DEVELOPMENT IN THE NORTH FLY
AND NINGERUM-AWIN AREA STUDY

OK-FLY SOCIAL MONITORING PROJECT REPORT No. 6
for Ok Tedi Mining Limited

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PREFACE

Fieldwork for the Development in the North Fly and Ningerum-Awin area study was undertaken for OTML’s Environment Department over a period of five weeks in August/September 1992.


Appearing concurrently with this volume, Stuart Kirsch’s The Yonggom people of the Ok Tedi and Moian Census Divisions: an area study. OFSMP Report No. 5 extends the coverage of the project south to the Binge River of the ‘border bulge’, a distance of some 145km from the starting point at the lower Ok Tedi bridge, Tabubil.

Kirsch’s survey includes all but two of the Yonggom villages on the Papua New Guinea side of the border (the exceptions are on Lake Murray). We overlapped in the field by one week, so I was able to accompany him on visits to villages in his Zone 3. We had the useful opportunity to compare observations in the field together.

In this volume, I examine a gap in our previous work: namely what happens to spending and project implementation in the North Fly. I have also been able to continue social mapping tasks in the North and West Awin Census Divisions. This is reported in the form of village-by-village details in Appendix B of this volume. In addition, two map sheets at 1:100,000 scale, issued as The Ok Tedi Impact Area in maps. Map 1: Mt. Fubilan to Konkonda. Map 2: Konkonda to Binge River, accompany this report under separate cover.

John Burton
Canberra
TABLE OF CONTENTS

Terms and abbreviations ........................................................................................................................................ iv

Maps ........................................................................................................................................................................ v

Chapter 1 Introduction ............................................................................................................................................. 1
   Terms of reference ......................................................................................................................................................... 1
   Conception of the report ............................................................................................................................................... 3
   The Ok Tedi impact area ............................................................................................................................................. 5

Chapter 2 Area study and socio-economic change ................................................................................................. 8
   Settlement geography: the background to change .................................................................................................. 8
   New economic opportunities ................................................................................................................................. 14
   Rubber ........................................................................................................................................................................ 20
   Village business ......................................................................................................................................................... 22
   Health ........................................................................................................................................................................ 24
   Education .................................................................................................................................................................. 30

Chapter 3 The funding and administration of development ................................................................................... 31
   Is Western Province well-funded? .......................................................................................................................... 32
   Provincial funding arrangements .......................................................................................................................... 33
   Spending on village level projects ........................................................................................................................ 39
   Works carried out by local contractors ................................................................................................................ 49
   Building construction .............................................................................................................................................. 57
   ‘Special’ funding for development: conclusion .................................................................................................. 57

Chapter 4 Review and proposals ............................................................................................................................ 60
   Summary .................................................................................................................................................................. 60
   The performance of provincial government ........................................................................................................ 62
   What needs to be done next ................................................................................................................................... 64

Appendix A Data tables .............................................................................................................................................. 69

Appendix B Ningerum Local Government Council Wards, September 1992 .................................................. 71

Appendix C Gazetteer of Census Units and Council Wards: West And North
Awin Census Divisions ............................................................................................................................................ 73
   Ward 13. Hiorenkia, HosonaiTV, Awin TamaroTV ............................................................................................. 73
   Ward 14. TapkoTV, KwiloknaiTV .......................................................................................................................... 73
   Ward 15. Sisimakam: compound village made up of Ketimoknai, Saisu, Aplam ...... 74
   Ward 16. Ripnai, Brunai, Mohomnai ....................................................................................................................... 75
   Ward 17. Runai, Ihore. .............................................................................................................................................. 75
   Ward 18. Kmenai, Hosomrae. .............................................................................................................................. 76
   Ward 20. Tmoknai, Tminhore, Tumsen, Somoikwankia. ..................................................................................... 77
   Ward 21. Pampenai, Kranai, Sirigire. ...................................................................................................................... 78
   Ward 22. Wanginai, Nonigire, Sutpenai ................................................................................................................... 79
   Ward 23 Menumgrup, Menum, Sonai, Miahore ................................................................................................... 80
   Ward 24 Grehorsore, Ipoknai .................................................................................................................................. 81
Ward 25. Dande 1 & 2, Holpanai, Senamrae .......................................................... 82
Ward 26. Miamrae (+ Tripianae), KwiapaeTV, BigeTV ........................................ 82
Ward 27. Kasrenai, Matkomnai, DemesukeTV ..................................................... 83
Ward 28 YenkenaiTV, MimigireTV, HosokumguTV ........................................... 84

Appendix D Correspondence and written complaints................................. 86
  The Ningerum bridge site ........................................................................... 86
  ‘The place change nogut in 1983 and until now 1992’ .......................... 88

