmental and social disturbances;
- the payment of rent to landowners for the use of their land;
- the landowners' share of the royalties;
- whether provincial governments and landowners should take equity in mineral projects;
- the ultimate ownership of Papua New Guinea's mineral resources;
- whether provincial governments and landowners should become parties to mining and petroleum development agreements;
- the control of unfair marketing practices;
- provincial and local participation in spin-off benefits;
- decentralisation of power to enable provincial regulation of small-scale mining; and
- the creation of meaningful and adequate consultation agreements with provincial governments at all stages of exploration and development (Mining and Petroleum Working Committee 1988).

The Development Forum is now seen as a 'standard step' in the approval process for major mineral and petroleum projects, and, as such, must be seen as a real attempt by the national government to involve landowners and provincial governments in the licensing of new projects. The Development Forum has been legitimised by its
inclusion in the new Mining Act, as passed by Parliament on 5 March 1992 (West 1992:29). Clause 3 of the Department of Mining and Petroleum’s Mining Act 1992 states that:

3.1 A Development Forum shall be convened by the Minister (for Minerals and Energy; that is, what is now Mining and Petroleum) before the grant of any Special Mining Lease, to consider the views of those persons whom the Minister believes will be affected by the grant of that Special Mining Lease and shall be conducted by the Minister according to such procedures as will afford a fair hearing to all participants.

3.2 The Minister shall invite to a Development Forum such a person(s) as he (or she) considers will fairly represent the views of:

(a) the applicant for the Special Mining Lease;
(b) the landholder of the land which is the subject of the application for the Special Mining Lease, and other tenements to which the applicant’s proposal relate;
(c) the national government; and
(d) the provincial government, if any, in whose province the land which is the subject of the application for the Special Mining Lease is situated.

The Development Forum has now become a legal requirement for all major mining projects, regardless of whether the Government likes it or not, and is seen as part of the consensus building process, particularly with respect to resource benefits (West 1992:29). In practice, the Development Forum has been primarily concerned with how landowners and the province will benefit from mineral and petroleum developments, as evidenced by the landowners’ position papers that have been presented at the forums.

The outcomes of a Development Forum are documented in a Memorandum of Agreement between the various participants. Its emphasis on financial benefits and infrastructure conceals the fact that considerable time is also spent discussing the impact of the project.

In 1988, just as the Bougainville conflict was starting up, the first Development Forum was convened for the Porgera project. The National Executive Council’s decision that came out of the Porgera Development Forum was a general one that established the forum concept as being applicable to all major mining developments. However, it also stated that, for existing major mining projects, it was too late to hold a development forum. With the Government having formalised its approach to the distribution of benefits from mining projects, it was expected that these benefits would somehow be provided to the existing projects.

The policy often referred to as the “Basic Mining Package” (West 1992:16) consisted of the following components:

(a) Special Support Grant (SSG) to Provincial Governments: The Special Support Grant is calculated as one percent of the f.o.b. (free on board) value for minerals and is an annual grant paid by the national government to the provincial government. The grant is tied to expenditure on specific projects rather than forming part of general budget support, and the national
government tries to ensure a certain minimum percentage of the grant is used within the project area.

(b) **Royalty Distribution:** The revised royalty distribution in the national government's policy is:

- 80 percent to the provincial government;
- five percent as cash to the landowners;
- ten percent to the children and future generations of the landowners; and
- five percent to be spent on community projects identified by the landowners.

Previously, the provincial government allocated a higher percentage to the landowners; for example, 23 percent in the case of Porgera. Because the allocation of royalties is governed by legislation, the national government can only achieve this policy through negotiation with the provincial government.

(c) **Equity Participation:** The policy proposes that a maximum of ten percent total equity in a mining project be available to the provincial government and the landowners (50:50 split). The equity would be made available in two stages, through participation in the state nominee company, the Mineral Resources Development Company (MRDC). The MRDC would continue to hold the direct shares in the mine development, and, in the first stage, the equity would be available as a “fully paid for carried option”; that is, the landowners and the provincial government would have to pay for the equity, but they would not have to raise the funds themselves, as the funds would be paid directly out of the dividends that were derived from the project (foregone dividends). In the second stage, another share of equity would be available at the market price, and the national government would require direct payment.

(d) **Infrastructure and Social Improvement Funding:** This additional financial assistance can be sought from the national government, if the development causes additional requirements. The assistance complements the SSG. The former can be made available immediately, whereas the SSG depends upon the commencement of production.

(e) **Preference in Training, Employment and Business:** It is stipulated that, in training, employment, and spin-off businesses, priority would be given to landowners, people from the mining areas, people from the province, and finally to other Papua New Guineans, respectively, albeit subject to usual commercial and operating requirements.

(f) **Direct Assistance for the Formation of a Landowner Company/Business Development:** On almost all major projects, it has become common policy for the Government to provide some direct assistance for the formation and development of a landowner company. The assistance may be in the form of an outright loan or a loan guarantee. The Government usually grants some K500 000, while the provision of a guaranteed loan is also seen as an easy way of assisting landowners.
The "Basic Mining Package" requires agreements that are separate from the project approval documents. It sets out the details on equity, royalties, and other social and economic benefits that have been agreed upon. The idea was originally proposed by landowners and was readily accepted by the national government. The Government's view was that these were provisions outside the Mining Development Contract, and that they should remain as such. A basic format of three interconnecting agreements was designed between:

- the Papua New Guinean State and the Provincial Government;
- the Papua New Guinean State and the Landowners; and
- the Provincial Government and the Landowners.

A Memorandum of Agreement (MOA) will be signed following the Development Forum. Hence, the agreements consisted of a list of services and benefits which were to be made available by the Government, combined with a vague commitment by landowners to "cooperate" and "consult". The MOA is not part of the licensing of the mine. West (1992:14) states that there is no legal basis within the approval process, nor a requirement under any legislation (other than a legitimate agreement between the State and a third party) to be endorsed prior to signing a mining contract, even though the Government has publicly stated that the signing of these MOAs is a prerequisite to the approval of any major mining or petroleum project.
5. Compensation and Resource Rent

Resource compensation is not covered in the Basic Mining Package that is discussed here. However, it constitutes a significant component of landowners’ rent in mining areas. Strictly speaking, compensation refers to a reward or an atonement according to various pieces of legislation, such as the Workers Compensation Act of 1978, the Mining Act of 1992, or Section 58 of the Constitution (Filer 1996). Resource compensation is firmly grounded in a traditional economic practice, but the resources for which compensation is claimed or paid have not yet been subjected to any single measure of value which commands the payments.

Filer (ibid.:3) states that the definition and measurement of ‘compensation’ cannot be derived from any contemplation of traditional values. It can either be deduced from a specific method of calculating the price of resources, or related directly to the balance of power between the stakeholders engaged in the business of negotiation. However, where the balance of power is inconsistent or uncertain, no method of calculating the price of resources can create a common understanding of the difference between ‘compensation’ and the other forms of payment which arise from the ‘development’ of those resources (ibid.).

Resource compensation has provoked considerable debate in Papua New Guinea (Larmour 1989; McGavin 1994; Filer 1996). Burton (1996) extends the definition of ‘compensation’ to include the landowners’ share of royalties (which are part of the resource rent), and their receipt of occupation fees (which are a form of ground rent), as well as the various types of compensation prescribed by the Mining Act of 1992.

Burton’s (ibid.) definition matches an apparent tendency of local landed interest to use the word ‘compensation’ to contain the greater part of all the benefits which the mining project is expected to provide, which also includes what McGavin (1994) calls ‘the opportunity cost of lost subsistence production’. In the LMALA position paper (1994), the notion of compensation, as ‘development and security’, embraced a longer list of desirable objects, such as the meeting of basic needs, community infrastructure, and business and commercial activities (which also includes equity participation).

Compensation, which includes an ‘all benefit package’ or the ‘basic mining package’ that landowning communities are offered as the price for their cooperation in the development of mining ventures, can be considered as resource rent. It is important to realise that the landowners are seeking to maximise their collective or personal share of mineral rents. Their demand for compensation stems from their desire to gain a certain level of participation or control in the development of their resources, or derive benefits from mineral exploitation rent or compensation for economic opportunity costs. Assessing the latter in traditional societies is difficult, and will lead to undervaluation if shadow-pricing is used.

According to McGavin (1994), landowners (or their leaders) compete with the various arms of Government over the relative size of their unearned (rental) component, in their respective forms of income from the mining development. It is interesting that McGavin (an economist) links the ‘rent-seeking behaviour’ of customary landowners to a ‘lack of economic calculation’ which he attributes to the ‘custom’ of pitching one’s compensation demands at the other party’s perceived capacity to pay (Filer 1996:4).
McGavin (1994:72) states that the unrealistic opening claims of landowners can also be said to follow from their failure to recognise the size of the surplus available for distribution, confusion between gross and net incomes, defective understanding of value creation, or recognition of the possibilities for sabotage and banditry.

Jackson (1991:22) shows some admiration for the Porgera landowners who "were able, by close observation of company practice, to guess what the development plans would be, plant gardens and build houses directly on new road alignments or development sites, and thus obtain compensation for these new improvements." These observations have simply confirmed the resource-owners rent-seeking behaviour. The dynamics of this behaviour are strikingly similar at the various mining areas. However, over time, the nature of rent-seekers, the issues and demands, the protests, and the Government's responses relating to rent-seeking are influenced by demonstration effects.
6. Resource Rent Question at the Mining Locations

The Panguna Project

The Panguna project was developed under the colonial Mining Ordinance of Queensland. The Bougainville Copper Agreement Bill of 1967 was an agreement that was signed between the colonial administration and CRA. Subsequently, in 1976, after a two-year delay, the Bougainville Copper Agreement was signed without any significant changes. Landowners’ demands met deaf ears. At that time, it was difficult to consider radical changes to the mining rules and practices.

Renegotiation of the Bougainville Copper Agreement required the parties to meet every seven years to consider whether the agreement was ‘operating fairly to each of them’, and to discuss any apparent problems. The first review commenced more or less on schedule in 1981, but soon fell into disarray (Smith 1992:92), while the 1988 review never got under way. Griffin (1996) notes that the failure of the review process ‘has never been satisfactorily explained’. The failure to review the Bougainville Copper Agreement has assumed a certain significance in the debate about the origins of the Bougainville crisis. Griffin (ibid.) describes the missed reviews as lost opportunities ‘to forestall grave discontent’. However, Smith (1992) states that a 1981 review could not have forestalled the ‘grave discontent’ that moved some Nasiol landowners to violence in 1988.

Bougainville Copper Limited and its parent company, Conzinc Rio Tinto of Australia, strongly resisted the 1974 renegotiation of the Bougainville Copper Agreement (Mikesell 1974:127-132; Gurnau 1981:193-197). The company could have negotiated from a position of strength, as it was well-established as an efficient, low-cost copper and gold producer, which was financially sound, and consistently produced adequate returns to its shareholders. In 1981, Bougainville Copper Limited sided with the provincial government in its bid to capture a greater share of mining revenues for the province. The provincial government demanded direct control of a proportion of tax revenues, an increase in the mineral royalty rate from 1.25 percent to five percent, and an increased contribution to the Bougainville Non-Renewable Resources Fund. At that time, there was clearly major disagreement between the provincial government and the national government. Bougainville Copper Limited appeared eager to accommodate the provincial demands, while the national government officials tended to dismiss them (Smith 1992:100).

Talks between the national government and the provincial government on mining-related issues resumed in late 1983. The national officials signalled a new hardline attitude towards provincial demands. They wanted issues to be treated separately, on their own merits, instead of as part of a package. Smith (ibid.:110) concludes that the breakdown of the Bougainville Copper Agreement review process was more a matter of conflicting interests than of missed opportunities. Mining agreements, such as the Bougainville Copper Agreement, are based on the assumption that the State can deliver access to the resources that are sought by the mining companies. In Papua New Guinea, this assumption is undermined by the influence that the landowners and the provincial governments wield.

The Nasiol landowners have opposed the Panguna mining project since the inception of exploration. The reasons for the antagonism towards the prospectors are outlined in Munis and Ogan (1972:34-35). This antagonism is rooted in the history of Bougainvillean antipathy towards Europeans and the Australian administration.
Bougainvilleans living in the Kieta area were suspicious of CRA's early exploration activities, and, in particular, the State's law that what is on the surface of the land belongs to the traditional landowners, while what is under the ground belongs to the Government. The Bougainvilleans were contemptuous of this law, believing that everything on, under, or going through the land to which they have customary rights belongs to them. A mutual incomprehension of different land tenure systems, and attitudes towards property hampered negotiation between geologists and landowners from the outset (Bedford and Mamak 1977).

As drilling intensified in the Panguna area and stories of massive ore deposits began to circulate, the landowners were confused over the meaning of mining rights, ownership of minerals, and royalties. The promise of great wealth that would accompany a mining venture in Panguna led to a strong fear among landowners that CRA was going to steal their land. The fear intensified when five men from Guava Village were imprisoned for one month for forcibly ejecting CRA geologists from their land. By 1966, local opposition to CRA activities threatened to interfere with the drilling program (ibid.).

It is worth noting a significant protest which occurred during the exploration and construction stage of the project. In 1969, a villager from Mainoki, Martin Benggong, lodged a claim of $30 per cocoa tree per annum to be paid in instalments during the life of the mine (ibid.). During the initial hearing on 9 October 1969, BCL put forward that compensation for cocoa trees destroyed during road construction should be paid at the same rate that was paid for the Arawa Plantation resettlement. In November 1970, Judge McKenzie of the Supreme Court of Papua New Guinea decided in favour of the villagers. However, in February 1971, the High Court of Australia ordered that McKenzie's judgement in the cocoa compensation case be disallowed (ibid.).

Discontent over BCL's activities initially focused on the alienation of land in a small number of villages close to the mine and the port, and there was minimal understanding of the comprehensive changes that were to take place following the development of the mine (Connell 1991:70). What has become the Bougainville rebellion, originally began as a process of local social disintegration in the landowning communities in Panguna (Filer 1990). Filer's hypothesis integrates well with Chan's idea that landowning communities are 'sociological time bombs' - a phrase that Chan applied to Lihir back in 1986 (Post-Courier, 24 August 1986).

The process of local social disintegration began with delineation, and ended in a crisis, over a period of approximately 20 years. Five years preceded the start of the mining operation and the other 15 years followed. Delineation is undertaken in order to define the outer limits of the areas of customary land which are to be leased by the owners to the Government, and the Government to the company, for the purposes of mining and other related activities. The areas to be leased are subdivided into lease areas or blocks (or titles) which are thought to belong to particular groups. Wolfers (1992:246) suggests that rights to land are not only matters of fact, but also involve assertion, counterassertion, and adjustment. There was both resentment and opposition during the exploration and delineation stages of the project, which led to CRA being told to leave. Bedford and Mamak (1979:8) documented a July 1965 case wherein a survey mark in the Mainoki area (north of Panguna) was removed and further surveying was prevented.
The delineation exercise is used to determine entitlements such as royalties, occupation fees, and compensation payments to the customary landowners. These payments may be considered as rent for the use (or abuse) of the land for the purpose of mining. Wolters (1992:247) states that it is no surprise if legal arrangements, which left the distribution of compensation and other payments among the members of the Panguna landowners to custom, have become a matter of violent dispute.

Issues related to compensation were addressed under the 1980 compensation agreement which led to the establishment of the Road, Mining, and Lease Trust Fund (RMLTF). A group of 12 titleholders, representing the landowning community as a whole, were appointed to manage the compensation process and the trust fund. Certain types of compensation were paid into the trust fund, which was supposed to be invested for the benefit of future generations. Subsequently, the investment income was supposed to be spent for the benefit of the wider community.

In reality, much of the compensation and trust fund money was used on consumption, failed enterprises, or loaned and turned into bad debt. The formal membership of the trust was never extended to the whole body of titleholders (Applied Geology Associates 1989:11). Management of the trust fund was controlled by a group of local businessmen who seemed to have ‘grown fat’.

Distribution of rent payments, and management of a trust fund by a minority landowning elite that has become corrupt is a time bomb. There have been no binding legal arrangements, modern business practices, or economic arrangements to address the rent issues. The expected outcome is obvious — a crisis.

The Ok Tedi Project

The Ok Tedi mine in Western Province was the next mining project to be developed after the Bougainville copper mine. During the interlude, there emerged an indigenious class of technocrats who were destined to play a leading role in mineral resource development negotiations in Papua New Guinea. Jackson (1993) has discussed the various policies which impacted on the development of the Ok Tedi mine, beginning with the Bougainville Agreement of 1967. The Ok Tedi Mining Act was enacted in 1976, and final approval was given in February 1981. The negotiation process between the State and Kennecott had started back in 1970. It is not surprising, therefore, to see remarkable similarities in both agreements in relation to mineral resource rents in the form of royalties and occupation fees.

Jackson (1984) discussed what he termed ‘The Kennecott Saga’. The mining company anticipated that independence for Papua New Guinea would be disastrous for multinational companies, given its own experience in Chile where Kennecott’s operations were nationalised. Such concerns led Kennecott to withdraw from the Ok Tedi project, despite having spent a large amount of money on exploration.

The principal Ok Tedi agreement of 1976 addresses issues concerned with royalties, compensation, and occupation fees. The royalties for both Bougainville and Ok Tedi are supposed to be the same, which is to be paid at the rate of 1.25 percent of the free on board (f.o.b.) value of the mineral export, to the resource owners. However, it was not decided how the royalty would be divided between the various stakeholders. This has been a ‘hot’
issue at later Development Forums. During the Bougainville and Ok Tedi negotiations, the landowners were not adequately involved. The final Ok Tedi Agreement was developed by committed public servants, who tried to take into account the rights of the landowners.

Ok Tedi project landowners’ protests began in January 1984, with the collapse of the tailings dam (Kameata 1996:66-99). This led to wider protests, and in 1988, the landowners demanded increased royalties and compensation. Ironically, these demands coincided with the beginning of the Bougainville rebellion. These developments sped up the birth of the Development Forum, which addressed issues relating to resource rents.

Production at Ok Tedi began in 1984, four years after the commencement of construction. A series of Ok Tedi supplemental agreements, which were offshoots of the 1976 principal agreement, were drawn up.

The first Ok Tedi supplemental agreement was signed on the 26 June 1980 by the Independent State of Papua New Guinea, Dampier Mining Company (a subsidiary of Broken Hill Proprietary (BHP) Limited), Mount Fubilan Development Company, and Kupferexplorationsgesellschaft, which is a German consortium (MBH). It was intended to resolve certain issues raised by the consortium in the development proposals supplement, and to make provision for other matters of mutual interest to the State and the consortium, by amendment of, and addition to, the principal agreement (Ok Tedi Supplemental Agreement (OTSA) Chapter 363 A).

A second supplemental agreement, which has the force of law, became effective on 11 September 1981. This agreement was between the Independent State of Papua New Guinea, BHP, Metallgesellschaft (AG), Degusa (MBH), and Ok Tedi Mining Limited. The provisions of the second supplemental agreement were intended to resolve certain issues at the time of submission of the general financing strategy, pursuant to Clause 5.1 of the supplemental agreement, and to make provisions for other matters of mutual interest to the parties, by amendment of, and addition to, the principal agreement (OTSA Chapter 363B).

A third supplemental agreement became effective on 15 March 1983. This agreement was signed by the Independent State of Papua New Guinea and Ok Tedi Mining Limited, and covered environmental issues — particularly environmental damage that may be caused to the Fly River and its environment in the territory of the Republic of Indonesia (OTSA Chapter 363C).

A fourth supplemental agreement was signed by the Independent State of Papua New Guinea, Amoco Minerals, BHP Minerals Holding, a German consortium, Standard Oil Company, BHP Limited, and Ok Tedi Mining Limited, and became effective on 21 June 1985. This agreement was concerned with rules for the interpretation of Clause 2 of the principal agreement, and unless the context or subject matter stated otherwise, whenever any agreement or other instrument has been modified, amended, supplemented or restated in accordance with the terms applicable (OTSA Chapter 363D).

A fifth supplemental agreement, which came into force on 28 November 1985, was signed by the Independent State of Papua New Guinea, Amoco Corporation, Amoco Minerals (PNG), Broken Hill Proprietary Limited, BHP Holdings, Degusa, and Ok Tedi Mining Limited. Clause 10 of Chapter 363E deals with State equity participation in which
Clause 11 of the principal agreement is amended by inserting certain provisions in which
the State shall:

(a) subscribe directly or indirectly, during the period from 1 August 1985 to and
including 28 February 1986 or such later date as the State may agree, for 20
percent of any shares in the capital of the company; and

(b) furnish support in an amount equal to 20 percent of any total supported loans (as
defined in Clause 5.5 of the First Supplemental Agreement, Chapter 363A)
advanced, or otherwise made available to the company during the participation
period.

In these supplemental agreements, the royalties and occupation fees still remained the
same as in the principal agreement, at the rate of 1.25 percent of the free on board value
(OTS A Chapter 363). The distribution of the revenue from royalties was no different to
that of the Bougainville project, in which five percent of the royalty payment went to the
landowners, 15 percent to the provincial government, and the remainder to the State. It
was not until the signing of the Tripartite Agreement in 1991 that landowners were able to
secure a better deal. Apparently, this agreement was reached in order to avert a similar
crisis to the rebellion on Bougainville. The provincial premiers repeatedly pointed to the
Bougainville experience in order to lobby for a different formula for royalty sharing.