Appendix E Selected Awin origin legends with geographic associations ......... 91
  The creation of the world ................................................................. 91
  Wiwe and the names of Aekyom clans ................................................. 92
  Grupe clan ......................................................................................... 92
  Somoi clan ......................................................................................... 93
  Ihore clan .......................................................................................... 93
  Kwotkoi clan ..................................................................................... 94
  Mepu clan ......................................................................................... 94
  Hore clan ........................................................................................... 95

BIBLIOGRAPHY ......................................................................................... 97
  Project Documentation ........................................................................... 97
  Western Province references ................................................................. 97
  Other references ................................................................................. 98
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>FRPG</td>
<td>Fly River Provincial Government, referring specifically to the political half of ‘the provincial government’. The administrative half is the Department of Western, a public service department. (See footnote on p. 3.)</td>
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<td>KLM</td>
<td>Kiunga-Lake Murray Agreement. Agreement concerning the re-admittance of North Fly to FRPG control signed in 1987. ‘KLM funds’ are a special K1m budget line obtained from Waigani (see p. 35).</td>
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<tr>
<td>PAC</td>
<td>Political Advisory Council. Body formed to represent the North Fly in connection with the KLM agreement (see above).</td>
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<td>PAE</td>
<td>Preferred Area Employee. See next.</td>
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<tr>
<td>Preferred Area</td>
<td>The Kiunga District of Western Province and Telefomin District of West Sepik Province, designated as having preference over other parts of PNG for recruitment purposes. (Kiunga has now been subdivided into the Kiunga and Tabubil Districts.)</td>
</tr>
<tr>
<td>OTFRDT</td>
<td>Ok Tedi-Fly River Development Trust, ‘the Trust’. Set up by OTML in 1989 to contribute to infrastructure projects and development in approximately 100 villages identified as being on, or having land abutting, the Ok Tedi and Fly River systems.</td>
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<td>OTML</td>
<td>Ok Tedi Mining Limited. The operator of the Ok Tedi mine project. The successor to the discoverer, Kennecott (until March 1975), the Ok Tedi Development Company (March 1975 to March 1976), and Dampier Mining/BHP (March 1976 to February 1981). The shareholders are BHP, Amoco, a consortium of German metal mining institutions, and the Papua New Guinea government</td>
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<tr>
<td>RDF</td>
<td>Rural Development Funds. Payments of K40,000 made for each provincial member as an electoral development fund.</td>
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<td>SSG</td>
<td>Special Support Grant. An ex-gratia payment, nominally set at 1% of the province’s mine exports, given to a mining province by the national government to assist with infrastructure improvements.</td>
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<tr>
<td>VDF</td>
<td>Village Development Fund. Grants of money made as part of the OTFRDT budget to each person recorded by annual census as living in a Trust village.</td>
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MAPS

Detailed 1:100,000 scale maps of the Ok Tedi impact area, ‘Map 1. Mt. Fubilan to Konkonda’ and ‘Map 2. Konkonda to Binge River’, have been produced separately to accompany reports in this series (Burton 1993c). Further mention of ‘Map 1’ and ‘Map 2’ in the text refer to these maps.

Figure 1. Location map: villages, main centres and census divisions.
An Englishman was travelling up the Wai Tri when at dusk he heard a cicada, numenume or driwe. People feel sad when they hear this and he thought back to his wife, left behind in his own country; her name was Alice. He gave the river its English name, Alice.

Awin explanation for the origin of the name ‘Alice River’

The Hon. Colonial Secretary of New South Wales, to whom I am indebted for obtaining from the Governor the grant of the “Neva,” had experienced a wish that in the event of my discovery of a lake I should call it by the name of Miss Alice Hargrave. As I had not the good fortune to discover a lake, I thought I might call the newly discovered river after Sir John Robertson’s fair friend, and this day I marked it on my map with the name of “Alice”. We sailed to-day four or five miles up the river.

Luigi Maria D’Albertis, in his description of turning into the Ok Tedi River on 30 June 1876, in New Guinea: what I did and what I saw, v.2 pp. 116-117 (1880)
CHAPTER 1
INTRODUCTION

Terms of reference

The Ok-Fly Social Monitoring Project (OFSMP) is in its second year of investigations, following the successful conclusion of a first round of fieldwork and background research in 1991. Formal terms of reference are made up of the proposals to OTML by Unisearch in 1991 and 1992 and documents indicating their acceptance by OTML. The first round of reports (Filer 1991; Burton 1991) was presented at a meeting in Tabubil on 19 May 1992. Present were Chris Brown, General Manager, OTML; Murray Eagle, Executive Manager, Environment and Logistics, OTML; Ross Smith, Senior Biologist, OTML; Colin Filer, Projects Manager, Unisearch PNG Pty Ltd; and John Burton, Consultant to Unisearch. It was agreed at this meeting to enlarge the scope of the social mapping aspects of the project in the Kiunga and Lake Murray Districts (in Zones 6-8 as defined in Report No. 1) and to begin survey work for monitoring purposes in the areas where Ok Tedi/Fly River Development Trust villages are found.

After the submission of written proposals and further discussion, three sub-projects were tackled in 1992: further the Ningerum and Awin Census Divisions by myself, social mapping and area study work on the Yonggom villages of North Ok Tedi, South Ok Tedi and Moian Census Divisions by Stuart Kirsch of Mt Holyoke College, Springfield MA., and a briefer piece of census and survey analysis by David King of James Cook University, Townsville. I did fieldwork from 8 August-13 September 1992, Kirsch from 25 July-15 August 1992, and King in July 1992.

Overview

At this stage, OFSMP comprises two complementary strands: one that is fieldwork intensive and investigative, and one that is essentially statistical and quantitative. The former is meant to get to the bottom of issues emerging from the villages. The techniques used are those of the ethnographer: structured, topical interviews; the recording of life experiences, legends and anecdotes; visits to and descriptions of field sites of cultural and sociological importance; and the construction of an overview of the organisation and cultural preoccupations of the society being studied. The second strand is intended to provide quantitative measures of change over the very large area covered by the Trust and, in a practical sense, to do a ‘social development audit’ for the Trust villages. The goal is to settle on a suite of social development indicators that will enable changes to be charted over a period of years. (Unfortunately, it is general Papua New Guinea experience that apparently straightforward measures like ‘resident population’ and ‘number of health centre outpatients’ yield erratically fluctuating figures from one reporting period to the next, so that the problems of systematising this approach and making it successful are formidable.) In the first attempt to represent the status of the Trust villages in quantitative terms for this project, David King has collected together such census and survey data as was to hand in 1992 (OFSMP Report No. 4, King 1993). He concludes with a plea for better data (1993:2).
The 1991 Ningerum study

In 1991, I achieved a basic coverage of the Ningerum Local Government Council area, but I had to make significant omissions:

- shortage of time did not allow review of development, education and health programmes run by either the Montfort Catholic Mission or the Evangelical Church of Papua;
- difficulty of access prevented even coverage of the area occupied by Awin-speakers;
- it was not possible to visit Yonggom-speaking areas;
- flood damage issues along the Alice River were addressed but, as no payments had yet been made, I could not examine the success or otherwise of attempts at compensation.

The 1992 studies

In 1992, I extended my coverage of the same area to include the places omitted in 1991 and widened the scope of my inquiries to a general investigation of funding and planning issues. Kirsch, in the meantime, visited all Yonggom villages in the Alice/Fly River corridor (Kirsch 1993).

This time I was able to make visits to both Kiunga and Daru, where I interviewed a range of government officials. However, I know there are still big gaps in the way my written ‘cases’ are balanced. It is unfortunate that I did not contact anyone in the Department of Works; I do not have budget figures for past years; I am working without an account of how budgetted money was actually acquitted. I could go on. In the end, I hope that readers with better knowledge than I will give me credit for having got the drift right if I stumble on points of fact.

Acknowledgments

I thank Murray Eagle, Ian Wood and the staff of the Environmental Department, OTML, for assistance with my research. In carrying it out, I talked to a great many people in Western Province, only some of whom I mention by name in the text. I thank them and acknowledge their insights and greater experience in matters pertaining to the province. These are some of their names:

- Babalela Kalama
- Benedict Steven
- Gerard J. Deschamps
- Gerry Schuurkamp
- Gilles Côté
- Gumoi Udewali
- Jean-Claud Béland
- Jeff Ransley
- Joe Boikoun
- John Kup
- Kebaru Sika
- Kedu Ananga
- Krenham Wonhenai
- Mark Fitzmaurice
- Martin Paining
- Miape Baupupu
- Paul Spicer
- Paul Turner
- Pius Kami
- Rex Imu
- Richard Aria
- Robin Ette
- Stanley Jogo
- Steven Gang
- Takmai Balpugma
- Wain Darondaun
- Waituka Maina
Conception of the report

The project documentation specifies ‘broadly conceived social research in the area between the OTML Lease boundaries and the mouth of the Ok-Fly system’ to provide ‘clear indication on social changes’ whether these have been brought about by the presence of the mine or whether they have arisen independently (Filer and Burton 1991). The term given for this is social monitoring.

In this report, I widen my viewpoint considerably from that of 1991. In particular, I take on an analysis of the provincial budget because most observers have quite strong things to say about provincial government and development in Western Province: indeed, it is a topic that never fails to raise a heated debate. Many things contribute to this. Western Province has an unusual size for a province in Papua New Guinea and the peculiar geographical attribute that the provincial towns of five other provinces lie closer to its most important urban area than its own administrative headquarters. It has by far the highest per capita budget of all the provinces, and yet it languishes at the bottom of the pile in terms of many social development indicators. And last, but not least, it hosts a mine the construction of which has arguably resulted in the creation of more new public infrastructure than separately exists in the whole province—certainly this is true of roads.