However, the Ok Tedi project was considered under different arrangements, which
enabled the State to come to agreement with the Ok Tedi landowners. Furthermore, these
administrative arrangements accounted for the rearranged sets of local people that were
entitled to specific benefits, as recognised in the earlier Ok Tedi agreement terms
identifying land-use rightholders within the Special Mining Lease (SML) (Kameata

The 1981 land investigation identified and recommended that the SML should be
extended to include the villages of Akemkit and Kavourabip, although they are separate
from the actual rightholders, the Wopkaunin. Rightholders were also beneficiaries of a
grant, equivalent to one percent of free on board value, from the Ok Tedi project, and
payable by the national government under the Tripartite Agreement. The provincial
government’s undertaking is even less onerous, agreeing that landowners would take 30
percent of the royalties.

Since 1984, OTML has paid out a total of K21 666 784 in royalties, with K1 083 340
going to the four SML rightholder communities (Jackson 1993:72). For the SML
rightholders, the royalty agreement alone means that each SML group receives the
equivalent of the total amount received from 1984 to 1990; that is, K1.5 million annually
which is K25 000 per person (ibid.).

Compensation is paid to landowners who own Lease Areas for Mining Projects
(LMPS). The payment is for the loss of present and future benefits. Under the Tripartite
Agreement, the following payment provisions were made:

* occupational fees at K5 per hectare per annum to landowners;
* a fee for restricted access, commencing at K2.50 per hectare per annum, and
  increasing to K7.50 per hectare per annum by the third year of the lease;
• a payment to the non-renewable resource fund, held in trust for landowners at K5 per hectare per annum; and
• fees for cleared land at K5 per hectare per annum.

Under the Tripartite Agreement, the Fly River Provincial Government (FRPG) is entitled to 70 percent of royalties. Under the agreement of January 1991, a Special Support Grant (SSG) will be received from the national government. Burton (1993:18) indicates that, at the provincial level, there has been very little effort made to use some of the mining revenues to build infrastructure. Burton (ibid.) highlights that wasteful spending has extended right down to the smallest communities at the grassroots level.

However, resource owners in many communities in the Ok Tedi project have continually demanded greater compensation or more benefits. For example, the Wopkaimin people, who have rights over the Special Mining Lease area, strive to maximise their benefits. The Yonggong people, who are located along the Ok Tedi River, into which waste from the mine was discharged, want their compensation payments increased. Many provincial and national public servants also took part in the landowner protests against the mining company. The protests took various forms, including the physical stopping of work, and media and press statements (Kameata 1996:65-99).

The Wopkaimin people protested first, following the collapse of the Ok Ma tailings dam in January 1984, at which time the construction phase of the project was almost completed. For the Wopkaimin people, this was a loss of monetary benefits in terms of employment opportunities created by the construction of the dam. The collapse of the dam led OTML to abandon the proposed tailings dam. After considering various proposals, the National Government gave approval to build an interim tailings dam (Post-Courier, 26 January 1984), which seemed like a sound decision considering the environmental threat to the ecosystem. Perry Zeipi, the member for South Fly, protested against the approval, and demanded that an independent inquiry be held into the landslide, which altered the company’s plan to dump waste tailings into the Fly River (Post-Courier, January 1984).

In the same year, a cyanide spill at the Folomian gold processing plant near Mount Fubilan resulted in the death of fish, prawns, turtles, and even crocodiles as far downriver as Ningerum. Ok Tedi’s environmental history was shaped initially by the original tailings dam collapse, then by the loss of 2700 drums of cyanide in the Fly River delta, and then by the cyanide spill (Post-Courier, 4 July 1984). The spilling of cyanide into the Gulf of Papua led to protests against the company, including a blockade of the mine and a compensation claim of K300,000. The Premier, Mr Samai, threatened to use force against the company and the Government. However, the Member for North Fly, Warren Dutton, expressed disappointment over the threat to disrupt the Ok Tedi mining operations. The national government also threatened to close the mine after the Ok Tedi consortium delayed the construction of stage two of operations, the permanent tailings dam, the hydropower plant, and the copper mill.

The end of the construction phase had serious implications for landowners’ business activities. It meant the loss of jobs and incomes for the communities in the mining influence areas. Local people expressed frustration about casual jobs being taken over by migrants from other areas. The Wopkaimin people protested about the lack of government support for developing the area, the inadequacy of training programs for local
people, and, furthermore, the insufficient environmental safeguards (The Times of PNG, 12 December 1986).

The Wopkaimin landowners forced the mine to cease operations in 1988, over outstanding demands which had existed since the mine came into production. The then Member for North Fly, Bob Bubec, stated that the landowners were frustrated because the company, the Government, and the country were exploiting the mineral resources without any real benefits trickling down to the landowners themselves. He further criticised his predecessor, Warren Dutton, for disassociating himself from the landowners’ attempts to get a fair deal from the original mine development agreement (The Times of PNG, 10 March 1988).

A sound analysis of the Ok Tedi mine was undertaken by Bickerton (1994), which focused on local business development and the localisation process. Bickerton (ibid.) highlighted that the company was concerned with the economics of the project; that is, with getting the mine operating with minimum costs. Consequently, the local people were limited to unskilled jobs (most of which were terminated at the end of the mine construction), and incomes that were mine-oriented and meagre.

Bickerton (ibid.) recommended that local people’s skills should be improved so that they could be used in later employment or development ventures, and that local social groups should be increasingly integrated into such ventures. He sounded a warning that, because the project failed to benefit the local people, there might be violent action taken against the company. In 1988, the Premier, Nobsert Makmop, supported the local protest against the company by willingly offering to be jailed on behalf of his people, given that they had been denied their rights. In that protest, the landowners’ spokesperson, Jeffrey Atiksep, highlighted that the landowners’ demands were not unreasonable, and that they could be sorted out in a Melanesian way.

With the inception of the Development Forum, the national government initiated negotiations with the Fly River Provincial Government and the landowners in the Ok Tedi project area. By September 1989, a draft Memorandum of Agreement (MOA) had been produced. Discussions continued, and the agreements were revised by October 1990, when a new draft was completed (West 1992:20). This MOA was signed in early 1991. However, the contentious points in the negotiations were the distribution of royalties, and compensation. Also, other demands cropped up and remained unresolved. The issue of royalties was influenced by a promise made by the then Premier, Nobsert Makmop, that landowners would receive 50 percent of the royalties. It was reported that Ok Tedi landowners protested and demanded an increase in royalties from 20 percent to 50 percent, as well as a rise in living standards, and an immediate change in the Ok Tedi agreement to enable landowners to secure a better deal (The Times of PNG, 9 November 1989).

The demands included:

- housing, with electricity, water supply, and sanitation;
- a community school; and
- an increase in lease payments from K200 to K2 000 (ibid.).

They also demanded that they be included in the K2.5 million environmental compensation package for the Alice and Fly River people (The Times of PNG, 28 December 1989).
These demands were forwarded to Cabinet. However, even before the landowners’ demands reached Cabinet, the mine was shut down (The Times of PNG, 25 January 1990). Further disruption to the mine’s operations followed a payment of K600 000 from the Special Support Grant (SSG) to Leo Sasu. The Minister for Housing and Member for North Fly, Bob Bubec, requested an explanation from the Premier, Robert Makom, who had authorised the payment to Mr. Sasu. It was explained that K360 000 was for legal fees and the remaining K240 000 was to be placed in a trust account with Sasu (Post-Courier, 11 April 1991).

Unsatisfied with the explanation, the landowners of the Ok Tedi project urged the national government to pay the Special Support Grant to their own bank account (Post-Courier, 23 October 1991).

The Porgera Project

Designing agreements on resource rent and other benefit packages, for the Porgera goldmine project began in 1988. A new government was formed by Paias Wingti in July 1992, which declared its intentions to renegotiate the terms of the Memorandum of Agreement governing the Special Mining Lease (SML). McGavin (1994:3) states that events came to a head in late November 1992, when the Government announced that it would raise its shareholding in the Porgera goldmine from ten percent (first announced in 1979). The maximum equity participation by the State under the Mining Act was 30 percent. Stock exchange values of Porgera Joint Venture shares plummeted as a result of this announcement.

Under the Porgera Mining Agreement, the clause on royalties still remained the same; that is, at 1.2 percent of the f.o.b. value of the exports. However, the formula for sharing the royalty payments and other benefits among the various stakeholders remained unresolved. The first agreement to be negotiated was that regarding compensation for damage done to houses, gardens, and bush. The outcome of such negotiations depended on a detailed knowledge of the mining area. Cash values of a wide range of crops, trees, and plants were detailed. The next compensation agreement dealt with 130 households which were relocated to make way for the mine’s development. The negotiations used the BCL model, but the type of house and the value of the total package represented a significant improvement on the BCL case.

Banks (1996:227) stated that, under the shadow of the Bougainville crisis, a Development Forum was initiated (West 1992), which culminated in the signing of a three-way agreement between the national government, the Enga Provincial Government, and the Porgera representatives. The agreement detailed, in a legalistic and a complex manner, the responsibilities of the various parties to the mining development, and spelt out the means by which the development of social and economic infrastructure would occur in Porgera and Enga. The agreement also spelt out the terms of the distribution, under which the landowners and the Enga Provincial Government would each be offered up to five percent equity in the Porgera Joint Venture. This equity offer to landowners and the Enga Provincial Government was a first for a major resource development in Papua New Guinea. It has set a precedent for similar arrangements for new developments, and has been applied retrospectively to existing mines.
The Porgera compensation agreement was negotiated under Section 102 of the Mining Act, which provided for the assessment of compensation in relation to surface damage, and improvements on the surface, including crops and economic trees, loss of surface rights of way, and all consequential damage. The legislation was based largely on various precedents set by Bougainville Copper Limited. The agreement sets out a number of annual payments, which are all linked to the Consumer Price Index (CPI), and which covered bush and nuisance compensation, compensation for ‘cleared’, ‘damaged’, or ‘lost’ land, and occupation fees. The compensation agreement also provided for an annual payment of K10 000 (CPI-linked and increased by 2.5 percent per year to allow for population increase) for the pollution of water supplies within the Special Mining Lease, and a commitment to provide an alternative fresh water supply for the most affected areas.

The relocation agreement acknowledged that the mine development would affect traditional residential and occupancy rights of groups within the SML. Two specific groups – the ‘traditional landowning families’, and the apu atane, who have ‘enjoyed traditional rights of occupation’, but whose ‘rights do not involve land ownership or clan membership’, were identified and their rights of occupancy were accordingly dealt with under this agreement (Banks 1996:229). Benefits under the relocation agreement included relocated houses, a hardship and disturbance allowance of K1 000, a further K1 400 for clearing, planting, and fencing of new gardens, and the provision of rations for a maximum of nine months or until new gardens were ready for harvesting (ibid.).

There was a general feeling that, if the relatively peaceful people of Milne Bay had been difficult to deal with during the development of the Misima project, then there was cause for concern about the Engans in the case of Porgera. However, while the Porgerans tried to get the best possible deal – often accompanied by threats of personal violence – they were ultimately in favour of the mine going ahead (West 1992:6). The Porgerans’ view of material benefits differed from that of the Misima people, who mostly opposed the development of the Misima goldmine, despite a long history of mining on the island.

The Porgerans were inclined to try to rush the development of the mine. However, the landowners were convinced that their direct financial benefits would not be significant, compared to what the Porgera Joint Venture (PJV), the national government, and the provincial government would earn. For this reason, they emphasised the establishment of an agreement on infrastructural development and improvement of social services. The Enga Provincial Government was satisfied that the mining company had developed a compensation agreement with the landowners that set minimum and maximum compensation rates which would protect both the landowners’ and the investors’ interests; that is, a third party could not pay compensation rates lower than those agreed upon, nor could landowners demand higher compensation.

The Enga Provincial Government agreed with the landowners that the Mining Act should not determine the minimum occupation fee in an area held under a mining lease or a prospecting authority. Instead, occupation fees should be negotiated (Enga Provincial Government 1988:20). On the question of royalties, the landowners were of the opinion that five percent of the 1.25 percent of the royalties, which was to be paid to them, was inadequate. They demanded a minimum of 30 percent. Furthermore, the landowners supported the bid by the Enga Provincial Government and other provincial governments seeking to double the 1.25 percent share in royalties.
The landowners also felt that PJV should pay the royalties directly to them, in order to avoid the unnecessary wasting of money, and time, that occurred when payment was channelled through the two levels of government. During the forum, the Enga Provincial Government and the Porgera landowners agreed on the following proposals:

- that legislation be passed stating that, where a compensation agreement has already been developed in a district of a province, that agreement will be applied throughout the district;
- that the relevant section of the Mining Act be amended to allow landowners to negotiate occupation fees;
- that the rate of royalty be increased from 1.25 to 2.5 percent;
- that the landowners share of the royalty payment be increased to a minimum of 30 percent;
- that the PJV pays the landowners’ proportion of the royalties directly to them, or to an authority nominated by themselves; and
- that 20 percent of the national government’s tax on company profits (including additional profits) should be transferred to the provincial governments.

Under the Mining Act, landowners are entitled to receive compensation for loss of access and damage to land, clearing of and loss of land, loss of improvements and economic trees and plants, and an occupation fee. The rates are to be determined through negotiations between the landowners and the developer. The occupation fee (rent for the use of the land) is set at a minimum of K5 per hectare per year. However, it was observed that this payment to the landowners has never been above the minimum rate because a valuation has never been carried out, as required under the Mining Act (Porgera Landowners’ Association 1988:5).

The forum idea gained credibility with the Government, aided by the fact that it had always been supported by the then Prime Minister, Rabbie Namaliu. The forum concept was explained to the Porgera landowners, after which they questioned why they would not be directly involved, as participants. Discussions were held at the Department of Minerals and Energy, and it was agreed that, unlike at Misima, the Porgera landowners would have three representatives, including one from the local government council.

A final format for the Development Forum was refined, and a submission was presented to the National Executive Council (NEC) by the Minister for Minerals and Energy. In November 1988, as a result of this submission, the NEC “endorsed the approval process for large mining developments through a Development Forum”. At the first Development Forum for the Porgera project, which was held in the National Capital District, members were briefed on the format and aims of the forum. The debate regarding landowners’ benefits did not begin until the second Development Forum.

The landowners were appreciative of the opportunities provided by the forum, and stated that they had good relations with the company. However, they disagreed with certain aspects of the developer’s proposals. Their primary concern was how they would benefit from the project. They called for:

- rejection of the ‘fly-in fly-out’ type of operation;
- upgrading of roads, power, and other infrastructural projects, and improved school facilities;
- attention to the law and order problem;
• training and localisation of the indigenous people;
• business preference for landowners; and
• an increased percentage of royalty payments for landowners.

The Enga Provincial Government put forward the idea of a public company with K500,000 funding from the national government, and as the forum continued, a number of central issues emerged. Of particular concern was the need for a tailings dam, which was put forward by the Minister for Environment and Conservation.

Other issues that were brought to the forum process included the distribution of royalties. The revised 80:20 split was acceptable to the Enga Provincial Government, given that it receive one percent of the Special Support Assistance (as the Special Support Grant was called at that time). Equity was another major issue, with the Government stressing that participation in a mining venture was not always a good thing. The Government recommended that landowners would do better to let the national government take up its ten percent share, and then, at a later date, to participate together with the Enga Provincial Government through a State nominee company. Such a company was later established as the Mineral Resources Development Company (MRDC), which is now the nominee or holding company for the State’s participation in mineral and petroleum projects.

Unacceptable proposals that were put forward by the Premiers’ Conference included:

• alluvial mining to be administered by the provincial government;
• the landowners and provincial government to have the right of veto; and
• the provincial government to receive 30 percent of the tax revenue (instead of the one percent SSA offered to it).

The forum progressed into April 1989, at which point the major outstanding issues were the Enga Corporation, and equity in the project (West 1992:14-15).

The Porgera Development Forum raised the question of whether or not such a process of negotiation could have prevented the Bougainville crisis and saved the Panguna mine. The Panguna mine agreement was not negotiated or accepted by the North Solomons Provincial Government or the landowners. It is important to note that the Development Forum and its associated package of benefits was offered first to those affected by the Porgera mine and, only later, to those affected by the Bougainville mine. There is a common misconception that the Porgera forum developed out of the Bougainville crisis. Conversely, the problematic situation in Bougainville catalysed the holding of the first Development Forum, which, in turn, may have partly caused the crisis.

With the upsurge of rebellion on Bougainville and the possible closure of the mine in 1989, the national government decided that the basic mining package of benefits would be made available to the Misima and Ok Tedi landowners as well. The need to provide such a package was brought to a head by demands made by Misima landowners in June 1989. The mine was scheduled to be officially opened by the Prime Minister on 27 June 1989. However, the landowners were threatening to boycott the opening, unless they received additional benefits. Within two weeks after the threats, the national government made an offer in the form of two draft MOAs — one between the national government and the landowners, and one between the national government and the Milne Bay Provincial Government. The draft MOAs followed the format of the agreements drawn up for the
Porgera development. However, they concentrated on the basic mining package and a so-called infrastructure grant, which replaced some of the more specific assistance provided in the Porgera agreements.

Protests and demands in the planning stages of the Porgera project highlight the struggle concerning economic benefits by the Enga Provincial Government and the landowners, for example, the events of January 1989. These events revolved around the need for the project to have a tailings dam, which would increase the estimated cost of development of the Porgera goldmine from K700 million to K1 billion. This debate was started by a directive from the Minister for Environment and Conservation, Jim Yer Wain, who requested that the developers build a tailings dam instead of releasing treated tailings into the Strickland River. The major partner in the Porgera Joint Venture (PJV), Placer (PNG), claimed that a tailings dam would be dangerous, and could not be built (Post-Courier, 23 January 1989).

Despite this contention by PJV, the Minister for Environment and Conservation continued his demand for the developers of the Porgera goldmine to build a tailings dam. The Minister also requested Placer (PNG) to submit details regarding dam construction, safeguards, waste-water discharge, and evaluation and monitoring procedures, as well as directing the company to build a well-planned and integrated Porgera township (as referred to in the Development Forum).

"Who is going to account to the thousands of villagers living along the Fly and Strickland Rivers whose livelihood is entirely dependent on those rivers?" asked the Minister (Post-Courier, 24 January 1989).

The Minister also maintained that, if the environmental costs far outweighed the economic benefits, then the project must be stopped. However, the Porgera landowners seemed to support PJV’s claim that the tailings dam was not feasible because of the instability of the land (Post-Courier, 27 January 1989).

At that time, the landowners seemed more interested in the potential economic benefits than in the environmental risks from the mine. Their dilemma was difficult to resolve (Post-Courier, 13 February 1989). On the one hand, there was a significant number of landowners who were anxious to avoid a repeat of the troubles at Ok Tedi and on Bougainville. On the other hand, the PJV partners were ready to sign the agreement that had been negotiated with the landowners. Placer (PNG)’s General Manager, Victor Botts, met with the landowners and promised that every demand would be discussed thoroughly, after which the landowners and PJV would sign an agreement.

The biggest problem was the landowners’ demand for a free ten percent equity participation in the venture, which they based on the fact that they own the land and would be adversely affected by the development of the mine. PJV’s position on this demand was firm – the landowners could buy shares if they wanted, given that royalties are paid for developing the land. The landowners then shifted their position, and asked PJV to pressure the Government to give them half of its ten percent stake in the mine. Botts maintained that PJV would not pressure the Government, and that the landowners themselves would have to take the issue up with Waigani. He urged the landowners to get organised quickly, as the company was not going to wait for them (Post-Courier, 13 February 1989).
Distasteful of the negotiations with Botts, a ten-man delegation of landowners from the Special Mining Lease area flew to Sydney to meet with overseas managers of PIV. The landowners indicated that they wanted to talk to the 'real managers' of the venture, and presented the following demands:

- a ten percent free share participation in the mine;
- construction of a proper and permanent township in Porgera, before mining began;
- upgrading of the health centre to hospital standards, to cater for all types of health problems;
- awarding of contracts to Porgerans; and
- training and employment of their people (Post-Courier, 20 February 1989).

The Post-Courier (28 February 1989) ran an article, 'Bogus group fails to disrupt Porgera work', in which it was reported that the real landowners were happy with the existing plans for the mine, and were unaware of the business of the ten-man delegation, which was backed by the Premier, Ned Laina. A dispute between the provincial government and the landowners ensued just as the agreement was about to be signed. The Premier, Ned Laina, and Michael Mangal asked the national government not to sign the Porgera Special Mining Lease agreement in their absence (Post-Courier, 24 February 1989).

The discord between the provincial government and the landowners worsened, as the Porgera landowners disagreed with the Premier, Ned Laina. The Porgera Landowners' Association publicly disassociated itself from the new demands for greater economic benefits. The association wanted the mining development agreement signed as soon as possible, and would not support an open letter written by the Premier, Ned Laina, to the Prime Minister. The letter spelled out a series of demands, including equity participation by the provincial government, spin-off benefits for landowners, and no fly-in fly-out operations (Post-Courier, 10 March 1989). Under pressure from the Enga Provincial Government and the Porgera landowners, Prime Minister, Rabbie Namaliu, ordered fresh talks on Porgera (Post-Courier, 28 March 1989). The issues that were discussed included:

- that the landowners and the provincial government be given the option to take up the remaining 20 percent equity in the Porgera Joint Venture;
- that the Government and the PIV financially assist the establishment of a public company for Engans, which would automatically participate in all the business spin-offs from the project;
- that the Engan people must participate in a crushing plant, similar to that used by the Bougainville Development Corporation;
- that all cargo between Lae and Porgera should be fully localised for the Engan people; and
- that there would be no fly-in fly-out operations (Post-Courier, 28 March 1989).

It was later reported that the national government had agreed to give the provincial government and the landowners its ten percent equity in the mine (Post-Courier, 17 April 1989). The Premier, Ned Laina, claimed victory. It was reported that, 'Laina has fought all the way and has won the battle for his government and the landowners'. However, Laina insisted that he would not sign the agreement until he received K500 000 to set up the Enga Development Corporation — a proposed business arm of the government which would handle spin-off businesses. At the national level, Pias Wingti called on the State to increase its equity in Porgera. Wingti wanted the Government to renegotiate with the
Porgera Joint Venture and increase its equity holding to 30 percent (*Post-Courier*, 19 April 1989).

Laina assured the national government that it was unlikely that there would be major disruptions at the Porgera goldmine, after it started operations, and a deal was signed regarding landowners' equity participation in the Porgera Joint Venture. The Government felt that it should seek all avenues to take up the entire 30 percent option for itself or its people (*Post-Courier*, 27 April 1989). Later, Engan politicians threatened to burn down Porgera, if the developer was not fair and honest. Leaders alleged that Placer was dishonest and unfair in awarding contracts; that is, it was hand-picking contractors for the project, and as a result, Engan business people were losing out on major contracts (*Post-Courier*, 22 June 1989).

The Porgera landowners threatened to renegotiate various mine agreements, if they found out that any of them were not legally binding. Various agreements had been signed by State lawyers on behalf of the people. However, the Chairman of the Porgera Development Corporation, Joelson Kuttoto, and Councillor, Johnathan Paraia, claimed that some of the agreements did not have much legal basis (*Post-Courier*, 7 August 1989).

From the start, Porgera landowners’ demands and protests have remained relatively constant. However, most of these negotiations have been confined to the PJV community affairs offices, and Placer headquarters. In this volatile social and political environment, where the landowners wield enormous power, it has been a great achievement that the stakeholders have managed to build the sort of consensus that has aided the development of the Porgera mine.

**The Misima Project**

The special mining lease for the Misima project was issued in 1987, after construction had already started in 1986. Full-scale production began in 1989 — the same year in which the Bougainvillean rebellion led to the closure of the Panguna mine. The Misima Development Package, which related to mineral rents, was signed in August 1990.

In 1989, the Government decided that it needed to design a basic mining package for the landowners of the Misima and Ok Tedi mines (West 1992:18). The Government needed to provide a package in order to meet the demands of the landowners, before the Prime Minister could open the mine on 27 June 1989, because the landowners had threatened to boycott the opening unless they received additional benefits. The Minister for Minerals and Energy, Patterson Lowa, made a one-day visit to Misima to listen to the landowners' complaints and promised that, within two weeks, the Government would provide a complete package of benefits for both the landowners and the provincial government. However, disagreements among the stakeholders — especially between the landowners and the Milne Bay Provincial Government (MBPG) — caused the national government to delay finalising the benefits package for several months. During the interlude, the stakeholders held a Development Forum, and the Government held a series of meetings with the landowners.

At the Misima Development Forum, there was clearly a lack of adequate formal framework and leadership. The landowners and the provincial government met at different times with government leaders, such as the Minister for Minerals and Energy, the Deputy Prime Minister (as Chairman of the Ministerial Committee on Mining), the
Secretary for the then Department of Minerals and Energy, the Secretary for the Department of Personnel Management (as Chairman of the Resource Management Committee), and the departmental Secretary for the Deputy Prime Minister (West 1992:19).

The Resource Management Committee (RMC) undertook the decision making for the Government at the bureaucratic level, with the Department of Minerals and Energy (DME) acting as the Secretariat. The Resource Management Committee consisted of government departmental secretaries, with the RMC meetings being chaired by the Secretary for DME because he had the most complete knowledge of mining affairs. After meetings between the Government, the landowners, and the provincial government, which were chaired by the Deputy Prime Minister, Ted Diro, an agreement was reached on a benefits package. The MBPG and the landowners declined an offer of equity participation, and, instead, opted for Public Investment Program (PIP) projects estimated to be worth K6 million. The agreements were finally signed with the Prime Minister on 8 August 1990.

In January 1991, Dr. Benjamin Taukuro, in his capacity as the Chairperson of the Misima Tewofo Siun Association’s Business Development Committee, complained that the provincial government had rejected the association’s submission for funding for its operational costs and business activities. He threatened that, if his association did not receive this ‘goodwill’ money, ‘things could turn sour for the mine’ (Post-Courier, 9 January 1991). Nasona Mark, who was Acting Secretary for the Department of Milne Bay, responded to the threat. Mark pointed out that Dr. Taukuro was not a member of the Misima Tewofo Siun Association (MTSA) executive when the association received K44 941 from the provincial government in 1991. The grant exceeded the amount stipulated in the Memorandum of Agreement between the two parties. He further stated that the provincial government would allocate funds according to the agreement, and, at its discretion, outside the agreement, as long as such grants brought real benefits to the people. He warned the people of Misima ‘to be on alert and not let the vultures prey on you – remember that the provincial government will always protect your interests’ (Post-Courier, 28 January 1991). The following day, a statement supposedly made by the landowners’ was reported as follows:

“No-one is prepared to talk to us. It has come to a point where the people have to take matters into their own hands. They have given the national government 14 days to act. And if nothing happens (within that time), the people will disrupt the mine” (Post-Courier, 29 July 1991).

However, no disruptions occurred, and there was no news of business development on Misima until 22 June 1992, when a new MTSA Chairman, Stanley Nigu, announced that the landowners’ royalty receipts from the first ten years of mining operations were to be invested in the construction of three motels in Milne Bay Province, and a high-rise office block in Port Moresby. In March 1993, Ebe Kasawabi, the Acting General Secretary of what has now become the Misima Resource Owners’ Association (MROA), announced the following new program for local business development:

- the establishment of a new company, Coral Sea Fisheries, to harvest and purchase local marine products for export, as well as for sale to the mining company mess;
- the purchase (by tender) of the MMPL supermarket and other properties at Bwagaota Station, to be developed as a new local business centre;
• negotiations for MROA to take a 20 percent equity share in Poon Catering's operations on Misima; and
• feasibility studies of possible forestry and agricultural ventures (Post-Courier, 23 March 1993).

In July 1993, the MROA, which was led by Diba Samano, met to formulate the landowners' position with respect to the agreements signed with the other stakeholders, that were due to be reviewed on 17 August 1993. Participants at this meeting complained about the failure of both the national government and provincial government to comply with the terms of the agreements, and resolved to present the following demands:

• the landowners to receive an unspecified proportion of the national government's 20 percent equity in the project;
• Misima District to receive 50 percent, rather than 20 percent, of the Special Support Grant to MBPG;
• the local share of royalty receipts to be raised from 30 percent to 50 percent, out of which 20 percent (instead of five percent) would go to each of the 'true' landowner groups, and only ten percent (instead of 20 percent) would go to the Misima Trust Fund; and
• the Government to honour its commitments to improve the supply of electricity to local villages, upgrade local telecommunications facilities, guarantee loans of up to K500 000 a year to local businessmen, and fund the production of a long-term economic development plan for the Misima District, given the eventuality of mine closure (Post-Courier, 2 August 1993; The Times of PNG, 12 August 1993).

The Samarai-Murua Member of Parliament, Titus Philemon, and the Undersecretary for Finance and Planning indicated their support for the landowners, and announced the appointment of JK & Associates as consultants to assist them in the renegotiation of the agreements (Post-Courier, 2 August 1993). At the end of September, Samano complained that both governments had failed to initiate the process of renegotiation of the agreements, although the consultant for MROA had already drafted a new set of agreements. Samano wanted more advice regarding the implementation of various clauses, including:

• the preparation of the long-term economic development plan;
• establishment of a corporate structure;
• recruitment of professional staff for the new landowner company;
• establishment of a board of trustees to authorise and distribute royalty payments; and
• the drafting of community development projects to be funded by the Misima Trust Fund (Post-Courier, 4 October 1993).

The Minister for Mining and Petroleum, Masket Jangalia, responded that the original agreements had not expired, but rather were only due for review, and thus would not be renegotiated until the expiry of the Special Mining Lease (Post-Courier, 5 October 1993). Subsequently, one of Jangalia's departmental officials pointed out that, at a tripartite meeting in August, it had been agreed to defer the review until February 1994 (Post-Courier, 23 November 1993). The Milne Bay administrator and his deputy sided with the landowners, citing the findings of MBPG's consultant, Sharon Schultz, that the national government had failed to honour 90 percent of its original commitments, while the
provincial government had ‘overcomplied’ (*Post-Courier*, 23 November 1993). In February 1994, a second tripartite meeting took place in Port Moresby, after which the provincial and local delegates returned home in anger at what was described as a ‘total lack of proper organisation’ by the Department of Mining and Petroleum (*Post-Courier*, February 1994).

In their attempts to maximise the potential benefits of the mine, the stakeholders often attacked each other verbally, or acted in contradictory ways. One example was the engagement of JK & Associates. The Premier, Jones Liosi, opposed the engagement of the consultant, particularly because the firm was to be paid K300,000 from the Special Support Grant, and because the action was unacceptable under the agreements that had been signed:

- the provincial government had not been consulted; and
- JK & Associates was grossly incompetent (*Post-Courier*, 10 March 1994).

Consequently, Liosi and his Cabinet decided to sack the provincial administrator and his deputy on the grounds that their services were no longer required, given that the provincial government had been reinstated. The landowner groups disagreed. Two chairpersons, one from the MROA and the other from the pit area landowners, condemned the Premier’s actions, which they claimed jeopardised the agreement between the landowners and the provincial government (*Post-Courier*, April 1994). Not long after this conflict, the two parties joined forces in their bid for a review of the MOAs.

The Premier led a provincial government delegation to Misima, in order to establish a district management unit which would monitor the implementation of the MOA between the two parties, and to further pursue a joint approach in their dealings with the national government (*Post-Courier*, 3 May 1994). In July 1994, the Department of Mining and Petroleum was again asked to take steps to review the two MOAs involving the national government, as well as the separate agreement between the landowners and the mining company (*Post-Courier*, 27 April 1994). Subsequent meetings took place between the community leaders and the provincial government in August and October. The Premier, Jones Liosi, wrote to the new Minister for Mining and Petroleum, John Giheno, to reiterated the demand for a review of the MOAs.

At stake were the landowners requests for:

- an increase in the royalty rate from 1.25 percent to ten percent of the value of production; and
- the use of the Tax Credit Scheme to build a new district hospital, district office, court house, rural gail, and two government houses (*Post-Courier*, 16 January 1995).

Provincial and local delegations held meetings with national government representatives on 13 and 20 February 1995, and requested that the Government:

- ensured equal distribution of mine benefits between the national government, the provincial government, and the landowners;
- established the infrastructure and manpower required to implement the agreed development projects; and
ensured that there was minimal social, cultural, and environmental damage caused by the mining development (Post-Courier, 14 February 1995).

A few months after this meeting, a disgruntled ‘Waisi Kaimela’ wrote to complain that:

“after six years of operation, nine of the eleven clauses in the agreement between the State and the landowners still have not been fulfilled. Landowner companies are still striving without success to ‘participate’ in the mine’s operation. Every attempt is thwarted by the developer, Placer Pacific. Any national government should be grateful that the Misima landowners have not yet adopted the compensation trend that is displayed by the people from other parts of the country, especially the Highlands Region. It should be grateful also that there is no repetition of Bougainville on Misima. But we should not ignore the calm before the storm” (Post-Courier, 24 August 1995).

The provincial government and the landowners continued to lobby the developers and the national government regarding benefits. However, the mining company’s public relations machinery continued to polish the developer’s image by releasing information about the company’s contributions to the development of Misima. Examples included:

- the attendance of Samano and Sawaga, the chairpersons of the MROA and the pit area landowners at a board meeting of the joint venture with Poons, which holds the catering and camp service contracts with Misima mine (Post-Courier, 23 March 1995);
- a ceremony held to handover the latest in a series of facilities built with funding from the Tax Credit Scheme (Post-Courier, 19 April 1995);
- the use of K200 000 from the Tax Credit Scheme to establish the Coral Sea Fishing Company operation (Post-Courier, 19 April 1995); and
- the invitation of local school children to witness the pouring of the two millionth ounce of gold from the Misima mine processing plant (Post-Courier, 4 August 1995).

Conflicts emerged, not only between the stakeholders, but also within the various landowner groups. In October 1995, it was reported that some fifty ‘disgruntled landowners from the outer SML area’ marched to the district office to demand the suspension of the MROA executive, an independent audit of the association’s books, and an annual general meeting to consider the auditor’s report and to elect new office bearers. The petition was signed by Ronny Plesa, Partick Sete, Abel Peter, Davis Bare, and Stanley Nigu — the latter being the former chairperson of the MTSA, which was the forerunner to the MROA. The wording of the petition claimed that there were ‘major disagreements between the younger and older generations’. To the chairperson of the MROA, Diba Samano, this was ‘politically motivated’, and therefore, it was his responsibility to ‘safeguard the interests of the landowners, the Government, and the mining company’. He claimed that ‘the landowners who gave the green light for the mining of their land are happy. They are not complaining’ (Post-Courier, 27 October 1995). While this might have been true at the time, when these words were uttered, the overall evidence contradicts this assertion.
The Lihir Project

Kencenoc-Niugini Mining Joint Venture held the prospecting authority for Lihir Island. In 1983, the company discovered huge gold deposits, but failed to prove the economic viability of the project until 1988. Early in 1989, RTZ purchased Kencenoc from British Petroleum and began to consider the long-term value of the Lihir prospect. The first Lihir Development Forum was held at the Port Moresby Travelodge, beginning on 1 November 1993. It soon became apparent that the main issue for negotiation was the distribution of equity in the joint venture which would be developing the mine (Filer 1995). Under the terms of the 1992 Mining Act, the Government had an option to purchase a maximum of 30 percent of such equity at cost price. The National Executive Council had earlier announced its decision to acquire a 30 percent stake in the Lihir project. However, the head of the New Ireland Provincial Government delegation, Governor Pedi Anis, presented a non-negotiable demand for his government to take one-third and the Lihir Community to take two-thirds of this 30 percent stake, which would leave the national government with nothing. The demand was justified later by Mark Soipang, the President of the Lihir Mining Area Landowners’ Association, who contended that “the landowners have already paid for their equity through the loss of their resources, their livelihoods, and the environmental damage”.

After a protracted discussion, the Mining and Petroleum Minister, Masket Langaii, agreed to recommend a 20 percent equity stake for the local community on the understanding that all partners in the joint venture would be required to participate in the share float. Filer (ibid.:4) highlights that such an undertaking caused some consternation in the Minister’s own department. Landowning communities and the provincial government, together, had not previously been granted more than a 50 percent share of the national government’s own equity in a mining project. It was envisaged that the new precedent might well provoke demands for the renegotiation of the Porgera, Ok Tedi, Kutubu, and Misima agreements.

At the second Lihir Development Forum, which was officially reconvened at the Malagum Lodge in Kavieng on 27 February 1995, the provincial government officials had last minute misgivings over the extent of their generosity in granting the local community 50 percent of the royalty, but finally confirmed the earlier understanding.

The Memorandum of Agreement between the parties also outlined the royalty distribution, which was included as Clause 4:

“distribution of mineral royalty in the following manner:

(a) 20 percent directly to the special mining lease landowners in cash;
(b) 30 percent directly to the Nimamar Development Authority; and
(c) 50 percent to the provincial government.”

It was also agreed on 17 March 1995 that the New Ireland Provincial Government would give 30 percent of the Special Support Grant from the national government directly to the Nimamar Development Authority, for use in the Lihir District.

On 8 March 1996, NEC authorised the Governor-General to execute the Mining Development Contract between the national government and the mining company, and
authorised the Prime Minister to execute the forum agreements with the provincial government and the local community. However, the community representatives refused to sign a separate Integrated Compensation and Benefits Package Agreement with the company, because they were denied a free 20 percent stake in the project. Furthermore, there was disagreement among the local businessmen on the distribution of the Special Support Grant of K500,000. They were given an assurance by the Prime Minister, Julius Chan, that the royalty rate would be raised from 1.25 to two percent of the total value of output.

The Lihir project was developed under what became known as the Integrated Benefits Package, which was signed on behalf of the Libirians by the Lihir Mining Area Landowners’ Association (LMALA), and the Nimamar Development Authority (NDA). The package was compiled as a direct result of discussions between the Lihir Management Company (LMC), as developer, and the representatives of the LMALA and NDA.

The package is based on the LMALA Position Paper on Compensation, which was submitted to the LMC at Ladolam in August 1994. The paper’s concept of compensation is tied to payment for damage to land, water, economic trees, food crops, and the quiet enjoyment of life by the landowners. The principle that guided LMALA’s position was that compensation should be all encompassing, and, thus, should be addressed in a comprehensive way. The LMALA proposed, and the LMC agreed, to address compensation under four headings:

- destruction;
- development;
- security; and
- rehabilitation.

**Destruction**

Individuals and the landowner groups are entitled to compensation for disturbances, damages, and use of land and materials. The agreements provide the basis for calculating the compensation payable.

**Development**

‘Development’ refers to facilities, programs, projects, and other forms of assistance, which are provided for the people as a result of the mining operation. The Integrated Benefits Package (Filer 1995:2) outlines that the tripartite agreements between the landowners (represented by the NDA and LMALA), the national government, and the New Ireland Provincial Government dealt with the distribution of royalties, the Special Support Grants, and the provision of infrastructure to New Ireland and Lihir. Other development support from the national government and the provincial government, or the Lihir Management Company, is supposed to be managed and implemented by the Nimamar Development Authority. Community development programs, including awards of spin-off businesses generated by the project, are also supposed to be implemented through the NDA.
Security

LMALA expressed concern that when the mining operation came to an end, the benefits would be unsustainable. This category, therefore, addressed how the infrastructure projects, community services and facilities, and human development programs could be sustained. The principal mechanism for dealing with sustainable benefits was through trust fund agreements. The trust funds that have so far been agreed to are:

- Putput and Ladolam Relocation Trust Fund (the provision of assistance to future generation of the relocates from affected villages);
- Putput Plantsite Trust Fund (the provision of community development assistance to landowners relocated from their traditional land); and
- Lihir Landowners’ Trust Fund (social inconvenience compensation arising from the lands, crops, water, and air agreement).

Rehabilitation

It has been recognised by all parties that rehabilitation or restoration is something for the future. The LMALA and LMC agreed in principle that a rehabilitation plan would be prepared after ten years of mining, in consultation with the landowners and the Department of Environment and Conservation.

The Integrated Benefits Package (ibid.:1-2) further outlines that the relocation compensation payments will be paid into properly established passbook bank accounts with the following exceptions:

(a) trust funds specified in the agreements, which will be paid into relevant trust funds; and
(b) payments for improvements which are less than K50 may be paid in cash to the owner(s).

More specifically, the Relocation Agreement outlines the compensation payable for the temporary loss of customary village land. Clause 13.1(a) states that during the relocation period, the company will pay a compensation of K5 000 per annum to each of the three groups of customary landowners of Maron, Kabanga, and Lativis hamlets, in accordance with Clauses 13.2 and 18.2. The amount of compensation payable under these clauses has been indexed to the consumer price index.

The Memorandum of Agreement relating to the Lihir goldmining project between the New Ireland Provincial Government and the Lihirians (as represented by the LMALA and the Nimmar Development Authority) forbids the landowners and other Lihirians from disrupting the operation of the project at any time during the lifetime of the project, and agrees to explore all avenues to resolve disputes and difficulties connected with the mining operation on Lihir Island. It also stipulates that the landowners and other Lihirians must work in full consultation with the national government, the provincial government, the Lihir Joint Venture, the Lihir Mining Area Landowners’ Association, and the Nimmar Development Authority to ensure the smooth and efficient operation of the mine.
7. The Dynamics of Resource Rents

Monetary compensation for damage or disturbance to land, bush (trees and plants), improvements (houses, gardens, etc.), or lifestyle is just one aspect of the economic relationship which develops between a mining company and the local communities around mining areas in Papua New Guinea. Other components include royalties, equity participation, employment, business contracts, and infrastructure development. Banks (1996:224) states that compensation differs in rationale from the other components of a benefits package. It is not strictly a benefit, but rather a recompense for damage to property and lifestyle. Compensation covers two broad areas of payments—single payments for damage to bush, gardens, or improvements, and annual payments, known as occupation fees, for disturbance to lifestyle and loss of land. Compensation payments vary significantly by individual, village, year, and region.

Bedford and Mamak's (1977) study of compensation issues associated with the construction and early operational phase of the Bougainville Copper Limited (BCL) mine details the process by which compensation policy was developed. There was no consistent, comprehensive policy in relation to mining compensation prior to, or following, the development at Panguna. Initially, a de facto policy emerged out of a combination of existing legislation, the mining warden's rulings, and parliamentary decisions. BCL made compensation payments totalling $11.6 million from January 1968 to December 1974, with the data showing 2,654 payments to 1,000 Bougainvillean living in 62 villages (Banks 1996:224). Sixty percent of the recipients received less than $500, with three-quarters receiving only one payment. The discussion regarding how compensation monies were used was brief, acknowledging that 'very little is known about how recipients of compensation have used their money' (Bedford and Mamak 1977:81).