As a consequence I stray far from the subject of Trust villages that are at the centre of an OTML effort to extend some benefits to villagers along the river system it uses. But perhaps this is the point; the form that the Trust takes today is shaped by what are seen as the needs of villages. Aside from the 20% of Trust benefits given out as cash payments, the things identified as needs are uncontroversial and parallel the resolutions seen in Local Government Council minutes—requests for water supplies, bridging, road access and classroom improvements. Whether or not the exact measures adopted by the Trust are the best in every circumstance is not so relevant as the fact that almost all are improvements to village infrastructure that are normally the responsibility of government.

The interplay between the provincial government and the Trust is a zero-sum game. Where the provincial government provides, the Trust does not duplicate; where the provincial government does not provide, a vacuum appears that the Trust is drawn to attempt to fill. For this reason, although the Trust may appear to enact a series of ‘initiatives’ in an independent manner, its activities are very much dependent on provincial government moves. The key to the situation is the performance of provincial government; how well the Trust does its work is a secondary—in the sense of ‘dependent’—matter. Much that follows can be reduced to the questions of (a) whether the provincial government has the funds to address rural needs and (b) whether it is effective in spending these funds.

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1 The ‘provincial government’ (lower case) will be taken to mean the combination of the Fly River Provincial Government and the constituent divisions of the Department of Western Province. When I mean one of the latter, I will refer to them by those more specific names. FRPG has limited intrinsic functions and revenue raising ability, whereas the Department of Western is nationally funded, staffed with public servants and headed by a public service Provincial Secretary. The Secretary and Heads of Divisions answer to the Premier and the relevant provincial ministers of the FRPG.
In relation specifically to the Trust, I face the shifting sands of attempting the assessment of what amounts to an aid package.

I make no bones about the fact that I am not satisfied with the way the provincial government has worked since its restitution from suspension in 1988. It may be true that a case in support of the present administrative arrangements in Western Province, would eventually be destroyed by the accumulated weight of evidence if I went as neutrally as possible through the list of my findings—the evidence is not at all flattering. But I offer the following in mitigation of a more revealed cynicism:

- the failure of provincial authorities to release the 1992 budget cheques of the six North Fly councils until (at least) September 1992, causing their closure for more than half the year (see p. 39);
- the diversion of K2.4m a year into village level projects in the absence of any recognisable system of acquittal and review, rendering insignificant the K300,000 available through the national scheme of Electoral Development Funds, before the abolition of the latter on the same grounds;
- the lack of discernable controls on the quality of road spending: payments are made to contractors without completion inspections, road allocations are made to areas without vehicles, money is wasted starting road schemes known to have been costed at as much as a hundred times (in the Ok Menga-Olsobip case) the funds now available.

Each one of these things is sufficient in my mind to condemn the responsible ministers, on the principle of accountability to the Provincial Assembly, of negligence. In the first instance, trifling sums are involved—but a tier of government with responsibilities enshrined in legislation was obstructed from functioning. The second and third instances do involve large sums of money, by any standards, and there has been unforgivably little to show for them—among the more entertaining consequences are ‘projects’ in which local members use public money to pay their constituents K5 a bird to raise and sell chickens.

I am aware, of course, that the incoming Wingti government acted to suspend the Fly River Provincial Government later in 1992. I sincerely wish that the reasons for this included the above, but I fear that it was for more openly perpetrated sins such as the still not fully explained loss of almost all the K3.1m 1990 Special Support Grant, a hot topic of public discussion and well covered by newspaper reports. I ‘fear’ this because, although symptomatic of the ills of the Western Province, it does not bear much on the root causes of provincial government failure and, looking towards the future, the seeds of failure in any alternative system.

Does the censure I have just expressed amounts to an undesirable bias which will fatally flaw the rest of my report? I hope not—and I can challenge critics to visit isolated

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2 The ‘present’ will be taken to refer to the time of fieldwork in August-September 1992. The FRPG was suspended later in 1992.

3 Many councillors witnessed the cheque being handed over by the Deputy Prime Minister, Ted Diro, at the Tabubil basketball courts in January 1991, but no provincial official I spoke to had seen the appearance of the money in a provincial account. Informants could account for only K200,000, allocated to Tabubil District, being spent in the province.
villages with unattended Aid Posts and scarce contact with the government to see for themselves.

The Ok Tedi impact area

The study area (see maps and Fig. 1) exhibits extreme geographic diversity, in the space of 90km running from the 2500m Hindenberg Wall on the ‘spine’ of New Guinea to the edge of the Fly River flood plain, barely above sea level at 40m altitude yet still some 400km from the sea at Konkonda. From the point of view of mine impacts, this area is the most critical environmentally. Within it the Ok Tedi River transports both coarse and fine tailings and waste rock from the Ok Tedi mine on Mt Fubilan, via the Ok Tedi tributaries Sulphide Creek and Ok Mani, to Konkonda, whence fine particles are carried as suspended sediment into the Fly River and out to the Fly Delta. Non-fines, however, generally fail to pass this point in periods of normal flow. The Ok Tedi acts as an ‘environmental sink’ for this material resulting in (a) storage of mine wastes in the channel of the Ok Tedi, notably in the reach above Ningerum and (b) changes to the channel profile below Ningerum, resulting in the dumping of wastes on dry land area during periodic floods. By comparison with sections of the river system lower down, the area shown in Fig. 1 is seen as the most critically impacted in terms of hydrological change, the impacts on river life and the impacts on parts of the environment used by humans.

In my interim report (Burton 1993a), I looked at village beliefs about the physical impact of the mine and at compensation issues; Kirsch (1993) has now added further detail from the Yonggom area. The summary points are as follows, but I refer readers to these two reports for the original discussions.

Kapa marasin

In all villages throughout the area, people are fearful of what they term kapa marasin, which may be glossed as ‘toxic mine waste’ or, more specifically, ‘toxic agents in the visible mine wastes’. Health problems in humans, odd-looking fish, the slower maturation or unexpected rotting of food crops, the spoiling of sago starch in the living tree and other environmental signs are all now put down to the influence of kapa marasin (see Kirsch 1993:38ff., 42ff.). I wrote earlier,

... relevant sections of the Applied Geology Associates 1988 report on Bougainville document almost identical fears around the Panguna copper mine while people around Lake Kopiago are now said (Times of Papua New Guinea, 22 October 1992) to be attributing deaths from ‘... high fever, dysentery, dehydration and difficulty in breathing ...’ to discharges from the Porgera gold mine into the Lagaip River. In this recent case the people were claimed to have ‘... contracted the diseases by breathing air from the river during dry weather, walking near the banks, swimming and eating animals poisoned by the chemical from the river.’ This almost exactly describes the set of beliefs now held around Ok Tedi (Burton 1993a:2).

As I wrote then, people do not believe that kapa marasin works through the agency of an ‘action-at-a-distance’ power; it is held to have a purely physical action. Kirsch has now argued convincingly that although Yonggoms make a clear separation between mine-derived environmental hazards, including kapa marasin, and sorcery, they apply the same ‘model of misfortune’ in both cases. Perhaps his key point is that the Yonggom use
sorcery accusations as a form of social control; they use them to hold accountable for their behavior people thought to violate a relationship of equality in their dealings with others.

If the Yonggom, and by extension the Ningerum and Awin, ‘model of misfortune’ is a satisfying explanation of the distress that people feel in the study area, I am optimistic that a clear understanding of it will show what can be done about it. The first step is to break down the ‘misfortune’ into a series of categories that can be looked at separately. The three most obvious of these are the general issues of social development and mine benefits within the study area, and those that relate to mine impacts.

In this study I choose to look at the first two at length. The former takes the form of an examination of different sectors of socio-economic development, in Chapter 2. Since primary mine benefits do not come directly into the hands of villagers in the study area, but are administered by the state, the benefits that people do or do not receive takes the form of an analysis of provincial spending and development efforts; this is done in Chapter 3.

Mine impacts

I do not look at mine impacts—specifically environmental impacts—in detail on this occasion. I gave a general technical summary on this matter in my last report (Burton 1991:23-24, 26-29) and additional observations from the lower Ok Tedi concerning the nature and time frame of physical impacts have been supplied by Kirsch (1993:40-41).

I preface further remarks by saying I take as given that all questions relating to the physical basis of impacts are adequately handled by the environmental monitoring studies carried out by OTML and other agencies. I assume, on the basis of what I know of these studies, that the effects of mine wastes flushed down the river system (or concentrate spilled from the pipeline) are fully known, essentially only affect flora and fauna through loss of habitat, and pose no hazard to the well-being of humans through ingestion or exposure. This leaves two readily examinable topics within the terms of reference of the social monitoring programme:

- the geographical extent of the impacts caused by mine wastes, and their distribution among clans and individual landowners;
- compensation issues: procedures, the position of the state, questions of fairness vis-à-vis leaseholders and others.

A more focussed field survey is required to investigate the former than has yet been possible. One reason for not starting this in 1992 was that new aerial photography was in the process of being commissioned; it has now been completed.