Connell (1991) reported that, between 1969 and 1988, BCL paid a total of K1.7 million in compensation—an amount that did not please the landowners as it was seen to be small compared to the proceeds from the mine. The majority of these payments were less than K1,000 each. Very little of this money was converted into sustainable development, because only a small number of recipients received enough to satisfy their immediate needs. Further, relocation payments at Panguna cost only K1.6 million, and the program never lived up to expectations (ibid.).

The foregoing discussions have surveyed the dynamics of economic benefits that have been sought, debated, and derived by resource owners and other stakeholders in mining operations.

With the Ok Tedi project, there was little compensation paid to the Special Mining Lease landowners because of the small amount of garden area (as opposed to bush) affected. The local communities were mainly hunters and food gatherers. It has been estimated that, on average, only K1 per person per day was paid as 'compensation' (Hyndman 1991). The issue of compensation at Ok Tedi has focused on the environmental impact of the mine on the Ok Tedi and Fly River systems. The problem was later addressed through litigation, not pre-empted through visionary agreements.

The concept of resource rent, whether it is considered in terms of royalties, occupation fees, compensation, or other benefits, first gained acceptance in Papua New Guinea with the development of the Bougainville copper project at Panguna in North Solomons
Province. The project was developed under the auspices of the Colonial Mining Ordinance of 1928. Under this Ordinance, royalties were calculated on the basis of the value of the resources being exploited and were paid to the State, which claimed ownership of the minerals. In the first House of Assembly in 1967, this understanding of royalties caused heated debate regarding the ownership of minerals and the distribution of royalties.

In November 1966, the concept of an occupation fee was introduced, and included compensation for damages and use of land for mining and its associated purposes. To resolve the problem between CRA and the administration, a Bougainville Copper Agreement Bill was introduced and passed, before the Panguna project commenced production in 1972.

The next mining project that was developed was Ok Tedi. The original agreement, referred to as the Mining (Ok Tedi) Agreements, came into effect on 26 June 1976. The development of the Ok Tedi project highlighted a degree of technocratic consensus that followed independence. The negotiation process for the Ok Tedi project began in 1970. However, the final agreement for the Ok Tedi project was simply a copy of the Bougainville Agreement. Production commenced at Ok Tedi in 1984. The collapse of the tailings dam focused attention on the landowners’ concerns, and subsequently, their demands and protests for increased royalties and compensation in 1988.

During this period, the Bougainville project was in turmoil. The imminent development of the Misima and Porgera mines compounded the hotly debated issues related to landowners’ benefits. 1988 may be considered as a watershed year in relation to rent-seeking by landowners.

1988 also witnessed the birth of the ‘Development Forum’ at which issues related to mining projects with impacts on resource owners, and the provincial governments and national government could be raised, discussed, and negotiated, and an agreement reached. Development forums started with the development of the Porgera goldmine, and then were used in subsequent mining and petroleum projects. The main participants in these forums have been the representatives of the national government, the provincial governments, and the local landowning communities.

The goals of the forum are to secure joint endorsement of the terms under which the national government allows a mining company to operate, and to produce a set of separate agreements between these three ‘stakeholders’, which spell out the distribution of costs, benefits, rights, and obligations arising from the development of the mining project. The Development Forum set precedents that were incorporated into the Mining Act, which was passed in 1992.
8. Resource Rent-Use: An Empirical Study

An empirical study was conducted in 1996 with follow-up information gathering in 1997 in order to primarily investigate how the landowners utilise the incomes that they receive from mining operations.

The empirical study employed a convenient sampling method to investigate landowners' incomes, expenditures, and investment undertakings at four mining sites — Ok Tedi, Misisma, Porgera, and Lihir.

Data were collected through administering questionnaires to the households of the landowners and the landowners' businesses, and interviewing key informants, including the business development divisions of the mining companies.

The empirical report presents a discussion of landowners' incomes, expenditures, and investments, and interprets this with discussions concerning policy implications.

Each mining project setting has its peculiar characteristics which do not seem to have considerably influenced the landowners' mineral rent-quest and use. Therefore, it is important to present the special characteristics with respect to the project development, landowners' expectations, the Government's role, and the demography of each setting.

THE OK TEDI PROJECT

Development of the Mine

Ok Tedi is currently the largest mine in Papua New Guinea. It is also one of the world's leading suppliers of copper concentrate to smelters in Asia and Western Europe. The mine is located in the Star Mountains of Papua New Guinea's remote and sparsely populated Western Province.

The resource was first discovered in 1968 by the giant multinational corporation, Kennecott. However, Kennecott never mined the 'pot of gold'. Among other reasons, the rationalisation of copper mines in Chile led Kennecott to abandon the Ok Tedi project in March 1975, just six months before Papua New Guinea gained independence from Australia (Hyndman 1991:78).

In 1981, Ok Tedi Mining Limited (OTML) was set up to develop the project. OTML owns and operates the mine. Initially, the ownership of Ok Tedi Mining was Broken Hill Proprietary Ltd. (BHP) (30 percent), Amoco (30 percent), a German industrial conglomerate (20 percent), and the State (20 percent). Under the restated Eighth Supplemental Agreement, the ownership now stands at BHP 52 percent, Inmet Mining 18 percent and the State 30 percent. Ok Tedi commenced production of copper, gold, and silver in 1984.

As at 31 December 1995, the mine had produced over 1.7 million ounces of gold bullion and over 4.2 tonnes of concentrate, containing approximately 3.6 million ounces of gold, 7.6 million ounces of silver, and 1.4 million tonnes of copper (Orogen Prospectus).
After a lengthy phase of development, Ok Tedi is now a major contributor to the Papua New Guinean economy.

**Landowners’ Expectations**

As with other project areas, the landowners in the Ok Tedi copper mine area had high expectations about the benefits that the mine would bring. To fully understand the expectations of the landowners, one has to understand the location and the isolation of the people.

Prior to the commencement of the mine, the people of the Star Mountains were politically, socially, and economically isolated from the outside world. There was scant Government presence. There were no roads, and no air transport, hence their isolation. Except for their subsistence living, there was no significant economic activity. Given this, the expectations of the landowners include:

- better infrastructure such as roads, bridges, airstrips, and health facilities;
- benefits from business spin-offs (economic activities) that the mine would generate; and
- substantial cash benefits from the mining company in terms of royalty payments, compensation payments, and employment with the company.

All in all, the landowners expected that there would be an improvement in their standard of living.

**The Government’s Role**

The Government’s involvement in the development of the Ok Tedi mine is quite interesting. This stems from its handling of negotiations with the mine developers. Kennecott withdrew from the Ok Tedi project in March 1975. On 16 September 1975, Papua New Guinea gained its independence from Australia under the leadership of Michael Somare. Independence brought challenges to the young government to find ways of raising revenue to carry out its development plans. These challenges prompted the Somare government to take another look at the development of the abandoned Ok Tedi project. Consequently, the Government began negotiations with another mining heavyweight, BHP. After much negotiation, the project commenced in 1981.

Since 1981, the Government has had to put up with confrontations and negotiations with the landowners and the company. In general, however, the Government has been successful in ensuring the smooth operations of the mine and distribution of landowner benefits.

**Demographic Features**

According to the 1990 population census, Tabubil District had a total population of 9,861 of which 5,494 were males. There were 458 non-citizen residents, of which 260 were males. Most of the non-citizens work for the mine.

There are approximately 1,300 Star Mountain’s people (SML and LMP villages), of which some 1,000 are males. These people (also known as the Wopkaimin) are the major
recipients of the benefits from the mining activities in terms of royalty and compensation payments made to landowners in Western Province. As far as the literacy rate is concerned, most people are 'fluent' in Tok Pisin, but only a very few in English. The low literacy rate is mainly attributed to the late introduction of formal education.

The villages that were covered in the survey were Finalbin, Bultem, Wangbin, and Migalsimbi.

**THE MISIMA PROJECT**

**Development of the Mine**

Mining has a century-long history on Misima, starting with alluvial gold rushes in the 1880s. Underground mining developed sporadically, peaking in the 1930s when Cuthberts ran an elaborate mine employing Misimans and other Milne Bay Islanders on site, and Oros in timber gangs (Nelson 1976:66). Misima Island lies approximately 240 kilometres east-south-east of the Papua New Guinean mainland, in Milne Bay Province (MBP).

The Misima goldmine was officially opened in June 1989 by the then Prime Minister of Papua New Guinea, Rabbie Namat'ui (now Sir). The operator of the project is Misima Mines Pty Ltd, which is jointly owned by Placer Pacific (80 percent) and Orogen Minerals Limited (20 percent). The construction of the mine commenced in January 1988 and proceeded quickly, with few disruptions, as local people apparently welcomed the economic advantages that it would bring. On 12 August 1989, Misima Mines had its first gold pour. As at 30 June 1996, Misima Mines had produced approximately 2.3 million ounces of gold and 13.2 million ounces of silver.

**Landowners' Expectations**

The Misima landowners realistically believed that the mine would generate overall improvements in living standards. The people wanted:

- improved and better transport on the island;
- improved educational facilities;
- upgraded roads and better transport on the island;
- improved sea and air transport to the mainland centres;
- telephones and other telecommunication links;
- improvement of health facilities;
- better water supplies; and
- assistance with business development.

**The Government's Role**

The Government's involvement in the establishment of the Misima mine and spin-off projects was seen to be as the 'middle man', between the developer and the landowners. In December 1987, the Government granted the special mining lease (SML) and set out the mechanism for the payment of resource rents.
Demographic Features

Misima District had a population of approximately 20,800 according to the 1990 population census. Some 9,000 people live on the mainland, while the rest live on small islands to the south and south-west of the mainland. The mainland population comprised 5,000 men and 4,000 women, which gives a sex ratio of 1.25:1. As far as age structure is concerned, the island is typical of societies in Third World countries; that is, the population of younger persons is greater than the elderly population.

The villages covered in the survey were Gaibobo, Narian, and Einaus.

THE PORGERA PROJECT

Development of the Mine

Although the site was first discovered in 1928, it was only after the discovery of high grade zones of ore in the mid-1980s, and a subsequent feasibility study in 1987 that the project’s viability was established. The special mining lease (SML) was granted in 1989, covering 2,227 ha, and was for a 30-year period.

Gold production commenced on schedule in August 1990, and in the first full year of operation in 1991, 1.2 million ounces of gold were produced. As at June 1996, the Porgera mine had proven plus probable reserves of 11.1 million ounces of gold. However, production is expected to decrease with a falling grade of ore over the 18-year expected life span of the mine. Current operations include an open pit and an underground mine.

The Local Economy

The present Porgeran economy is dominated by subsistence agriculture and alluvial goldmining. The subsistence system continues to show its resilience despite the increase in alluvial goldmining and the presence of the mine which has shifted the people towards the cash economy through 'petty trading in the markets close to the mine'. Alluvial goldmining began in the 1950s and continues to be a dynamic agent in creating and sustaining a cash economy for the Ipili people.

A study commissioned by PJV and carried out by Sheddon Agribusiness in 1987, on the socioeconomic impact of Porgera, among other issues, showed a low propensity to save. Because of the isolation and remoteness of the site, the enclave nature of the project, and the fly-in fly-out option, (instead of a mining town), there is no retention of money to stimulate the local economy. Porgera would be a 'periphery' of Mt. Hagen, which is the 'core'. Porgera will continue to rely heavily on Mt. Hagen for the purchase of materials, and as a transit point.

Shareholdings of Porgera Joint Venture (PJV)

There have been some changes in the equity structure of PJV since its formation in 1979. However, only recent stakeholders will be identified, and clarifications made in light of the latest developments.
Table 8.1: Equity Holding in Porgera Joint Venture (PJV), 1996

<table>
<thead>
<tr>
<th>Shareholders</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placer (PNG) P/L</td>
<td>25</td>
</tr>
<tr>
<td>Highlands Gold Properties</td>
<td>25</td>
</tr>
<tr>
<td>Renison Goldfield (PNG)</td>
<td>25</td>
</tr>
<tr>
<td>PNG Government (MRP)</td>
<td>20.1</td>
</tr>
<tr>
<td>Porgera Landowners</td>
<td>2.45</td>
</tr>
<tr>
<td>Enga Provincial Government</td>
<td>2.45</td>
</tr>
</tbody>
</table>

Source: DMP Quarterly Bulletin, October-December, p.47.

Table 8.2: Change in Equity Holding of PJV, May 1997

<table>
<thead>
<tr>
<th>Shareholders</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placer Dome</td>
<td>50</td>
</tr>
<tr>
<td>Renison Goldfield</td>
<td>25</td>
</tr>
<tr>
<td>Orogen</td>
<td>15</td>
</tr>
<tr>
<td>Mineral Resources Porgera (MRP)</td>
<td>10</td>
</tr>
</tbody>
</table>


For the purpose of clarification, the national government, through the Mineral Resources Development Company (MRDC), still retains a 51 percent shareholding of Orogen after successfully floating it in early 1997. In turn, the MRP is 50 percent owned by MRDC, 25 percent by the Enga Provincial Government, and 25 percent by Yu Anduane landowners and a couple of the local government councils. The MRP has not received any dividend as it is still repaying the loan it took out for the acquisition of its equity.

The equity issue has been a source of contention, at least on the part of the landowners, who have pressured the national government and PJV for free equity in the project. Having discussed the ownership of PJV, the remainder of this paper focuses on Porgera and the analysis of the household survey carried out on resource rent-use.

Landowner Expectations

The Porgera mine generated a lot of expectation amongst the people, in particular, regarding the benefits that would be derived from it.

Generally, the mine was viewed as a new source of wealth, and the local perception of the mine was dominated by the idea of business and development opportunities.

For the period between 1938 and 1988, the Ipili people have, in one way or another, come into contact with explorers, and have been involved in alluvial goldmining. They have come to associate gold with materialism. Furthermore, in March 1987, at the height of the Mt. Kare gold rush, the people from Porgera and Paiela were exposed to the power of gold and what it could do.
It is against this background that the expectation of landowners is very high in relation to the benefits, as opposed to the associated costs of the impact of the mine. The company has so far built 300 relocation houses at a cost of K14,000 each, and paid compensation as well. However, while, believing that the potential of the mine to help them is limitless, the Ipili people also have ‘suspicion' and ‘fears' of ‘outsiders' who could possibly compete with them. This fear was exemplified by landowners in a meeting in Port Moresby where “they do not want compensation or spin-off benefits for Enga, they want it for Porgera” (Senge 1992:21).

It is important to put into perspective the amount that is being paid out by PJV, and to whom, in so far as this study is concerned. To this end, and as a background to the discussion and analysis of the rent-use survey, it is important to look at:

(a) royalty payments; and
(b) other payments.

Table 8.3: Royalty Payments to August 1996

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provincial Government</td>
<td>K 23,069,289</td>
</tr>
<tr>
<td>Porgera Development Authority</td>
<td>K 1,613,933</td>
</tr>
<tr>
<td>SMG Landowners</td>
<td>K 3,150,983</td>
</tr>
<tr>
<td>Porgera Landowners</td>
<td>K 936,344</td>
</tr>
<tr>
<td>Children's Trust Fund</td>
<td>K 3,267,865</td>
</tr>
<tr>
<td>Porgera Young Adults</td>
<td>K 620,235</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>K32,658,649</strong></td>
</tr>
</tbody>
</table>


Table 8.4: Other Payments to June 1996

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation Fees</td>
<td>K 1,204,200</td>
</tr>
<tr>
<td>Donations</td>
<td>K 2,904,816</td>
</tr>
<tr>
<td>General Compensation</td>
<td>K 12,260,531</td>
</tr>
<tr>
<td>Environmental Compensation (Lower Porgera)</td>
<td>K 2,057,741</td>
</tr>
<tr>
<td>Environmental Compensation (Kuiya River)</td>
<td>K 758,673</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>K19,185,961</strong></td>
</tr>
</tbody>
</table>

Source: PJV Confidential memo to DMP

Demographic Features

There are twelve census units, including the Porgera Station, which make up the Porgera Census Division. The land within the SML is owned by the people from three census units – Apalaka, Mungalep, and Anaie/Yendekele – who are the principal recipients of mine-related benefits.

There are approximately 10,000 Ipili speaking people in Porgera District, and they are located in two census divisions – Porgera and Patela.
The population growth statistics are uncertain, although net natural increases appear to be approximately 25 percent per annum, with an immigration rate of one to two percent. The build-up of Epo Atene (non-Porgeran) migrants around the mine has been perceived as a substantial risk to the harmony of company-landowner relations. Between 1980 and 1990, there was an apparent increase in the population of rural village census units. This was some 80 percent more than could be anticipated through natural increase (Burton 1992:133).

**THE LIHIR PROJECT**

**Development of the Mine**

The Lihir goldmine is located on the eastern coast of Niolam Island in the Lihir group of islands in New Ireland Province. Mahur, Mali, and Masahet make up the remainder of the Lihir group. Before gold was discovered in 1982, the Lihir islands were underdeveloped. Approximately 7,000 inhabitants (5,800 on Niolam) were primarily dependent on subsistence-level cultivation, with a limited utilisation of marine resources.

In March 1995, the Papua New Guinean Government granted a Special Mining Lease (SML) that was to allow for the construction and operation of the Lihir goldmine. The operator of the mine is the Lihir Management Company (LMC), a subsidiary of RTZ Corporation. LMC operates the mine on behalf of Lihir Gold Limited, which is a Papua New Guinean company.

Construction commenced in December 1995 and was completed in May 1997. Production commenced in the latter part of May 1997 and is expected to continue for 15 years. Initially, approximately 600,000 ounces of gold will be produced each year. A further 21 years is required for the processing of the stockpiled lower grade ore, and this will account for an average gold output of 226,000 ounces per year.

**Landowner Expectations**

This section attempts to outline the expectations of the Lihir landowners in relation to the Lihir goldmine. It is common knowledge that, in Papua New Guinea, any major resource development will surely generate high landowner expectations from benefits. In this regard, the Lihirian landowners have high expectations of possible benefits that will accompany the operation of the Lihir goldmine. The expectations of the landowners are contained in the Integrated Benefits Package (IBP) which is a direct result of discussions between the LMC, as developer, the Lihir Mining Area Landowners’ Association Inc. (LMAA), representing the immediate landowners, and the Niugin Development Authority (NDA) representing the people of Lihir. The IBP basically outlines the benefits which the landowners expect to receive from the LMC, as compensation. The different categories of compensation are destruction, development, security, and rehabilitation.

**Destruction**

This category refers to payments made to individuals and landowner groups for disturbances, damages, use of land, and use of materials.
Development

The expected benefits under this category refer to facilities, programs, projects, and other assistance which are provided for the people as a result of the mining operations.

Security

The LMALA has expressed a concern that when the mining operation comes to an end, the benefits that the people have now become used to will no longer be sustainable. Therefore, there has to be a provision of benefits in terms of infrastructure projects, community services and facilities, and human development programs that are sustainable. Trust funds are the anticipated mechanism for this aspect of compensation.

Rehabilitation

This category refers to benefits to be paid to the people (either in cash or some other way), as a way of providing rehabilitation for the damaged land.

The Government's Role

The national government is the legal body which regulates resource development in Papua New Guinea. Basically, the role of the Government is to ensure that the developer and the landowners each receive a fair return from the operations of the project (Lihir). This study focuses on landowners, hence, we will attempt to outline the various benefits that the Government proposes for landowners.

Royalties

The proposed royalty rate is two percent of gold production. This royalty will be split between the New Ireland Provincial Government and Lihir, on a 50-50 basis. Of Lihir's 50 percent, 30 percent will be given to the NDA, while the residue is reserved for the landowners of the SML and LMP areas.

Equity

The national government agreed that the Lihirians should receive half of its equity entitlement in the Lihir project. As a result, both the Government and the 7 100 Lihirians own 8.55 percent each in the US$725 million project. The Lihirian share is to be administered in a trust account.

Other Benefits

These are listed in the IBP, and have been outlined earlier in this chapter.

Demographic Features

These data and the analysis are based on the 1990 population census. According to that census, Lihir District had a total population of approximately 6 800, of which 3 500 were males. The majority of the population live on the main island of Niolam. As far as
age structure is concerned, the island is typical of societies in Third World countries; that is, the population of younger persons is greater than the elderly population.

The villages covered in the survey were Londolovit, Kapit, Putput 1, Putput 2, and Putput 3.
9. Landowners' Incomes

Summary

The landowners' incomes are mainly derived from four sources in the mining areas. They comprise the so-called resource rents, agricultural (including fishing) incomes, business incomes, and paid employment incomes. Mineral or resource rents represent payments of royalties, various types of compensation, and special support grants that are received by the local people.

The monthly royalty payments that are received have become the most regular dependable sources of income for the landowners. The distribution of royalties varies in the mining areas. The amount per household; that is, a landowner family, is very small when compared to the compensation payments received.

Compensation payments consist of all settlements that are made in connection with claims against damages to a "property". The definition of property is very flexible. A claim may be made for the occupation of a piece of land, damage to an "economic" tree which may be any tree, or social or environment inconvenience suffered by a local person in relation to the mining operation. Compensation seems to be actively sought after by the local people.

Compensation claims on the mining companies appear to be a big business. Complaints, investigations of claims, and settlements are ongoing pursuits that consume the time and financial resources of both the complainants and their "warriors", and the mining company. The company plays a dual role in defending and judging the cases.