On the question of compensation, a deferral is regrettably necessary because negotiations, of which I do not have privileged knowledge, are underway at the present time and because so few claims have been processed. I have already discussed the main

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4 It may seem odd to count ‘social development’ and ‘mine benefits’ as aspects of misfortune, but Chapters 2 and 3 show that the seeds of misfortune have well and truly been sown under these headings.
problems elsewhere (Burton 1993a:9-10); no more payments have been made since the first in early August 1992. I can merely state that the question of compensation for garden damage is critically important for future relations between the impact area people and the Ok Tedi project. I can only urge that all parties look at the issue in a broader way than has been the case up till now and negotiate a better solution as soon as possible.5

5 I should state that that one-off payments on the model of those made at this time are not a satisfactory way of making restitution for garden loss. A illustration of the problem is shown by a group of clans represented in the northern (katuwa) Ningerum villages of Boliwogam, Haidauwogam, Mongulwalawam, Bumin and Wurikanatgo (see Map 1 and Fig. 1). Some members of these clans have relocated north to Ok Ma, where they receive excellent services and lease payments in relation to LMP1, the land taken up for the formerly planned Ok Ma dam. The lease payments are now in the vicinity of K350 per person (cf. Ransley 1989), and are paid annually. By contrast, other members of the same clans have remained at home, have few services, and have lost gardens along the Ok Tedi. In the 1992 Mining Warden’s judgment, 52 claimants at Wurikanatgo received an average of K364.63 as a once and for all settlement (Department of Minerals and Energy 1992). Bearing in mind that the Wurikanatgo claimants were heads of households, but that LMP1 lease payments are calculated for each member of a household, the mathematical inequity is obvious.

Further points of note in the judgment were the mis-spelling of village names (e.g. ‘Wuripkananta’ for Wurimkanatgo, and ‘Oktidetatu’ for Oktidetau), the payment of one man twice under differently spelled names, and the dubious practice of giving a fixed value (K270) to destroyed gardens, regardless of type, size or location.
Settlement geography: the background to change

The social impacts of the Ok Tedi mine are closely bound up with the transformation of the region from one that was remote from metropolitan life and government services and in which formal economic activity was almost non-existent, in the 1970s, to one that has one of the largest towns in Papua New Guinea, scheduled air services, goods of every description in its stores, and a dramatically improved basic infrastructure. However, this should be seen in the historical light of quite substantial changes which began at contact in the 1950s and were intensified in the 1960s when both the Catholic Church and the Evangelical Church of Papua established first missions in the area, bringing schools and basic health care. The construction of the Kiunga-Tabubil Highway in 1981-82 must be seen as the single largest recent change affecting the daily lives of the majority of villagers in the study area, not the establishment of the mine itself, because of the renewed changes in settlement pattern that it has brought.

In pre-contact times (Burton 1991:7-8), Awin, Ningerum and Yonggom people lived in homesteads scattered across their clan territories. At contact, the homesteaders collected themselves into villages—according to informants, because the *kiap* told them this was what the government wanted.6 (Ningerums and Awins had no prior words for ‘village’; the former adopted the Malay loan-word *kampong*, the latter the Motu loan-word *hanua*.)

As Jackson (1979) describes, the 1960s and 1970s were marked in the Awin-speaking areas of North Fly with wholesale movements of communities and the consolidation of small, scattered hamlets into much larger villages on waterways or on the line of the tractor roads between Kiunga and Rumginae (passable by September 1968), and the Ok Mart and Ningerum (passable by ?1970). The driving force behind this was the villagers’ interest in rubber (discussed below, p. 20). The building of schools and other facilities, and the considerable improvements to roads since the start of the Ok Tedi project have each taken this a step further, with multi-village agglomerates becoming more and more normal; such as Ok Ma 11, Sisimakam and Haewenai.

In addition to this, two distinct kinds of ‘corner’ settlements have emerged. The first is the ‘orthodox’ corner made up of semi-permanent local area migrants such as is found at the back of Ningerum station and at the Ok Tedi Bridge and ‘Seven Corner’7 settlements on the west bank of the Ok Tedi near Tabubil. Jackson (1993:126) found that the corner

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6 Actually the only conclusive evidence is that *kiaps* called for scattered groups to adopt a central place for census. In my reading of the sources, *kiaps* tried to prevent the formation of very large villages in order to avoid the problems of land disputes (E.W. Kaney, PR, Ok Tedi No. 4 of 1979).

7 The number seven in this name appears to have a attractive quality for Ningerum-Awin people; the area south of the highway between Holpanai and the Ok Mart junction is sometimes also called ‘Seven Corner’, ostensibly because it encompasses seven villages (not in this case ‘corners’).
setlers were drawn from at least thirteen villages in the study area, and included people from all three language groups (Ningerum, Awin, Yonggom).