Usually, in the interest of maintaining peace and good relations, which are necessary for a smooth operation of the mine, the company decides cases in favour of the landowners. Consequently, there seems to be endless claims on the company. For example, a company truck may be accused of hitting an "economic" tree in the bush, of which the driver of the truck may be completely unaware. Although there is no visible damage to the truck, the complainant's witnesses have seen it all happen.

Special support grants (SSGs) are given by the Government to the landowners, before the up-start of a mine, with the intent that the SSG would be used to set up spin-off businesses resulting from the mining operations.

Many non-traditional businesses have mushroomed in the mining areas. Some businesses are established, using SSGs, some are jointly owned by the landowners and established companies that want to do business in relation to the mining operation, while a few other businesses are opened at the sole initiative of the landowners. Only a few of the businesses seem to be doing very well. However, their sustainability or viability seems to obviously depend on the mining operations.

The local people have sought employment at the mines and obtained paid jobs — mostly menial ones, that bring in regular incomes. The mining companies have encouraged this development. However, the locals are not naturally happy with an invasion of outside workers.
The new sources of income – resource rents, business incomes, and wages and salaries – appear to have undermined traditional economic activities in the mining areas. On the one hand, agriculture seems to have suffered a setback. On the other hand, the mining development has created opportunities for cash income generation for the local people who are located in areas that are inaccessible by road transport.

The landowners have obviously become dependent on resource rents and incomes that have been derived from economic activities which are closely related to the mining operations. This dependency is reflected by the percentage share of the household incomes, during the past twelve months, when this study was conducted (see Table 9.1).

Table 9.1: Percentage Income Sources for Ok Tedi and Misima, 1996

<table>
<thead>
<tr>
<th>Income Sources</th>
<th>Ok Tedi</th>
<th>Misima</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Rents</td>
<td>82</td>
<td>56</td>
</tr>
<tr>
<td>Agriculture</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Businesses</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Wages/Salaries</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
<td>11</td>
</tr>
</tbody>
</table>

In Lihir, for example, the resource rent accounted for 95 percent of the household incomes in 1996, when the construction works were in progress. The average resource rents reported by Lihirian households was K19 000, compared to an average of K2 500 in other mining areas. Mining rents start flowing in from the inception of exploration, and reach a peak just before the first mineral output. They cease when the mining operation ends.

Initial, new-found wealth, such as the Lihir experience, has heightened the landowners’ expectations of resource rents. Despite this obvious expected outcome, there is hardly any evidence that attempts are being made to employ policy in order to influence economic activities in the mining area. Other economic activities have not been emphasised since the advent of the mines. For example, in Misima, copra estates, which used to dominate the local economy, have ostensibly been neglected. Perhaps it is time to reverse this trend, and promote industries that are not directly dependent on the mining operation. The Government’s promotional effort in this direction is required.

The existence of ‘ghost mining towns’ is widely recognised. The ghost towns that will emerge in Papua New Guinea, will be significantly different in many respects from others in some areas of the world, such as Australia. After the minerals have been depleted, the local people will continue to live in the same villages where their ancestors lived for centuries. Many local people would not simply move out. For this reason, an active fiscal policy should be judiciously employed in order to promote industries that will survive, after the mines close.
THE OK TEDI PROJECT

This section analyses the various incomes, in particular, resource rents, that have been received by the SML and LMP landowners of Ok Tedi.

Resource Rents

The following discussion outlines the various cash benefits that have been received as a result of the mine’s operations. Resource rents comprised 82 percent of landowners’ incomes in Ok Tedi. A specific analysis of these rents is outlined here.

Royalties

Royalty payments are made on a monthly basis. For Ok Tedi, the following is the breakdown of the royalty payments. Initially, the Fly River Provincial Government (FRPG) received 95 percent of royalty payments, while the landowners received only five percent. This was for the period 1984-1989. In 1990, half of the provincial government’s share was given to the Kitunga-Lake Murray Authority (KLM). In 1991, a new agreement of royalty distribution was signed, which altered the share distribution. This distribution stood as FRPG, 70 percent, and the landowners, 30 percent.

Of the landowners’ 30 percent, 6.25 percent is given to each of the four SML villages – Atemkit, Kavorabip, Finalbin, and Bultem. The remaining five percent of the landowners’ share is distributed equally (2.5% each) between the LMP villages of Wangbin and Migalsimibip. From 1984 to June 1996, the landowners have received more than K14 million in royalty payments.

During the survey, households were asked to state the amount of money that they received from royalties during the past 12 months. It was found that, in the last month of this period, 14 percent of resource rents were sourced from royalties, which is approximately K380 per household. This is especially the case for the SML villages and Wangbin. With regard to Migalsimibip, the royalty payments were not paid to the people, but were directed to the cost of the construction of their houses.

Compensation Payments

Compensation payments are made for various forms of physical damage. Physical damage is categorised under the following headings:

- occupation;
- cleared or damaged land;
- social inconvenience; and
- loss of economic trees.

For those households that were interviewed, approximately 86 percent of the resource rents were earned in the form of compensation payments during the past 12 months. This is approximately K2 400 per household.
Agricultural Incomes

Agriculture is an important part of any rural society as far as sustenance is concerned. In the survey, households were asked to state the income that they earned from gardening/farming, plantations, livestock, and forestry during the past 12 months. Agriculture comprised only five percent of household incomes.

Gardening and farming basically refer to the cultivation of food crops. The survey showed that most gardening was undertaken for subsistence consumption only. Twenty-eight percent of agricultural income was earned from gardening. However, it was noted that subsistence gardening activities have declined since the inception of the mine. The increasing dependence on store goods is a major contributing factor to this trend.

With regard to plantation agriculture, there were no earnings during the past 12 months. This is understandable because, in the villages that were surveyed, the land is unsuitable for any plantation activity. The terrain is wet and steep, which makes it difficult to cultivate tree crops.

Livestock refers to the raising of animals such as pigs, chickens, cows, and other animals. According to the survey, the concerned villages are engaged in some animal raising and selling, although this is done in an informal manner and on a very small scale. Pigs and chickens were the common livestock to be farmed. With regard to revenue, an average of K128 per household was earned during the past 12 months, which is approximately 73 percent of agricultural incomes.

Forestry refers to the villagers' involvement in timber or logging activities. For the SML and LMP villages that were surveyed, there were no such activities.

In conclusion, for the villages in the impact area of the Ok Tedi mine, approximately K128 was earned by each household, from agricultural activities during the past 12 months. This is mainly from livestock earnings. However, although agricultural activity in the area is currently minimal, there is scope for development.

Business Enterprise Income

The survey required households to provide estimates of earnings from business activities (if any) during the past 12 months. In the villages that were surveyed, the only business activity was trade stores. Only five percent of household incomes were sourced from business activities. Collectively, these businesses earned some K5 200 during the past 12 months.

Paid Employment Income

This discussion focuses on those landowners who are engaged in wage-earning activities. Most of those people who were employed were working for the mine, or had mine-related jobs. Except for some who were engaged in technical jobs, such as welders and electricians, the majority of the people were employed as casual labourers.

During the survey, the respondents were asked to state the amount that they earned in a fortnight. These fortnightly amounts ranged from K100 to K300. On average, most
workers earned approximately K130 per fortnight. The survey also showed that most of the households had people who were employed. Four percent of household incomes were sourced from paid employment.

Table 9.2: Landowners' Income Per Household in Ok Tedi

<table>
<thead>
<tr>
<th>Income Sources</th>
<th>Amount (Kina)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Rents</td>
<td>2,780</td>
<td>82</td>
</tr>
<tr>
<td>Agriculture</td>
<td>177</td>
<td>5</td>
</tr>
<tr>
<td>Businesses</td>
<td>173</td>
<td>5</td>
</tr>
<tr>
<td>Wages/Salaries</td>
<td>132</td>
<td>4</td>
</tr>
<tr>
<td>Others</td>
<td>145</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,407</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Other Sources of Income

As well as the income sources mentioned in the preceding sections, respondents were also asked to indicate their incomes from other sources. In particular, these other income sources are relatives andwantoks, interest from savings, personal compensation, and dividends. This group comprised four percent of the total income.

Approximately 67 percent of the respondents stated that they received income from relatives. The average earning was approximately K77 per household. Interest from savings was recorded as nil. Compensation refers to money earned for damages to personal property, and only three percent of the households earned money in this category. The average amount earned was K200, which usually was for the death of a pig. With regard to dividend receipts, approximately 10 percent of those people who were interviewed had received dividends during the past 12 months.

The average earnings from investments were approximately K61 per household. Most dividends were for shares in Cloudland Hotel. To conclude, a general analysis of incomes from other sources is given. Some 67 percent households indicated that they received money from other sources of income during the past 12 months. The average earnings were approximately K145 per household during the given period.

THE MISIMA PROJECT

This section focuses on the various incomes received by the SML and LMP landowners associated with the Misima mine.

Resource Rents

Fifty six percent of landowners' incomes were sourced from resource rents in Misima.

Royalties

Royalty payments are made monthly. The following is the breakdown of royalty payments for the Misima project. The Milne Bay Provincial Government (MBPG)
receives 70 percent, and the SML and LMP landowners receive the remaining 30 percent.
Of the 30 percent that is allotted for the landowners, the Misima Resource Owners' Association (MROA) receives 20 percent, while the balance of 10 percent is shared equally between the SML landowners (5%) and the future generation (5%) of the pit landowners. Since the inception of the mine, to the time of writing, Misima Mines Pty Ltd (MMPL) has paid more than K10 million in royalties, and the landowners have received more than K3 million. Of those households interviewed in the survey, they earned approximately K1 700 from royalties in the past month. This represents some K92 per household, which represents nine percent of total resource rents.

**Compensation Payments**

According to MMPL, Misimans have received more than K3 million in compensation payments. Compensation payments are classified in the following categories of physical damages:

- occupation;
- cleared or damaged land;
- social inconvenience;
- loss of access; and
- loss of economic trees.

According to the survey, most people received compensation payments for loss of economic trees, damaged land, and water contamination. Most of the households indicated that they had received some form of compensation payment. Approximately K18 100 was received as compensation payments by those households that were interviewed. Amounts ranged from K20 to K4 000, for one-off payments. Therefore, it seems that the landowners have received quite a substantial amount of cash in the form of compensation payments. Ninety-one percent of resource rents are derived from compensation payments.

**Special Support Grants (SSGs)**

The SSG is equivalent to one percent of the value of the annual f.o.b. revenue of the sale of mine products, and is paid to the Milne Bay Provincial Government. The Misimans receive 20 percent of this amount. The balance of 80 percent is split up between the seven districts. Therefore, Misima should receive a further 11.4 percent of the balance, giving it 31.4 percent of the total amount. From June 1989 to 31 December 1993, one percent of the f.o.b. revenue value from the sale of mine products was approximately K7 300 000. Misima's portion of this amount was approximately K2 292 000.

The exact amount of the SSG is not known by the MROA or the government in Misima. We were advised that the SSG monies were purposely to be allocated for projects. A reliable source advised that most of the projects which were started were not completed, and that there was a lot of wastage and lack of control over them. At the household level, people seem to have little knowledge of the SSG monies.
Equity

The landowners were to be given an option to take up to 25 percent of the State’s 20 percent interest in the project. The options were to be staged:

1. 1.25 percent within two months of the date of the option being given.
2. Eleven percent within one year of the date of the option being given.
3. 12.75 percent during the first month of the fifth year of the option being given.

Options 1 and 2 were to be purchased with an interest free loan, at the price that it cost the MRDC to acquire. Option 3 was to be purchased with cash at the then fair market price, determined by an independent adviser. The three options were never given to the landowners or the MROA.

Agricultural Incomes

Agriculture is an important part of the Misima society. This is true in so far as subsistence living is concerned. For commercial purposes, it is less significant. According to the survey, only eight percent of incomes were derived from agricultural activities.

The survey also showed that the agricultural activities which are undertaken are gardening/farming, plantations, livestock, and fishing. The land is fertile, and a wide variety of vegetable crops is grown, with yams being the staple food. Most of the food that is grown in the gardens is for subsistence living. However, some produce is sold at the local market at Bwagaola. Approximately K800 was earned from these sales during the past 12 months, for those households that were interviewed. This represents 28 percent of agricultural incomes.

On average, each household earned approximately K40 from garden produce during the past 12 months. It must be noted that gardening activity in these villages has declined since the commencement of the Misima mine, possibly because, in general, the landowners are now mainly dependent on store goods.

On the plantation scene, cocoa, copra, and coffee are the major crops that have been planted. Most of the plantations are located in the northern and eastern coasts of the island. According to a DPI source at Bwagaola, production of the three crops has been declining since the mine commenced operations. This is particularly true for cocoa and coffee. With regard to copra, the situation is the opposite. According to statistics obtained from the Bwagaola Copra Depot, between October 1993 and May 1996, the value of copra sales has increased from K1,400 to more than K37,000. This is because most of the coconut plantations are located outside the mining area, thus implying that people were still producing more copra, regardless of the impact of the mine.

With regard to livestock, poultry farming, piggeries, and cattle rearing are the main activities. With regard to cattle, the current policy was to get rid of them. Pigs and chicken are sold on an irregular basis in the villages, or at the local market at Bwagaola. The households that were interviewed received approximately K100 from pig and chicken sales during the past 12 months, which represents approximately K60 per household. This is 41 percent of total agricultural incomes.
In regard to fishing, on a larger scale, the mining company has established a fishing company — Coral Sea Fishing — which carries out fishing activities on a commercial basis for the landowners. On a smaller scale, the islanders catch fish and sell them at the local market at Bwagaoia. The respondents to the survey indicated an income of approximately K700 from fish sales during the past 12 months. This is approximately K36 per household.

On an aggregate basis, approximately K2,900 was earned from agricultural activities, by the households concerned, during the past 12 months. On average, each household earned approximately K152.

**Business Incomes**

According to the survey, the most common business activity is tradestore retailing. Other activities include PMVs, video showing, snooker, and dinghy transportation. The time spent on running the mentioned business activities is usually irregular; that is, the businesses were run on a demand basis where more time is spent if the demand warrants it, and less time is spent if the demand for the given commodity falls. As far as income earned is concerned, the total income from business activities was about K4,200 during the past 12 months. This is approximately K221 per household. Twelve percent of total incomes was derived from business activities.

**Paid Employment Incomes**

Most of the households that were interviewed indicated that some of their members had formal employment. Some people work in the public sector, and others are self-employed. However, the majority work with the mining company.

Those people working with the mine have jobs ranging from security, driving, mill operators, and cleaners, to other casual work. Wages (salaries) for those people who were interviewed ranged from K50 per fortnight to more than K300 per fortnight. Approximately 13 percent of household incomes were derived from paid employment during the past 12 months.

<table>
<thead>
<tr>
<th>Income Sources</th>
<th>Amount (Kina)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Rents</td>
<td>1,045</td>
<td>56</td>
</tr>
<tr>
<td>Agriculture</td>
<td>152</td>
<td>8</td>
</tr>
<tr>
<td>Businesses</td>
<td>221</td>
<td>12</td>
</tr>
<tr>
<td>Wages/Salaries</td>
<td>240</td>
<td>13</td>
</tr>
<tr>
<td>Others</td>
<td>196</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,854</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Additional Sources of Income**

As well as the sources of income already mentioned, the interviewees were also asked to mention additional sources of income. Most people indicated that they received some money from relatives and close friends during the past 12 months. A few indicated that they received money as compensation (for property destruction, such as pig killing,
bodily harm, and so on), and interest from savings. Approximately K3,700 was earned from such income sources during the past 12 months by those people who were interviewed. This is approximately K196 per household, which is 11 percent of total incomes.

**THE PORGERA PROJECT**

**Resource Rents**

**Mining Royalty**

There are three categories of mining royalties which are received by the landowners:

1. Special Mining Lease (SML);
2. Project Landowners (PL); and
3. Pit Area Landowners (PAL).

**Compensation**

Payments made to landowners under compensation include:

- occupation;
- cleared, damaged and lost land;
- social inconvenience;
- loss of access;
- loss of economic trees; and
- others.

Sixty-seven percent of respondents received royalties under the SML payments, while 94 percent received compensation in one form or another. It is important to identify the sources of income — in particular, the resource rents — and establish the correlation between the investment, savings, and consumption patterns of the aggregate household.

**Findings and Interpretations**

A major finding under this section showed that, where people were in receipt of either royalties, compensation, or both, their involvement in agricultural or livestock activities was limited to subsistence consumption. Sixty-six percent received money from the company, other than wages or salaries, and were not involved in cash generation such as agriculture or livestock. Only some 28 percent of those people who received some form of compensation were involved in production for cash sales.

A general trend arising from the presence of a major project of the magnitude of Porgera causes landowners and people who are recipients of payments to neglect agricultural and farming activities as ways of earning a living. The 28 percent who were identified as being involved in the selling of products indicated that sales are done by other members of the household, who normally received less than the head of the household. Eleven percent were not involved in subsistence, agricultural, or farming activities because they were employed on a full-time basis.
Business Incomes

The analysis will use the data from the agricultural findings as an extension, as well as to maintain consistency, and limit exogenous influences. It is safe to assume that recipients of resource rents who are not engaged in agricultural or livestock production have to be involved in some kind of activities.

Of the 67 percent of people who received money from the company, but were not involved in cash production, 39 percent of the respondents were involved in businesses such as tradestores. Less than one percent of respondents were involved in some business enterprise.

One plausible explanation why recipients of resource rents are not involved in business enterprises is because of a lack of 'business culture', and an attitudinal problem about lacking for an 'easy and quick buck'. A problem that will arise at the end of the mine's life span is that, when mine payments cease, there will be no alternative income-generating activities, especially for those people who have taken on an 'affluent' lifestyle and squandered their money.

Paid Employment Incomes

In this discussion, paid employment refers to a person who has a full-time paid job. The average work schedule would be five days a week, for an average of eight hours a day. Where there is a difference in the number of days and hours worked, some indication has been made. Other sources of income are discussed as a different component in this section.

Findings and Interpretation

From the survey, approximately 61 percent of the respondents (household heads) were engaged in paid employment. Furthermore, there were other members of the same household who were also involved in paid employment. Approximately 17 percent of the respondents had other members engaged in paid employment. It is interesting to note that, of the 30 percent not involved in paid employment, approximately 22 percent were recipients of mining payouts, and were not involved in agricultural, livestock, or other business enterprises. The remaining 17 percent of people who had no form of employment were engaged in agricultural and other activities, such as alluvial goldmining, where they earned some income.

Of the 61 percent of people who were engaged in paid employment, 33 percent were also recipients of mining payouts and were engaged in some business enterprise, or agricultural and livestock production. On the other hand, 22 percent, although recipients of mining rents and in full-time employment, did not venture into business, or agricultural and farming production. Less than one percent of those people who were fully employed did not receive any compensation and were not involved in any business enterprise or agricultural activity.
Other Sources of Income

Of those respondents who were not employed, 22 percent did not receive any form of remittance, while 11 percent did. Those people who were engaged in some form of employment and received remittances accounted for 28 percent, while those who did not receive any remittance accounted for 17 percent. A breakdown of this component of the section under the various categories of remittances is negligible.

Interpretations

It appears that 22 percent of those people who received compensation from the company (PJV) were not employed, or involved in any business enterprise or agricultural activity. This raises concern as to why rent-use income (payments) were either not saved or invested, as there were no remittances or business operations to reflect this. For those who were fully employed and who were also recipients of rent use, 17 percent did not save or invest.

It can be safely concluded that the propensity to save and invest is associated with huge sources of capital. People do not want to start small and take time to grow and develop various enterprises. Again, education could be a major contributing factor, with 80 percent of the respondents having no formal education.

THE LIHIR PROJECT

This section focuses on various incomes that were received by the SML and LMP landowners of the Lihir goldmine.

Resource Rents

Resource rents accounted for 95 percent of total household incomes.

Royalties

The proposed royalty rate is two percent of gold production. This amount will be split between the New Ireland Provincial Government and Lihir, on a 50-50 basis. Regarding Lihir’s 50 percent, 30 percent will be allotted to the NDA, and the remainder to the SML landowners. However, royalties will be paid when the mine commences production.

Compensation Payments

Monies received as compensation are as outlined in the IBP. In particular, most compensation payments are those categorised as physical damage. Of the 25 households that were surveyed, the majority received compensation payments. An aggregate amount of approximately K476 000 was received by those households since the commencement of construction. This is approximately K19 038 per household.
Table 9.4: Landowners' Income Per Household in Lihir

<table>
<thead>
<tr>
<th>Income Sources</th>
<th>Amount (Kina)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources Rents</td>
<td>19,038</td>
<td>95</td>
</tr>
<tr>
<td>Agriculture</td>
<td>148</td>
<td>1</td>
</tr>
<tr>
<td>Businesses</td>
<td>440</td>
<td>2</td>
</tr>
<tr>
<td>Wages/Salaries</td>
<td>102</td>
<td>1</td>
</tr>
<tr>
<td>Others</td>
<td>182</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19,910</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Agricultural Incomes**

Agricultural incomes refer to the incomes earned, during the past 12 months, in categories such as gardening and farming, plantations, livestock, fishing, and forestry. As far as gardening and farming are concerned, all the households that were surveyed indicated no commercial activity; that is, gardening was done for household consumption only. The reason for this situation may be attributed to the fact that the landowners are earning sufficient money from compensation payments, thus putting minimal pressure or focus on gardening on a commercial basis.