All of the villages mentioned by Jackson are still occupied, but Somoikwankia, an Awin village of about a dozen houses near Haewenai, was completely unoccupied at the time of my visit in September 1992; its remaining residents all being absent visiting relatives.
in their corner at Kiunga. Somoikwankia has not been abandoned and it may be revitalised within two or three years, as a road from Ralengre is underconstruction (see Case 13 on page 56).

The second kind is what might be termed the ‘highway corner’. Here, the inhabitants have not yet completely abandoned their home village site, which is simply inland from the highway corner, and maintain—or have it in mind to maintain—dual residence; examples are Pampenai, Wanginai, and Demesuke all of which still exist as substantial settlements a few kilometres from the highway along bush tracks.

Cultural association between people and places

People in the study area do not abandon the customary titles to their ‘old’ places when they shift their settlements to new ones. In the case of moves made within living memory—which obviously includes all the road-related movements—the ownership of the places just vacated is clear enough. For those which took place before this, in pre-contact times, there is no easy way to map residual titles and claims that affect present day land usage. In some cases, such as Mendua, a kilometre or so south of Alice Pit, the names of old village sites are well known and the subsequent settlement history can be traced to current villages. In others, history merges into the mythological past and the actions of persons known to the living fade to the fantastic exploits of culture heroes.

These kinds of stories are extremely hard to ‘understand’ except in a culturally mediated way. I do not attempt a detailed analysis, but I troubled to collect origin legends for one particular element, namely the associations between parts of the stories and knowable landscape features (see Appendix E). There are twenty or thirty Awin clans; I have collated some of the geographic information gleaned from the origin stories of just nine of them and present this in Fig. 2. Some of the legends are geographically reliable in the sense that different informants narrate versions that diverge in content but agree on the places or routes involved. The set of Grupe clan origin stories I was given at three different villages are a good example of this; in each case a deviant, child-eating cannibal is banished by being thrown into Lake Wangbin in the Star Mountains. In one case the culture hero Wiwe shaped the mountains themselves to make the lake impossible to climb out of; in another, the mountains are formed from the coils of the python-woman, Osara, who features in other stories (see Appendix E).

As field officers are aware, landowners are wont to substantiate particular claims to land with reference to their clan origin stories. I would like to step back from this and make the more obvious point that, taken collectively, the corpus of stories bind the Awin area together as a cultural region (Fig. 2). This makes any effort to treat one part differently than another an invidious one. All parts of the Awin area are tied by a communality of history tramped over by dreamtime heroes and modern day village and corner dwellers alike.

Social mapping and village land issues

Much of the above is better understood in map form. On Maps 1 and 2 (Burton 1993b), I have marked the major movements of settlements just described. Not all of my information is as accurate as I would like it, but the pattern is clear enough: the settlement geography of the study area has been remarkably transformed since contact. Three main issues arise:
Intensified land use: the previously dispersed pattern of land use has given way to a more intensive use of garden land, sago stands and forest resources in the areas where people have built bigger settlements—how will the land and subsistence system cope?

Village politics: the movement of communities typically involves the consolidation of the places of residence of several clans onto a site owned by one of them—what consequences does this have for decision-making and leadership within the village?

Rural development: small business enterprises and cash crop ventures are seen as the road for rural development—can these be properly established by clans who are not living on their own land?

Informants did not frame discussions around the first issue. Their discussions of land and environmental matters always placed mine impacts ahead of other considerations; stories of clan origins, generally in the form of legends and the actions of culture heroes came second; last of all came mention of the possible impact of changed gardening techniques or resettlement in a new area. For example, when passing a small creek on the side road to Pampenai, between the Sirigiri ‘camp’ and Wai Siore, my informant, Cllr. Kasi, showed me a sacred spring and sago grove called Kiomgwam which features in the Grupe clan origin story. We talked about this environmental feature for a while, but the discussion was in terms of the spring as a marker for who the Grupe were and, in a general sense, their autonomous right to ‘be’; conversation did not swing naturally onto the ecology of sago, its conservation as a physical resource, or any similar matter.

The second and third issues also arose in connection with Pampenai. The bulk of the population of this village, together with that of its inland neighbour, Wanginai, have relocated to roadside corners on Hosokumgu land. As I understand it, the two corners were formed their present sites on the invitation of a senior man from Hosokumgu, who had personal ties with the families of the settlers. This man has recently died. With their sponsor dead, what are the rights of the highway settlers? Settlers in this situation may be left in a legal limbo with their rights untested until a dispute flairs. In the worst case, the settler community will invest money in a business that they intend to carry out on their borrowed land; however, the land holders resent the change of usage—which is, after all, a familiar enough situation when an application is made to re-zone urban land—and act to close it down. To the outsider this appears as a nihilistic reaction, but in its context it is entirely appropriate.