Plantation activities refer to the cultivation of tree crops such as, cocoa, coconut, rubber, tea, and betel nut. A business development officer on the island advised us that interest in tree crops is very minimal now, especially within the SML area. On the household basis, respondents indicated no earnings during the past 12 months from such activities. For livestock, chickens and pigs were the main animals sold, and approximately K3,000 was earned during the past 12 months, by households, collectively. This is approximately K124 per household.

As far as fisheries are concerned, approximately K600 was earned during the past 12 months. This is approximately K24 per household. Forestry recorded nil earnings for households during the past 12 months.

In total, the households, that were surveyed received K3,690 from agricultural activities during the past 12 months, which is approximately K148 per household. This represents a mere one percent of total incomes.

**Business Incomes**

The common businesses and their incomes at the village level which are found in the SML area are tradestores and PMVs. The average household income from business activities during the past 12 months was approximately K440, which is two percent of total incomes.

**Paid Employment Incomes**

Income, by way of paid employment, is analysed on a household basis. On Lihir, most of the paid employees work in mine-related activities. The few government workers were those who were working as teachers, nurses, and in the district administration. The survey focused on Lihirian employees who were based in villages. Common jobs for these
Librarians included drivers, construction labourers, and secretarial jobs. For the households that were interviewed, an average of K102 was earned per household per fortnight.

**Other Income Sources**

As well as the preceding income sources, households were also asked to indicate their incomes from other sources. These additional sources comprise:

- relatives and others;
- interest from savings; and
- compensation and dividends.

For incomes from relatives and others, approximately K100 was received during the past 12 months for each household. Interest from savings was recorded as nil, because people did not understand the difference between savings and interest from savings. Compensation refers to money received for damages to personal property, or bodily harm, and this excludes the type of compensation explained earlier. On average, approximately 36 percent of incomes, under 'other incomes' was sourced from such compensation. For dividends, approximately K15 per household was earned during the past 12 months.

All in all, households received an average of K182 during the past 12 months, from other sources of income. This represents approximately one percent of total incomes.
10. Landowners’ Expenditures

Summary

The development of mining has considerably boosted the money economy. Cash incomes that have been derived from sources related to the mining operation have considerably influenced landowners’ spending patterns. The subsistence economy has been largely taken over by consumerism.

The landowners’ expenditures have been grouped under consumables, durables, investments, and special disbursements for examination. The findings are somewhat disturbing, but not unexpected.

Consumables are goods and services that are used for current consumption, and are completely used up at the moment of consumption (Stigeler (1986:81). The items in this category include food, betel nut, cigarettes, soft drinks, alcoholic drinks, transport, and children’s education.

Compared with the other expenditure groups, consumables take up approximately one-third of the landowners’ household expenditure, which is approximately 35 percent of the total incomes. The products under this category are either basic necessities or have high marginal propensity to consume, because of the high level of incomes.

Most households now purchase durable goods that were hardly conceivable before the commencement of development mining. Durables can be defined as goods purchased by consumers for use over a relatively long period of time (ibid. 80). The common goods that are bought by the householders include TV sets, radios, cassette players, vehicles, watches, stoves, washing machines, fridges, cameras, and sewing machines. This expenditure group accounts for 33 percent of household expenditure, ranking second to consumables. And most of the goods are luxury goods.

It has been reported that the landowners never fail to purchase items in this expenditure group, when they receive a one-off lump sum such as a compensation payment. Conspicuous consumption is most noticeable in Lihir where the landowners have been offered the best mineral integrated benefits package. In 1996-1997, the average household received approximately K19,000, compared to an average of K2,500 in other mining areas. A few householders owned vehicles, and one man owned a satellite dish.

The question that is paramount in this study is whether the landowners undertake productive investments with their new-found wealth. It appears that the landowners have continued to invest in agricultural activities, just as they were doing before the commencement of mining. Now, they also invest in non-agricultural activities. Agricultural activities comprise gardening and farming, plantations, fishing, livestock, and forestry.

While investigating the landowners’ investment undertakings, in the twelve months preceding the study, it was found that investment in agriculture took up only one percent of the landowners’ household expenditure, thus making it the least sought after expenditure group. The major rationale is that, since the commencement of mining, there
has been a shift from cash cropping, where it existed, to a dependence on cash benefits generated by activities that are related to the mining operation.

The study’s primary goal is to determine the extent of the usage of resource rents on non-agricultural businesses. The major business types that were individually undertaken by the landowners included retailing, transport services, building and construction, catering, fast-food activities, and handicrafts. Six percent of landowners’ household incomes are expended on these businesses. As the landowners’ incomes improve, they prefer to invest in non-agricultural enterprises. An in-depth analysis of landowners’ investments is provided in Chapter 11.

Special disbursement of income refers to spending on items that reflect indulgence. The landowners indulge in spending binges that comprise trips to the towns, accommodation in hotels, spending on brideprice payments, and gambling in casinos. This group constitutes 25 percent of household expenditures, which is less than the spending on consumables and durables. However, it is still very significant in the sense of its growth, and when compared to spending on investments. In this context, the landowners’ expenditure patterns seem to support the view that there is widespread dissipation of resource rents by landowners.

Table 10.1: Percentage Composition of Landowners’ Expenditure (in the past 12 months of the study)

<table>
<thead>
<tr>
<th>Expenditure Group</th>
<th>Ok Tedi</th>
<th>Misima</th>
<th>Lihir</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumables</td>
<td>42</td>
<td>36</td>
<td>28</td>
</tr>
<tr>
<td>Durables</td>
<td>22</td>
<td>32</td>
<td>45</td>
</tr>
<tr>
<td>Agricultural Investment</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Non-Agriculture Enterprises</td>
<td>5</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Special Indulgence Expenditure</td>
<td>30</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

The composition of the landowners’ expenditure, as shown in the cross-section data in Table 10.1, has implicitly hidden the facts. When the data are properly scrutinised, one would see that, in Lihir, just before the upstart of the mine, the pattern of expenditure is different from the other mining sites, because the Lihirins are late starters. The percentages of durables and non-agricultural enterprises would decline, whereas, that of special disbursements would go up, as in other mining sites.

As the landowners acquire new wealth from the resource rents, they initially buy more processed consumer goods. Then they purchase more luxury durable goods, invest in non-traditional enterprises, and thereafter go on a spending binge on products that are indulgent or addictive.

THE OK TEDI PROJECT

This section analyses the spending patterns of the SML and LMP landowners in the Ok Tedi mine area.
Expenditure on Consumables

Consumable goods are those basically for current consumption. In relation to food, households were asked to give an estimate of their fortnightly spendings. All households gave this information. On average, approximately K109 was spent on food by each household, per fortnight.

Drugs, betel nut, cigarettes, and alcoholic drinks were also major components of consumables. In relation to betel nut, only 23 percent of households spent money on this item; that is, the majority of people do not chew betel nut. One of the reasons is that betel nut is not grown in the area because the weather is too cold. For those people who buy betel nut, approximately K2 was spent by each household per day.

In relation to cigarettes, 47 percent of the households spent money on this item. Approximately K3 was spent on cigarettes by each household per day. In relation to alcoholic drinks, particularly beer, 43 percent of households had expenditure on it. The amount spent was approximately K29 per household per fortnight.

The survey also collected data on clothes and footwear. In relation to clothes, all the households had expenditure on these items during the past 12 months. The expenditure was approximately K128 per household. In relation to footwear, only 27 percent of the households indicated any expenditure on footwear in the past 12 months. On average, each household spent approximately K15.

‘Giveaways’ is another component of consumables, and includes gifts to wantoks, donations, and assistance to persons in school. The number of households that spent money on these items were 67 percent, 97 percent, and 77 percent, respectively. In regard to monetary expenditure, spendings for these items during the past 12 months were K80, K50, and K146 per household, respectively.

<table>
<thead>
<tr>
<th>Item</th>
<th>Period</th>
<th>Total Expenditure</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>per fortnight</td>
<td>3 260.00</td>
<td>108.67</td>
</tr>
<tr>
<td>Betel nut</td>
<td>per day</td>
<td>47.00</td>
<td>1.57</td>
</tr>
<tr>
<td>Smokes</td>
<td>per day</td>
<td>83.00</td>
<td>2.77</td>
</tr>
<tr>
<td>Alcoholic drinks</td>
<td>per fortnight</td>
<td>864.00</td>
<td>28.80</td>
</tr>
<tr>
<td>Clothes</td>
<td>last 12 months</td>
<td>3 840.00</td>
<td>128.00</td>
</tr>
<tr>
<td>Footwear</td>
<td>last 12 months</td>
<td>445.00</td>
<td>14.83</td>
</tr>
<tr>
<td>Wantoks</td>
<td>last 12 months</td>
<td>2 400.00</td>
<td>80.00</td>
</tr>
<tr>
<td>Donations</td>
<td>last 12 months</td>
<td>1 485.00</td>
<td>49.50</td>
</tr>
<tr>
<td>Persons in school</td>
<td>per annum</td>
<td>4 380.00</td>
<td>146.00</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>per week</td>
<td>361.00</td>
<td>12.03</td>
</tr>
<tr>
<td>Kerosene</td>
<td>per fortnight</td>
<td>145.00</td>
<td>4.83</td>
</tr>
<tr>
<td>Transport</td>
<td>per week</td>
<td>134.00</td>
<td>4.47</td>
</tr>
</tbody>
</table>
Other consumables were soft drinks, kerosene and transport. In relation to soft drinks, 87 percent of the households indicated expenditure on this item each week. The average expenditure was approximately K12 per household. In relation to kerosene, 33 percent of the households purchased this item. On average, approximately K5 was spent on this item by each household per fortnight. In relation to transport, 50 percent of the households spend money on this item. On average, expenditure by each household was approximately K5 (see Table 10.2).

Expenditure on Durables

Durable goods are physical goods of value, that have been purchased by landowners. The respondents were asked to give estimates of expenditure on certain selected durable goods. Particular attention was given to goods purchased after the commencement of the mine, in order to give an indication of rent usage on durable goods (see Table 10.3).

In terms of actual monetary expenditure, the largest amount was spent on vehicles (K51 000), while the lowest was on a camera (K226). There was no expenditure on items such as sewing machines, pressure lamps, generators, boats, and water tanks. A total of K87 105 was spent on durable goods, which is approximately K2.900 per household. In relation to frequency of purchase, stoves were the most purchased item (73 percent of households), followed by refrigerators (63%), and radio cassette recorders (50%).

<table>
<thead>
<tr>
<th>Item</th>
<th>Expenditure</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>250.00</td>
<td>41.67</td>
</tr>
<tr>
<td>Radio/cassette player</td>
<td>780.00</td>
<td>159.33</td>
</tr>
<tr>
<td>Stove</td>
<td>931.00</td>
<td>151.03</td>
</tr>
<tr>
<td>Vehicle</td>
<td>51 000.00</td>
<td>1 700.00</td>
</tr>
<tr>
<td>Watch/clock</td>
<td>473.00</td>
<td>15.77</td>
</tr>
<tr>
<td>Washing machine</td>
<td>6 850.00</td>
<td>228.33</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>11 445.00</td>
<td>381.50</td>
</tr>
<tr>
<td>Camera</td>
<td>226.00</td>
<td>7.53</td>
</tr>
<tr>
<td>Total</td>
<td>87 105.00</td>
<td>2 903.50</td>
</tr>
</tbody>
</table>

Agricultural Investment Expenditure

Agricultural enterprises constitute activities such as gardening and farming, plantations, fishing, livestock, and forestry. This analysis is intended to determine the average expenditure on each of the activities during the past 12 months.

Of the five agricultural activities, only livestock recorded any expenditure during the past 12 months. In relation to livestock activities, only 13 percent of the households invested money in this area during that period. The total amount of money invested was K2.680, which is approximately K663 per household.
There were several reasons for not mentioning investment in the other activities. Gardening was carried out for subsistence purposes or sustenance only. In relation to plantations, involvement in such activities is quite rare for the landowners. It is understandable why the landowners did not invest in fisheries because the river—which is the only possible avenue—is polluted and could not be utilised. Finally, the non-investment in forestry activities was mainly because of the refusal of the people to do so as a result of geographical constraints.

Expenditure on Businesses

This analysis attempts to provide an estimate of the extent of landowner usage of resource rents on businesses; that is, to find out how much is invested in business ventures.

In the past 12 months, there was investment in only two business activities, and these were tradestores and PMVs. In relation to tradestores, approximately K7 000 was invested during this period. This amount was spent by only 10 percent of the households that were surveyed. These households spent approximately K2 300 each during the past 12 months. The expenditure was mainly related to the cost of stock items to be sold. In regard to PMVs, only one household invested in such a venture during the past 12 months. The amount expended was K15 000, and this was for the cost of the vehicle that was used for transportation. From these data, it can be seen that only some K22 000 was spent on businesses during the past 12 months. In summary, only 13 percent of the households invested in business activities. On a per household basis, the average expenditure per household was approximately K5 500.

Special Disbursements

This category of expenditure by the landowners refers to special items. Each household was asked to estimate the amount of money spent on trips during the past 12 months. This item refers to any trips out of Ok Tedi by any form of transport. Some 55 percent of the households indicated that they had spent money on trips during the past 12 months. Total expenditure was approximately K26 260 which is an average of approximately K875.40 per household.

Respondents were also asked to state their expenditure on investments during the past 12 months. Investments here are mainly concerned with the buying of shares in companies. During the past 12 months, K6 000 was expended on shares. On average, these households spent approximately K200 each on investments. Respondents were asked to state the amount of savings they had in any form of bank accounts. Some 63 percent of the households provided estimates of the savings that they had. The aggregate amount of these savings was K29 525, which represents an average saving by each household of K984.17 (see Table 10.4).
Table 10.4: Special Disbursement of Income (Ok Tedi)

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount Spend (K)</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trips</td>
<td>26 262.00</td>
<td>875.40</td>
</tr>
<tr>
<td>Investments</td>
<td>6 000.00</td>
<td>200.00</td>
</tr>
<tr>
<td>Savings</td>
<td>29 525.00</td>
<td>984.17</td>
</tr>
<tr>
<td>Compensation</td>
<td>1 200.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Brideprice</td>
<td>55 800.00</td>
<td>1 860.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>118 787.00</strong></td>
<td><strong>3 959.57</strong></td>
</tr>
</tbody>
</table>

The households were also asked to state the amount of money that they had expended on compensation payments made by one person to another for the destruction of personal property. Only one household expended money under this category, and that was K1 200 for fighting. Brideprice was the next special item. As occurs in the other areas of the highlands of Papua New Guinea, brideprice payments are common practice in the Star Mountains. Approximately 73 percent of the households indicated that they had used cash from resource rents for brideprice payments. The total amount expended was approximately K55 800, which is approximately K1 860 per household. Finally, the respondents were asked to provide estimates of their expenditure on gambling per fortnight. Interestingly, all households stated that they spent nothing on gambling. One obvious reason for this was that the people were scared of being implicated in illegal activities -- in this case, gambling.

**THE MISIONA PROJECT**

**Expenditure on Consumables**

Consumables are goods deemed as necessities. Table 10.5 shows the patterns of expenditure on consumables in the villages that were surveyed. The data that are provided must be taken as indicative only, as there was some reluctance to provide accurate information.

Table 10.5: Expenditure on Consumables (Misiona)

<table>
<thead>
<tr>
<th>Item</th>
<th>Period</th>
<th>Total Expenditure</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>per fortnight</td>
<td>958.00</td>
<td>50.00</td>
</tr>
<tr>
<td>Betel nut</td>
<td>per day</td>
<td>56.00</td>
<td>3.00</td>
</tr>
<tr>
<td>Alcoholic drinks</td>
<td>per fortnight</td>
<td>30.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Clothes</td>
<td>last 12 months</td>
<td>2 229.00</td>
<td>117.00</td>
</tr>
<tr>
<td>Footwear</td>
<td>last 12 months</td>
<td>234.00</td>
<td>12.00</td>
</tr>
<tr>
<td>Wantoks</td>
<td>last 12 months</td>
<td>4 050.00</td>
<td>213.00</td>
</tr>
<tr>
<td>Donations</td>
<td>last 12 months</td>
<td>652.00</td>
<td>34.00</td>
</tr>
<tr>
<td>Persons in school</td>
<td>per annum</td>
<td>2 500.00</td>
<td>132.00</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>per week</td>
<td>135.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Fuel</td>
<td>per fortnight</td>
<td>193.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Others</td>
<td>per week</td>
<td>70.00</td>
<td>4.00</td>
</tr>
</tbody>
</table>
On average, K50 was spent on food by each household, per fortnight. Fortnightly expenditure ranged from as low as K20 to a maximum of K150. A daily average amount of approximately K3 was spent on betel nut by each household. Amounts ranged from K1 to K15 per day as expenditure on betel nut. In relation to alcoholic drinks, there was no expenditure on this item for the majority of the households that were interviewed. The few households that indicated fortnightly expenditure on this item gave amounts ranging from K20 to K50. With regard to clothes, a total of approximately K2 229 was spent by all households during the past 12 months, which is approximately K117 per household. In relation to footwear, the total expenditure was K234, which is K12 per household.

Giveaways to wantoks totalled approximately K4 050 during the past 12 months, which is an average of K213 per household. Donations to churches and other charitable causes were approximately K34 per household during the past 12 months. In relation to persons in school, the respondents expended a total of approximately K2 500 during the past 12 months, which is approximately K132 per household. Respondents were also asked to estimate how much each household spent on soft drinks per week. On average, this weekly expenditure was approximately K7 per household. In relation to kerosene, approximately K10 was spent by each household per fortnight.

Expenditure on Durables

Durable goods are tangible goods of value that have been purchased by landowners. Respondents were asked to state their expenditure on various durable goods. A particular focus was placed on goods that had been purchased after the commencement of the mine. This was intended to provide an indication of rent usage on luxury items. Table 10.6 shows the household expenditure on durable goods. It can be seen that the largest expenditure was on boats, especially dinghies, at approximately K55 400. Radios, including cassette recorders, watches, and clocks were the most common items that were purchased. Items such as water tanks, vehicles, telephones, washing machines, and refrigerators were not purchased. More than K65 000 was expended on durable goods, by all the households that were interviewed. This represents an average expenditure of more than K3 000 per household.

Table 10.6: Household Durable Goods Expenditure (Misima)

<table>
<thead>
<tr>
<th>Item</th>
<th>Expenditure</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>1 700.00</td>
<td>89.00</td>
</tr>
<tr>
<td>Radio/cassette player</td>
<td>2 752.00</td>
<td>145.00</td>
</tr>
<tr>
<td>Stove</td>
<td>189.00</td>
<td>10.00</td>
</tr>
<tr>
<td>Boat</td>
<td>55 400.00</td>
<td>2 916.00</td>
</tr>
<tr>
<td>Watch/clock</td>
<td>1 058.00</td>
<td>56.00</td>
</tr>
<tr>
<td>Generator</td>
<td>1 790.00</td>
<td>89.00</td>
</tr>
<tr>
<td>Camera</td>
<td>217.00</td>
<td>11.00</td>
</tr>
<tr>
<td>Sewing machine</td>
<td>1 910.00</td>
<td>53.00</td>
</tr>
<tr>
<td>Pressure lamp</td>
<td>797.00</td>
<td>42.00</td>
</tr>
<tr>
<td>Other</td>
<td>487.00</td>
<td>26.00</td>
</tr>
<tr>
<td>Total</td>
<td>65 310.00</td>
<td>3 437.00</td>
</tr>
</tbody>
</table>
Agricultural Investment Expenditure

Agricultural enterprises consist of gardening and farming, plantations, fishing, livestock, and forestry. The expenditure on each of these activities during the past 12 months is summarised here. Each household earned approximately K24 from the sale of garden produce during the past 12 months. However, there was no income from plantation activities during that period. In relation to fishing, each household earned approximately K26 from the sale of their catches during the past 12 months. In relation to livestock, only one household indicated the receipt of any income. This was K100. Finally, forestry recorded nil earnings, which is understandable, because there are no timber or logging activities on the island.

The total investment on agricultural activities during the past 12 months was approximately K1 050, which is approximately K55 per household. In general, expenditure on agricultural activities was very minimal. One of the reasons for this is that there is a shift towards cash reliance from mine-related sources. An agricultural officer at Bwagota stated that, in general, people had been losing interest in agricultural activities since the commencement of the mine.

Expenditure on Businesses

Investments on business ventures, other than agricultural activities, reveal that only trade store investment predominated during the past 12 months, and this was approximately K11 300.

Special Disbursements

Table 10.7 shows the special disbursement of income. Households were asked to estimate their expenditure on six items. These items were trips (K4 720), investment (K28 185), savings (K18 000), compensation (K730), bride price (K800), and gambling (K15). The largest expenditure was on investment, while the least was on gambling. A total of K52 450 was spent under special disbursement of income, which is approximately K2761 per household.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount Expended</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip</td>
<td>4 720.00</td>
<td>248.00</td>
</tr>
<tr>
<td>Investments</td>
<td>28 185.00</td>
<td>483.00</td>
</tr>
<tr>
<td>Savings</td>
<td>18 000.00</td>
<td>947.00</td>
</tr>
<tr>
<td>Compensation</td>
<td>730.00</td>
<td>38.00</td>
</tr>
<tr>
<td>Bride price</td>
<td>800.00</td>
<td>42.00</td>
</tr>
<tr>
<td>Gambling</td>
<td>15.00</td>
<td>0.80</td>
</tr>
<tr>
<td>Total</td>
<td>52 450.00</td>
<td>2 761.00</td>
</tr>
</tbody>
</table>
THE PORGERA PROJECT

As in the survey questionnaire, this section has been divided up into the various categories to facilitate the analysis of the expenditure patterns.

In order to have the data analysed more manageable, this section will be discussed under the respondents who are fully employed and those who are not, but both are recipients in one form or another of royalties and compensation.

Expenditure on Consumables

Those people who were full-time employees represented 61 percent of the respondents. Respondents under this category would have a slightly different emphasis on expenditure, and their requirements. It was found that the difference was not in the requirements of employment status, but in the amount of money available to the household.

However, the mean average expenditure on food per fortnight was K200 for those with paid employment, and K164 for those not employed. Expenditure ranged between K400 and K50. Although all respondents did not pay any rent or water rates, those with paid employment spent an average of K78.50 and those without any employment, K71.21, on either electricity or gas (including firewood and kerosene).

There was a marked difference in expenditure on clothing and footwear, with those with paid employed spending more than the unemployed. The consumption of alcohol, soft drinks, and betel nut are matters of taste. Aggregate expenditure on these items was much lower than on other items covered in the survey.

Expenditure on Durable Goods

The survey sought to establish the types of these goods that were owned by the respondents, their costs, and when the goods were bought. Most of these goods should be classified as luxury items such as television sets, radios, cassette players, watches, cameras, washing machines, generators, refrigerators, and stoves. Vehicles and boats were also included.

Of those households that were surveyed, 17 percent of the respondents did not have any of these goods, even though 11 percent were recipients of some form of compensation (not royalties).

In relation to the extent of ownership and average cost of selected durable goods, of those households that were surveyed, 18 percent owned television sets, at an average cost of K1,500. In relation to radios and cassette recorders, 65 percent of the respondents indicated that they owned a radio or cassette recorder. The average cost of these items was K200. The survey showed that water tanks were owned by 63 percent of the respondents, while stoves were owned by 53 percent of the respondents. These two items were provided by PJV.
In relation to watches and clocks, 65 percent of the respondents owned either a watch or a clock. The average cost was approximately K80. The survey revealed that 18 percent of the respondents owned vehicles, at an average cost of K12,000. Also, 12 percent of respondents indicated that they owned a generator, at an average cost of K3,300.

The survey revealed that 12 percent of respondents owned refrigerators, at an average cost of K670. In relation to cameras, 29 percent of the respondents indicated that they owned one, at an average cost of K115. None of the respondents owned a television set or a washing machine.

**Agricultural Investment Expenditure**

Agricultural enterprises constitute gardening, farming, plantations, fishing, livestock, and forestry. The following analysis investigates the extent of participation, average expenditure, and sources of funds in relation to these activities during the past 12 months.

The survey revealed that no households were engaged in plantation, fishing, and forestry activities. Hence, this analysis will focus on gardening, farming, and livestock. In relation to gardening and farming, only 41 percent of households invested in these activities for commercial purposes. The remainder of the respondents were only involved on a subsistence basis. In relation to those households that were engaged on a commercial basis, the average investment during the past 12 months was K446 per household. In relation to livestock, only 29 percent of the respondents participated on a commercial basis. The average amount expended on this activity during the past 12 months was approximately K880.

The main sources of finance for investment in the retail and livestock activities were resource rents and personal savings. In summary, most of the households were engaged in agricultural activities for subsistence purposes only.

**Expenditure on Business Activities**

This discussion focuses on business activities, other than the agricultural activities already mentioned. The survey revealed that the only retail business undertaken by the respondents was tradestores. Some 35 percent of households were engaged in this activity.

Funding for retail activities is discussed in two aspects:

- investment during the past 12 months; and
- initial investment.

In relation to the past 12 months, the average amount expended was approximately K1,100. In relation to initial investment, the average amount expended was approximately K3,000. The major sources of funds for investment in the retail business were resource rents and personal savings.
### Table 10.8: Expenditure on Consumables (Lihir)

<table>
<thead>
<tr>
<th>Item</th>
<th>Period</th>
<th>Total Expenditure</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>per fortnight</td>
<td>1580.00</td>
<td>63.20</td>
</tr>
<tr>
<td>Betel nut</td>
<td>per day</td>
<td>78.00</td>
<td>3.12</td>
</tr>
<tr>
<td>Alcoholic drinks</td>
<td>per fortnight</td>
<td>720.00</td>
<td>28.80</td>
</tr>
<tr>
<td>Clothes</td>
<td>last 12 months</td>
<td>3590.00</td>
<td>143.60</td>
</tr>
<tr>
<td>Footwear</td>
<td>last 12 months</td>
<td>1210.00</td>
<td>48.40</td>
</tr>
<tr>
<td>Wantoks</td>
<td>last 12 months</td>
<td>10310.00</td>
<td>412.40</td>
</tr>
<tr>
<td>Donations</td>
<td>last 12 months</td>
<td>1510.00</td>
<td>60.40</td>
</tr>
<tr>
<td>Persons in school</td>
<td>per annum</td>
<td>3890.00</td>
<td>155.60</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>per week</td>
<td>220.00</td>
<td>8.80</td>
</tr>
<tr>
<td>Fuel</td>
<td>per fortnight</td>
<td>392.00</td>
<td>15.68</td>
</tr>
<tr>
<td>Smokes (cigars)</td>
<td>per day</td>
<td>69.00</td>
<td>2.76</td>
</tr>
<tr>
<td>Transport</td>
<td>per week</td>
<td>46.00</td>
<td>1.84</td>
</tr>
<tr>
<td>Others</td>
<td>per week</td>
<td>60.00</td>
<td>2.40</td>
</tr>
</tbody>
</table>

On average, approximately K63 was spent on food by each household per fortnight. Amounts ranged from K20 to K300. In relation to betel nut, a daily average of approximately K3 was spent by each household. Amounts expended on betel nut ranged from K1 to K10 a day.

Alcoholic drinks, especially beer, accounted for an average of approximately K29 per household per fortnight. Actual amounts ranged from zero to more than K100 for household expenditure on beer per fortnight. However, it must be noted that expenditure on beer was on an irregular basis, and not strictly fortnightly.

Respondents were asked to state their expenditure on clothes, footwear, wantoks, and donations during the past 12 months. The average expenditure by households on the four items was approximately K44, K48, K412, and K60, respectively.

Expenditure on persons in school includes school fees as well as other expenses attributed to school children. On a yearly basis, the respondents expended approximately K156 on persons in school. Household data ranged from a minimum of K50 to a maximum of K1 000 per annum.

Households were surveyed on their spending on soft drinks and transport on a weekly basis. The average household’s expenditure for these two items was approximately K9 and K2, respectively. Kerosene (per fortnight) and cigarettes (per day) had an average expenditure of approximately K16 and K3 per household, respectively.

**Expenditure on Durable Goods**

Durable goods are categorised as luxury items. Respondents were asked to state their expenditure on selected durable goods. Particular attention was placed on goods purchased after the commencement of the mine. This was to indicate the usage of resources from luxury goods which are usually non-investment items.
Special Disbursements

This section analyses landowners' expenditure on special items such as trips, investments, savings, compensation, brideprice, and gambling. The analysis focuses on the extent and amounts of expenditure and sources of finance.

Trips refer to any major travel that the respondents have undertaken during the past 12 months. In relation to this item, 82 percent of the respondents stated that they had travelled during the past 12 months. The average amount that was expended by these travellers in the given period was approximately K2 500. Most of the trips were financed from resource rents – especially compensation payments – and personal savings.

Investment refers to expenditure on the purchase of financial securities such as stocks and shares. The survey revealed that 35 percent of the respondents had spent money on investment during the past 12 months. The average amount invested during this period was K160. Compensation payments and personal savings were the main sources of funds for investment. Savings is the proportion of income that is not spent on current consumption. In relation to this item, 53 percent of the households that were surveyed indicated that they had saved some money. The average amount saved was approximately K2 500. Most of the money that was saved was from personal earnings.

Compensation in this survey refers to money paid for damage done to another party's property. The survey showed that 65 percent of the respondents had paid some form of compensation during the past 12 months. The average compensation payment was approximately K2 100. Personal finance was the main source for compensation payment. In relation to brideprice, 65 percent of the interviewees had paid cash as brideprice during the past 12 months. The average brideprice payment was approximately K780. Resource rents were the primary source of finance for brideprice payments. Gambling was reported by 29 percent of the households during the past 12 months. These households spent approximately K1 500, on average. The main source of finance for gambling was personal income.

THE LIHIR PROJECT

This section analyses and discusses the patterns of landowners' household expenditure; that is, how the landowners expended their incomes – in particular, resource rents.

Expenditure on Consumables

Consumables have the highest level of household expenditure of all areas that were surveyed. Respondents were asked to estimate their spending on various items for certain (appropriate) periods. The following data outline the spending patterns on consumables, based on the household survey. Table 10.8 shows the total and average expenditure on consumables, by household.
Table 10.9 shows the household expenditure on durable goods, with the highest spending being on vehicles, generators, and boats (especially dinghies). The total expenditure on each of these items was K219 000, K16 800, and K13 500, respectively. The lowest expenditure was on cameras, and clocks and watches, with amounts of K30 and K331, respectively.

### Table 10.9: Household Durable Goods Expenditure (Lihiri)

<table>
<thead>
<tr>
<th>Item</th>
<th>Expenditure</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>1 400.00</td>
<td>56.00</td>
</tr>
<tr>
<td>Radio/cassette player</td>
<td>2 775.00</td>
<td>111.00</td>
</tr>
<tr>
<td>Stove</td>
<td>910.00</td>
<td>36.40</td>
</tr>
<tr>
<td>Vehicle</td>
<td>219 000.00</td>
<td>8 760.00</td>
</tr>
<tr>
<td>Boat</td>
<td>13 500.00</td>
<td>540.00</td>
</tr>
<tr>
<td>Watch/clock</td>
<td>331.00</td>
<td>13.24</td>
</tr>
<tr>
<td>Generator</td>
<td>16 800.00</td>
<td>672.00</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>900.00</td>
<td>36.00</td>
</tr>
<tr>
<td>Camera</td>
<td>30.00</td>
<td>1.20</td>
</tr>
<tr>
<td>Other</td>
<td>90.00</td>
<td>3.60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>255 736.00</strong></td>
<td><strong>10 229.44</strong></td>
</tr>
</tbody>
</table>

On an aggregate level, the households that were interviewed had spent approximately K256 000 on durable goods since the commencement of the mine. This represents an average household expenditure of more than K10 200 on durable assets. If the whole household population is taken into account, it will be obvious that there is quite a massive expenditure on durable goods.

### Agricultural Investment Expenditure

Agricultural enterprises comprise gardening, farming, plantation, fishing, livestock, and forestry. This survey recorded the expenditure on each of these activities, by household, during the past 12 months. However, out of those households that were interviewed, only livestock had money spent on it on a commercial basis. The amount expended was approximately K3 200, which is approximately K128 per household. The reason for the low expenditure on agricultural enterprises may be attributed to the following factors:

- shift of focus and the involvement of landowners in mining-related activities (thus, there is little time for agricultural activities);
- lack of government assistance in terms of financial and technical assistance;
- high incomes from compensation from the mining company (focus on handouts); and
- high expenditure on luxury items.
Expenditure on Businesses

In Lihir, investment on business ventures, other than agricultural enterprises, during the past 12 months, was on tradestores and PMVs. The amounts expended were K3 000 and K40 000, respectively. However, there were very few people who operated tradestores and PMVs.

Special Disbursements

The special disbursement of income refers to expenditure during the past 12 months on selected items which are deemed to command a good deal of money. Table 10.10 shows the expenditure on six 'special' items. The highest disbursement was interestingly on savings (K61 150) followed by investments (K20 150), and trips (K12 800). Most savings were in passbook accounts, and the monies were mainly from compensation payments. Investments were predominantly shares in local companies, especially Lekaka Limited, which is a public company.

Table 10.10: Special Disbursement of Income (Lihir)

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount Expended</th>
<th>Per Household</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trips</td>
<td>12 800.00</td>
<td>512.00</td>
</tr>
<tr>
<td>Investments</td>
<td>30 560.00</td>
<td>1 222.40</td>
</tr>
<tr>
<td>Savings</td>
<td>61 150.00</td>
<td>2 446.00</td>
</tr>
<tr>
<td>Compensation</td>
<td>1 500.00</td>
<td>60.00</td>
</tr>
<tr>
<td>Brideprice</td>
<td>300.00</td>
<td>12.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>106 310.00</strong></td>
<td><strong>4 252.40</strong></td>
</tr>
</tbody>
</table>

Compensation (K1 500) refers to person-to-person payments of money for the destruction of personal property or bodily harm. The least expenditure was on gambling (nil), while the most was on brideprice (K300). A total of approximately K106 000 was spent as the special disbursement of income during the past 12 months. This is an expenditure of approximately K4 250 by each household.
11. Landowners' Investments

Summary

The two previous sections dealt with landowners' incomes and expenditures. The landowners' cash incomes have mainly been derived from royalties and compensation payments related to the mining operations. These cash benefits have changed the landowners' subsistence lifestyle and influenced their expenditure patterns and economic activities. In particular, the mineral rents and the opportunities that have been created by the commencement of mining have proven to be supportive of non-traditional business undertakings.

The primary objective of this section is to analyse the investments that have been made by the landowners and to investigate the landowners' businesses. The investigation revealed that less than one percent of the total incomes is invested in agricultural pursuits, and approximately six percent is invested in non-agricultural enterprises which are mostly related to the mine.

The most common business undertakings are retailing, running transport services, catering, selling fuel, and construction and maintenance. Most of the joint venture businesses are related to the mining operations. Some 63 percent of the businesses are owned solely by landowners. The rest are jointly owned by the landowner companies and established companies. The percentage share of ownership of the joint ventures varies between mining sites. On average, the ownership is on a 50-50 basis.

The landowners' venture capital is mainly sourced from resource rents such as royalties, compensation payments, or special support grants. According to key informants, the landowners only invest a very small proportion of the resource rents that they receive. It is estimated that not more than 10 percent of resource rents are invested. The remainder of this income seems to be recklessly spent.

The prospects of spin-off mining businesses have united the landowners, and led them to form companies, and subsequently, partnerships with established companies. The latter ventures have handily brought in competent management skills that are necessary for the success of any business. However, such partnerships are complementary. The landowner companies may lack expertise in running businesses, but they have successfully negotiated participation in mine-related contracts with the mining companies. Many joint venture businesses have succeeded, for example, the Coral Sea Fishing Company in Misima, Aelium Construction Ltd in Lihir, and Starwest Construction Ltd in Ok Tedi.

Businesses that are solely owned by landowners do not seem to perform well. Most of them have been afflicted by management problems such as lending to wantoks who take a long time to repay, or in worst cases, never repay the monies that they borrow from the businesses. All these factors have adversely affected the viability of the businesses.

Evidence shows that many 100-percent owned landowners' businesses suffer from:

- lack of training and managerial expertise;
- lack of knowledge about credit and loan acquisition;
• misconception of business — owners/directors interfere with business operations;
• lack of technical and financial support from the Government; and
• general mismanagement.

However, there are some landowners’ businesses that are coordinated by the business development offices of the mining companies, and these have been very successful. The Business Development Office in Ok Tedi claimed that 90 percent of the businesses operating under their control were running successfully and paying dividends.

At present, it is anticipated that most joint venture businesses will cease operations when the mines close, and nearly all 100-percent owned landowners’ businesses will not survive the post-mining era. This suggests that every effort must be given by the Government to encourage businesses whose long-term survival is not directly dependent on mining, for example, the Coral Sea Fishing Company in Misima. The resource rents that are paid to landowners should be utilised to strengthen businesses such as this.

A business may grow by expanding its current operations, starting new ventures, or doing both. Many businesses expressed a willingness to expand their current operations, but this was dependent on the phase of the mining operation, and financial and technical constraints. For example, in Liiir, when the mine was in its construction phase, most businesses were willing to expand those activities that were related to construction. However, this may not be the case now.

There appears to be a general reluctance to expand businesses into other mining-related activities. This rationale is twofold. The joint venture businesses are specialised in particular fields, hence, there is no urgent need to engage in new activities. With regard to the 100-percent-owned local businesses, it seems that their reluctance is attributed to insecurity in terms of management deficiency, and lack of technical know-how.

Given the shortcomings of landowners’ businesses, it appears that there is a role that the Government can play. According to the landowners, their calls for assistance from the Government usually fall on deaf ears. Consequently, they have developed what may be described as business assistance request “fatigue”.

THE OK TEDI PROJECT

This section discusses the landowners’ businesses in the Ok Tedi mine area. Because of the lack of feedback from the businesses, this analysis will not rely solely on the data that were collected through the business questionnaire. This analysis is predominantly based on the data collected from the OTML's Business Development Office, and from discussions with business personnel from OTML and government business offices.
Profile

Number of Businesses and Location

According to the OTML’s Business Development Office, the landowners are engaged in some 35 business entities. Most of the businesses operate from Tabubil, which is the mine’s township. Some, in particular the smaller ones, are located in the landowners’ villages of Bulinem, Finabal, Wangbin, and Migalsimbip.

Registration

The majority of the registered businesses are listed in the OTML’s Business Development Office’s records. However, lack of response to the questionnaire prevented the inclusion of more data on the business registration situation.

Business Activity

The landowners’ business activities include engineering, tradestores, vegetable supply, contracts and purchase orders, construction, and merchandising. The highly technical businesses are usually conducted on a joint venture basis.

Ownership

Seventy-four percent of the businesses are wholly owned by landowners. The remaining 26 percent are owned as joint ventures between landowners and outside contractors. Of the 74 percent of the landowners’ businesses, the SML landowners own 20 percent, the LMP landowners own 23 percent, and 31 percent are jointly owned by the SML, LMP, and PA landowners.

Investment

Investment is discussed in relation to two groups of businesses — those that are under the umbrella of the OTML’s Business Development Office, and those that are run solely by the landowners. In relation to those that are run by the OTML’s Business Development Office, most of the investments were paid for through contracts by OTML. In relation to those that are run solely by the landowners, the invested capital is from resource rents and other sources. According to the Business Development Office, only some 10 percent of resource rents are used for investment purposes. The balance is spent heavily on current consumption.

Management

According to the OTML’s Business Development Office, approximately 90 percent of the businesses are managed well. The rest have deficiencies with regard to management, administration, and other necessary skills. In relation to those registered with the Business Development Office, 40 percent are managed by the local people, 23 percent by other Papua New Guinean nationals, 20 percent by expatriates, and 17 percent are unknown.
Performance

This section provides a general view concerning landowners’ business performance. Two views are provided here. In relation to the businesses under the OTML’s Business Development Office, the performances have generally been good. Approximately 90 percent of those businesses are running well and paying dividends. In relation to those that are not under the OTML’s Business Development Office, there has been a general failure.

Perceptions

Constraints

The failure of some businesses to run well may be attributed to the following constraints:

- lack of training and managerial expertise;
- lack of knowledge about credit and loan acquisition;
- misconception of business – directors interfere with business operations;
- lack of support from the Government in terms of training, finance, and infrastructure; and
- general mismanagement.

Business Prospects

This section provides a general view about future plans for business expansion, and options for assistance. In regard to expansion, most businesses have scope for expansion in terms of physical and financial assets. The success of expansion is subject to the ability of the managers to run the businesses well; that is, there has to be an improvement in business management skills. The success of the landowners’ businesses in the Ok Tedi area depends, to a large extent, on assistance and good support from the national government, the provincial government, and OTML. Some of the required assistance includes:

- training of local entrepreneurs with regard to small business management;
- subsidising freight for cargo coming from Port Moresby; and
- the Government has to take an active role in assisting the landowners in terms of technical and financial help.

THE MISIMA PROJECT

This section analyses various aspects of landowners’ businesses in the Misima mine area. In particular, the discussion focuses on business aspects in relation to profile, performance, and perceptions. This analysis will reveal the extent of landowners’ usage of resource rents for investment purposes, and help relevant bodies to formulate support systems or programs to promote and sustain landowners’ investments.
Profile

Number of Businesses and Location

A total of 16 business entities were surveyed in the Misima mine area. The majority of these businesses were from the same area; that is, three were from Gaibobo, five from Narin, and four from Elau. Of the remaining four businesses, three were located at Bwagooia Station, and one at Singara Village.

Registration

The aim of this section was to find out how many registered and unregistered businesses there were. The intention was not to analyse compliance to business registration rules, but to equate business registration with funding from aid sources; that is, to find out whether or not registration has any effect on funding.

In relation to those businesses that were interviewed, 56 percent of them were not registered. Some of the reasons for non-registration of these businesses were:

- the business was on trial;
- it was still in the process of registration;
- they did not bother to register it; and
- the business was insignificant.

These reasons imply that the landowners may not be serious about venturing into ‘real’ businesses. This would deter funding agencies, such as the Government and the mining company, from giving financial and technical help.

Business Activity

This section discusses the different types of businesses in which the landowners are engaged – in particular, the common business activities in which the landowners are engaged. These businesses are trade stores or retailing, transport (sea and land), bricklaying, sale of fuel, snooker, film (video) shows, and real estate. The most common business activity was trade stores or retailing, where 63 percent of the business groups were engaged. The least common business activities were video and real estate, in which only six percent of the business entities were engaged.

Ownership

This section analyses three aspects of ownership of business between landowners and outsiders, in order to find out how many businesses are owned solely by landowners, and how many are owned on a joint venture (JV) basis. The focus is also on SML and non-SML ownership, and on male and female ownership.

All the businesses that were surveyed were owned by landowners. Some 81 percent were owned by the SML landowners. In regard to male and female ownership, there were 22 male owners and 16 female owners.
Establishment Dates

This section focuses on the establishment of businesses in relation to the commencement of the mine. In particular, the survey was to find out how many businesses were established before the commencement of the mine, and how many were established after.

In relation to those households that were surveyed, some 81 percent of the businesses were established after the commencement of the Misima mine in 1989. Hence, the majority of these businesses would have had some component of resource rents in their set-up costs.

Investment

This section discusses three investment issues — set-up or initial capital, capital source, and investment during the past 12 months. In relation to initial capital, a total of K191 300 was collectively spent by all businesses in starting up. On average, each business spent approximately K11 956. The highest capital investment was K100 000 by a major landowner business group, while the lowest investment was K200.

In relation to capital source, 44 percent of the initial capital was from resource rents. These were royalties, compensation payments, and lease payments. Another 44 percent was from other sources such as loans, savings, wages, and business earnings. The remaining 12 percent of the capital invested was from a combination of both resource rents and other sources.

In relation to investment during the past 12 months, only 13 percent of businesses invested some money during that period. The amount was approximately K3 600, and the source was mainly business profits.

Management

This section analyses the management of the businesses. All of the managers were males. Of these managers, 50 percent were SML landowners, 43 percent were non-SML landowners, and seven percent were from outside of Misima.

The managers' backgrounds were discussed, in particular, their training aspects. The managers were asked to state whether or not they have had any training in bookkeeping. Only 16 percent replied yes, while the remaining 84 percent replied no. In relation to training in accounting, 13 percent replied yes, while the remaining 87 percent replied no. In relation to whether or not they have had other management training, 31 percent replied yes, while 69 percent replied no. All in all, the majority of the managers have not had any formal training.

Performance

The discussion in this section centres on two issues — employment and profitability.
Employment

The businesses that were surveyed collectively employed forty-nine people. Of these employees, 94 percent were male. There were no expatriates employed. In relation to locality breakdown, 96 percent of the workers were from Misima, while the remainder were from Rossel and Stulest Islands.

In relation to wages, the highest wage was approximately K100 per fortnight, and the lowest approximately K50. The average wage was approximately K65 per fortnight.

Profitability

During the past 12 months, 44 percent of the businesses made a profit. The profits ranged from K120 to K84 000.

Perceptions

This analysis focuses on four issues — business constraints, infrastructural constraints, other constraints, and business prospects.

Business Constraints

Two issues concerning business activities are analysed — constraints, and support (or assistance). In relation to constraints, business houses were asked to state whether or not managerial expertise, bookkeeping, technical know-how, and credit or loan accessibility were constraints to their operations.

In relation to managerial expertise, 69 percent replied yes, which means that the majority of the businesses lack managerial expertise. This confirms previous findings, where the majority of the business managers did not have sufficient management training.

In relation to bookkeeping, 50 percent replied yes, and 50 percent replied no, meaning that half of the businesses lacked proper bookkeeping, while the other half stated that proper bookkeeping was not a problem. Those who replied no were mainly the small business entities which are run on an ad hoc basis. The owners of these businesses stated that they did not need a good deal of bookkeeping.

In relation to technical know-how, 75 percent of the business ventures stated that they had no problem with technical know-how, while the remaining 25 percent stated that they had problems. Those businesses that replied yes were mainly those businesses whose activities were highly technical. The businesses that did not seem to have technical problems were mainly those which were involved in less technical activities.

In relation to credit or loan accessibility, 69 percent of the business houses stated that they had problems with credit or loan access. The main problem seems to be that they lacked knowledge about the mechanisms through which they could obtain loans. Businesses were also asked to state whether or not they had received any support or assistance from the Government and/or Misima mines. With regard to support from the Government, only 13 percent stated that they had received support. This support was mainly in the form of information for running small businesses. However, the majority
stated that they had not received any help from the Government. In relation to support from Misima Mines, 38 percent stated that they had received support, while 62 percent stated that they had not received any. In relation to those businesses that stated yes, the assistance they received was mainly in terms of business advice and material support. All in all, the majority of the businesses did not get direct support from either the Government or the mining company.

**Infrastructural Constraints**

Infrastructure is an important aspect of any business venture. In the survey, the business entities were asked to state whether the lack of certain infrastructure was a constraint to their businesses. The selected infrastructure that was surveyed, included electricity, water, transport, and telephone. In relation to electricity, 50 percent of the business houses indicated that the lack of electricity was a constraint to their business. The main need for electricity was for refrigeration. In relation to water, 75 percent of the businesses stated that they had no problems. The remaining 25 percent stated that their problems with water related mainly to pollution.

In relation to transport accessibility, 31 percent stated that they had problems with this service. The remaining 69 percent indicated that the lack of transport accessibility was not a great concern to them. In relation to telephone access, 69 percent of the businesses stated that this was not a real constraint to their operations. The remaining 31 percent stated that they needed telephones for communication purposes.

**Other Constraints**

Other constraints refer to those things that are not technical constraints to business operations, but are seen to interfere indirectly with businesses operations. These constraints were law and order, the bureaucracy, land or space, labour recruitment, the wantok system, and cultural taboos. In relation to law and order, 69 percent of the business houses stated that crime was not a big constraint to their business activities. The remaining 31 percent indicated that law and order was a problem, mainly because they had experienced theft of business assets.

In relation to the bureaucracy, 94 percent of the businesses stated that they had no bureaucratic problems. However, 69 percent stated that there were some problems with the bureaucracy. In relation to land or space, 81 percent stated that lack of land or space was not a problem to them. The remaining 19 percent stated that they would have problems in terms of space if their businesses were to expand.

In relation to the recruitment of labour, 94 percent of the businesses stated that there was no problem with this. This was expected, as most of the businesses are involved in less technical activities which do not required highly skilled labour.

The wantok system was stated as a real concern by 63 percent of the business houses. The main concern was that there was a lot of 'permanent borrowing' of funds and other business assets by relatives. In relation to cultural taboos, 94 percent of the business entities stated that cultural taboos were not real concerns in the operation of their businesses.
Business Prospects

This analysis focuses on three issues — expansion plans, new venture plans, and assistance. Business houses were asked to state whether or not they had plans to expand their current business activities. Seventy-five percent gave positive replies. Most of them wanted an expansion in their physical assets. Businesses were also asked whether or not their business entities had any plans for moving into business activities, other than the current ones. Fifty-six percent had no plans for beginning new business ventures. Further, the businesses were asked to state whether or not they required assistance from the Government or Misima Mines. In relation to government assistance, 81 percent indicated that they required such assistance. The main assistance required was finance and training. In relation to assistance from Misima Mines, 81 percent stated that they wanted assistance. The main assistance requested from the mining company was for finance and material support (infrastructure).

THE PORGERA PROJECT

This section discusses the Special Mining Lease (SML) and Lease for Mining Purposes (LMP) landowners' businesses in Porgera.

Profile

Number of Businesses and Location

Seven businesses were surveyed. Eighty-six percent of businesses were located at Porgera. The remaining 14 percent were located at Timorope.

Registration

Fourteen percent of the businesses that were surveyed were registered. The unregistered businesses constituted 43 percent of the total businesses, while the remaining 43 percent of the businesses were undecided on, or uncertain about their registration status.

Business Activity

This discussion focuses on the different types of business activities in which the landowners are engaged. Activities that were undertaken by the landowners included tradestore or retail trading, hardware, real estate, sale of fuel (service stations), security, and garbage collection. The most common business activity is retail trading.

Ownership

This discussion focuses on business ownership. In particular, an attempt has been made to state the percentage of ownership between landowners and outsiders. In relation to the businesses surveyed, 86 percent are owned solely by the landowners. The remaining 14 percent are owned on a joint venture basis between the landowners and outside parties.
Business Prospects

This discussion covers three business prospects — business expansion, new business development, and required assistance. In relation to expansion, all of the businesses stated that they would like to expand their current business operations. In relation to new business development, 71 percent of the businesses stated that they would like to open up new business ventures with engagements different to their current ones. Finally, assistance-wise, all of the businesses stated that they would require assistance from both the Government and PJV. In relation to the Government, all of the businesses stated that they would require assistance from it. In relation to company assistance, 86 percent of the businesses indicated that they would require assistance from PJV. The main assistance required from both parties was financial and technical help.

THE LIHIR PROJECT

This section discusses landowners’ business ventures on Lihir. Because of a lack of response from business houses the discussion here will be on a general basis in certain aspects. Most of the statistics that are presented are based on statistics obtained from the business office of the LMC and the government district office on Lihir. Business activity on Lihir is special in that the project is in its construction phase, and hence it is generating a good deal of business activities.

Profile

Number of Businesses and Location

According to the LMC Business Development Office, there are approximately 100 formally structured, locally-owned businesses operating on Lihir. The businesses are spread across the islands, but the majority are located on the south-eastern coast of the island where the mine is operating.

Registration

Most of the businesses on Lihir are formally structured, hence there is a higher number of registered businesses.

Business Activity

The business activities in which the landowners are engaged are those that are directly related to the mining activities, and those that are not. Those businesses not directly related to the mine’s activities are mainly based in the areas away from the mine area. The mine-related business activities include construction and maintenance, road works, transport services, catering, and security services. These activities are generally carried out on a large scale. The other activities which are done on a small scale are mainly located in the villages. The most common business activities in this scenario are tradestores or retail trading.
Employment

The businesses that were surveyed collectively employed 308 persons. Of those employees, 91 percent were males. Porgerans comprised 86 percent of the total employees, while Engams made up 10 percent of the employees. Other Papua New Guineans (mainly from the Highlands region) constituted two percent of the workers, and the remaining two percent were foreigners or expatriates who were mostly in management positions. The wages ranged from K60 per fortnight (for casual workers) to K1 500 per fortnight for expatriate managers.

Profitability

In relation to the businesses that were surveyed, 71 percent of them stated that they were generally profitable. The remaining 29 percent were either making losses or just surviving.

Perceptions

This discussion focuses on business constraints, infrastructural constraints, other constraints, and business prospects.

Business Constraints

Any business activity involves certain business constraints. This discussion covers four constraints, as well as support or assistance.

In relation to the constraints, the respondents were asked to state whether or not managerial expertise, bookkeeping, technical know-how, and credit or loan accessibility were constraints to their businesses. Eight-six percent of the business entities stated that they lack managerial expertise. The remaining 14 percent either had sufficient managerial expertise or were content with their current state of management.

In relation to bookkeeping, 86 percent of the businesses agreed that the lack of these skills was a constraint to their operations. The remaining 14 percent stated that they were content with their present bookkeeping knowledge and application. In relation to technical know-how, 71 percent of the businesses stated that the lack of technical know-how was a constraint to their businesses. These were mainly the businesses involved in high technical activities. The remaining 29 percent stated that they had no serious problems with technical know-how. In relation to credit or loan accessibility, 71 percent of the businesses stated that they had serious difficulties with accessing credit for their businesses. The remaining 29 percent stated that the accessibility to credit was not a real concern to them.

In relation to business support and assistance offered by the government and PIV, 29 percent of the businesses stated that they had received assistance from the Government. Seventy-one percent stated that the Government has not helped them in any significant way.
Establishment Dates

The focus in this section was on the establishment of businesses in relation to the commencement of the Porgera mine. In particular, the aim was to find out how many businesses were established before and after the commencement of the mine in 1990.

In relation to the businesses that were surveyed, 57 percent of them were established after the commencement of the mine. The remaining 43 percent were set up before 1990. The implication is that most businesses may have resource rent input in their initial set-up costs, as the majority of them were established after the commencement of the mine.

Investment

Three investment issues were surveyed — initial capital, capital source, and recent investment. In relation to initial capital, the businesses collectively invested approximately K357 700. This represents an average of K51 000 per business house. The amounts that were invested ranged from K700 to K110 000.

In relation to capital source, 29 percent of the businesses stated that their initial capital was from resource rents such as royalties, compensation, and lease payments. The remaining 71 percent indicated other sources of investment capital such as personal savings, bank loans, and business profits. In relation to recent investment, 57 percent indicated that they had invested some money in their businesses during the past 12 months. The average amount invested was approximately K16 714 per business entity. The remaining 43 percent indicated that they had made no investment during this period.

Management

The two issues discussed under management are percentage of managers with regard to landowner and non-landowner managers, and background of managers. In relation to the first issue, 43 percent of the business managers are landowners. The remaining 57 percent are non-landowners, which comprises people from other parts of Enga Province and expatriates.

In relation to management background, the issue of whether or not managers had undertaken training in bookkeeping, accounting and other management training was surveyed. In relation to bookkeeping, 57 percent of the managers stated that they had been trained. The training was mainly from the Porgera Joint Venture's Business Development Office. In relation to accounting, 57 percent of the managers had no formal training in accountancy. In relation to other management training, most of the managers said, that they had some other management training, including short courses and experience.

Performance

The discussion concerning performance centres on employment and profitability.
In relation to support from PJV, 43 percent stated that they had received assistance from the company. This was mostly in terms of technical and business advice. The remaining 57 percent stated that they had not received any notable assistance from PJV.

**Infrastructural Constraints**

Good infrastructure is important for successful business operations. Conversely, the lack of good infrastructure may hinder the success of any business. The needed infrastructure includes electricity, water, transport, and telephone (communication) services. The following statistics summarise infrastructural constraints for the businesses that were surveyed in the Porgera mine area.

In relation to electricity, 86 percent of the businesses stated that lack of electricity was not a problem to their operations. These were mainly those businesses that already have electricity or do not rely heavily on electricity. The remaining 14 percent stated that the lack of electricity was a constraint to their operations. In relation to water, only 29 percent stated that the lack of water was a constraint to their business operations. Seventy-one percent stated that the lack of water was not a real hindrance to their operations. In relation to transport accessibility, 71 percent of the businesses stated that the lack of transport facilities was not a real concern to them. The remaining 29 percent stated that the lack of transport accessibility was a hindrance to their business. Finally, 57 percent of the businesses stated that the lack of telephone (communication) services was impeding their operations. The remaining 43 percent stated that they had no serious problems with communication.

**Other Constraints**

The constraints discussed here are law and order, the bureaucracy, land or space, labour recruitment, the wantok system, and cultural taboos. In relation to law and order, 71 percent of the respondents claimed that law and order problems are hindering their business performance. The remaining 29 percent stated that law and order was not a hindrance to their businesses in the sense that they had not experienced any serious business-related crime.

In relation to the bureaucracy, 71 percent of the businesses stated that bureaucratic manipulation was a constraint to their operations. The main problem was that the managers seem to be one-man shows in the running of their businesses.

In relation to land or space, 71 percent of the businesses stated that the lack of land was not a serious concern to them. The remaining 29 percent indicated that the lack of space was a constraint to their businesses, especially for the purpose of expansion. In relation to the recruitment of labour, 57 percent of the business entities stated that they had no serious labour recruitment problems. The remaining 43 percent of the businesses stated that they had problems with labour recruitment, especially the recruitment of skilled labour.

In relation to the wantok system, all the business ventures that were surveyed stated that the system was a hindrance to their performance and profitability. The main problem was the pressure from wantoks for free handouts of cash and other business assets. Finally, in relation to cultural taboos, 71 percent of the businesses indicated that cultural taboos were not a real obstacle to their business operations.
Ownership

Ownership is discussed under two categories—joint ventures, and local ownership. In relation to joint ventures, approximately 10 percent of businesses are owned jointly by landowners and outside contractors. The outside parties are mainly those engaged in construction-related activities. All the joint venture ownerships are arranged on a 50-50 basis. In relation to local ownership, 42 percent of businesses are family owned, 29 percent are clan owned, youth groups own 10 percent, general ownership is nine percent, and the ownership of the remaining 10 percent is unknown.

Investment

This discussion gives a general view about investment spending. Particular reference is made to the contribution of the LMC Business Development Office to landowners' businesses in terms of monetary contributions. The LMC Business Development Office operates a revolving credit scheme which makes funds available to small-scale businesses that are seen to be unable to secure start-up funds on their own. The scheme generally makes advances of less than K5,000, to be repaid over a three-month to six-month period. As of March 1996, the scheme had made a total of K1.45 million available to 102 business entities. Approximately K653,000 had been repaid.

Management

The majority of the landowners' businesses are managed by the landowners themselves. In relation to joint venture businesses, the majority of the managers are from the outside parties. The LMC also provides management personnel for some landowner companies. In relation to expertise and experience, most of the purely, locally owned businesses do not possess formal management qualifications, while the managers of the joint venture entities seem to have relevant qualifications and experience.

Performance

Profitability

The high commercial activity on the island as a result of the construction phase of the mine has made the landowners' businesses quite profitable. The LMC Business Development Office reported that, during 1995, the landowners' businesses turned over approximately K9.7 million, and made after-tax earnings of K546,000. During 1996, it was calculated that turnover would exceed K25 million, and after-tax profits would be in the order of K1.4 million. In general, the majority of the landowners' businesses are running well.

Employment

This discussion provides a general overview of employment composition with respect to local and outside employees. In relation to fully locally owned businesses, the majority of the workers are from Lihir. A few of them are from other parts of New Ireland Province. In relation to joint venture businesses, the workers are from both the local area as well as from other parts of the country. Most of the contract workers are engaged in high-tech jobs.
Perceptions

Business Constraints

Business constraints refer to those elements which impede the successful operation of businesses. These elements include managerial expertise, bookkeeping, technical know-how, and credit or loan facilities. In relation to managerial expertise, it can be seen that most of the small-scale businesses do not have managers who have formal business qualifications. Nevertheless, through experience, the local managers are able to manage their businesses. In relation to joint venture businesses, most of the managers are from the outside parties, hence they possess some formal managerial qualifications.

In relation to bookkeeping or accounting, the situation is similar to managerial expertise: that is, most small-scale business managers do not have formal accounting qualifications. In relation to technical know-how, the general situation is that the small-scale businesses do not have serious technical problems which impede their successful operations. In relation to joint ventures, the technical aspects of operations are taken care of by the presence of outside technical staff. Credit and loan facilities are the basis for the start up and subsequent operational success of any business venture. In relation to the Lihirian landowners' businesses, the credit facility undertaken by the LMC has created a healthy environment for the establishment of local businesses.

Infrastructural Constraints

Reference is made here to infrastructure which is necessary for successful business operations, including electricity, water, transport, and communication facilities. In relation to electricity, the businesses that are located within the vicinity of the mine may not have problems, as they are supplied with electricity. In relation to those businesses that are away from the mine, the majority of them may have problems in terms of refrigeration. In relation to the mentioned infrastructure, water may not be a major problem. The opening of the ring-road and international wharf on Lihir will ease transport problems associated with business activities. A telephone is a necessity for bigger businesses located at the commercial centre, but for the smaller businesses it is not a major constraint to their operations.

Other Constraints

Reference is made to constraints such as law and order, the bureaucracy, land or space, recruitment of labour, the wantok system, and cultural taboos. The aim here is to state the extent of these issues as constraints to business performance. In relation to law and order, the businesses that were interviewed stated that there was no serious law and order problem. Also, bureaucratic manipulation was not a serious concern. In relation to land or space, the general view was that the businesses located at the commercial centre (Londolovit) may have land shortages, but those businesses that were located in the villages would be alright. Labour recruitment is not a major concern. The same response was given in relation to the wantok system and cultural taboos.
Business Prospects

With the increase in commercial activity on the island, there is scope for the expansion of current businesses and the opening up of new businesses. However, some business activities will have to be reduced in scope or wound up, especially those that are heavily dependent on construction-related activities. In relation to assistance, most businesses stated that they would require more financial and technical help from both the government and the LMC. The Government, in particular, has to become more involved.
12. Conclusion

This empirical study has attempted to address the question of whether the landowners have lapsed into instant gratification and consumerism because of the cash benefits that they have received as a result of the ongoing large-scale mining.

The analysis of the landowners' incomes has revealed that cash earnings from royalties and compensation demands might have undermined traditional economic activities. When the mine closes, the rents will dry up, and so will the businesses that depend on the mining operations. Therefore, non-mine-related economic activities must be encouraged so that incomes can be sustained in the long term.

The landowners' expenditure patterns have been highly geared towards current consumption. This has been shown by the high propensity to purchase consumables, durables, and addictive products. Expenditure on investments has been very minimal. Every effort should be made to divert expenditure on heavy current consumption to investments that are sustainable for future generations.

There are many success stories even though there is limited business exposure for the landowners in the remote areas in which the mines are located. Clearly, the success of the businesses has been dependent on the operations of the mines. When mining operations cease, so will most businesses.

The Government should formulate and implement sound policies to ensure the sustainability or survival of landowners' businesses. One approach is to encourage and support businesses that are not dependent on the mining operation. Agro-based activities should be in the forefront in policy formulation in this direction. The mining areas are all suited to cropping or fishing. A cue may be taken from the Kutubu Joint Venture partners who are attempting to introduce agriculture to the landowners, who, until recently, were hunters and gatherers.

The landowners' expectations prior to the commencement of the mines were high. In PNG, any major resource development generates varying expectations amongst the three major players — the Government, the resource developers, and the resource owners (the landowners). In summary, the following would be the general expectations of the three parties:

- the Government expects to fill its national purse from the various taxes which are imposed on the mining activities;
- the developers expect to make a reasonable return on their invested capital; and
- the landowners expect to benefit by way of employment opportunities, business spin-offs, and cash benefits through the receipt of royalties, dividends, and compensation payments.
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