A case in point is the substantial business activity at the Pampenai corner—the home of Kire Constructions—and the chicken project at Wanginai, which form a considerable contrast with the current absence of self-started projects at Hosokumgu, though this is favoured by being a Trust village. Hopefully, the present generation of corner-dwellers have found the customary means of renewing their ‘leases’. I have painted a picture of a seemingly rigid situation, but if the original settlers had kin ties with the sponsor there is a high probability that their children will also have these ties.

Prescriptive marriage rule

Here it is worth mentioning that Awins have significantly different marriage rules by comparison to their Yonggom and Ningerum neighbours. A man’s mumei (Pidgin: kandere) is his mother’s brother; by preference, a man should marry his mumei’s daughter, his me (Fig. 3). Marriages made this way are said to be ‘straight’. This Awin preference has quite the opposite effect of concentrating kin ties within a small—even very small—community (Fig. 4).
Figure 3. Awin prescriptive marriage rule, male point of view.
An obvious contrast is the Mt. Hagen big-man’s way of spreading ties of obligation among a wide network of tribes by strategically placing out his daughters in marriage among them (Strathern 1971:156ff.).

I asked for information on the last ten marriages at most of my formal interviews, if there was time to do this. Of marriages contracted between an Awin husband and wife, 68% were of this prescriptive form (Table 1). Informants say a brideprice must always be paid in the case of marriage between a man and his *me*. In general, brideprices were not high and were paid over a period of time; in some cases of uncompleted brideprices there were two children of the marriage already. However, I found one case where the husband’s *mumei* was his own childhood guardian—it would have made no sense to try to pay brideprice at all.

As can be seen from Table 1 and Fig. 4, just over half of all marriages are between men and women of the same place—generally this means the same village or agglomeration of villages—and a third from Awin villages no more than 10km away. Only a tenth are
between spouses from distant places—none being from Awin villages further than walking distance away. In all but a few cases (e.g. Yenkenai), the villages\(^8\) that have agglomerated are of the same Ward. So, with the preference for marriage between a man and his *me*, it may be that Awin society is able to make better use of kin ties to avoid the conflicts over land that would ‘normally’ be expected to arise if people from different clans moved onto each other’s land.

![Table 1. Some statistics on recent marriages made by men: selected villages in West Awin CD.](image)

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|c|c|}
\hline
Place of interview & No. & A & B & C & \multicolumn{2}{c|}{Me marriages among Awins}\tabularnewline & & & & & & \tabularnewline \hline
Matkomnai/Kasrenai & 10 & 8 & 2 & - & K1696 & 50\%
\hline
Yenkenai & 10 & 6 & 3 \(^1\) & 1c & K1942 & 44\%
\hline
Dande/Holpenai/Senamrae & 14 & 7 & 7 & - & K1075 & 71\%
\hline
Grehorsore & 10 & 6 & 2 & 2d & K950 & 88\%
\hline
Pampenai & 10 & 6 & 2 & 2e & K1320 & 67\%
\hline
Wanginai & 8 & 2 & 4 & 2f & K4150 & 100\%
\hline
\end{tabular}
\end{table}

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\begin{tabular}{|l|c|c|c|c|c|c|}
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Pampenai & 10 & 6 & 2 & 2e & K1320 & 67\%
\hline
Wanginai & 8 & 2 & 4 & 2f & K4150 & 100\%
\hline
\end{tabular}
\end{table}

Netting (1981) describes how Swiss peasants tried to marry within the village to avoid outsiders taking an interest in their land. In this case, rights to farm parcels land were transmitted through daughters as well as sons, and the objective was to join up the inheritances of husbands and wives to make a viable area for subsistence. Among Awins, the effect of marrying nearby, as in many other lowland Papua New Guinea communities, is to weave a network of affinal\(^9\) kin ties within the settlement. The extra ingredient of *me* marriage adds the complexity of especially significant matrilateral\(^10\) obligations. Given the extreme importance of village location for social and economic development in this area, it would not be surprising to find that a deeper examination of land rights would point straight back to issues of kinship.

**New economic opportunities**

There is no doubt at all that the Highway and the movement of people to corners head the list of significant social changes in the study area. However, while corners and the topic of rural-urban migration have received a good share of attention (e.g. King 1983; Jackson

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\(^8\) Bearing in mind, of course, that the ‘villages’ are themselves but aggregations of local clan segments.

\(^9\) Affinal = ‘to do with marriage’.

\(^10\) Matrilateral = ‘to do with the mother’s people’.
little formal study has centred on the road itself. I point this out in the context of the importance of roads built into other mining and petroleum areas, the nearest relevant examples being the extension of the Enga Highway to Porgera and the soon-to-be-completed Kutubu access road in the Southern Highlands. (In the latter case, attention is focussed on the vagrants it may bring, rather than the re-organisation of settlements that it will cause in the area itself.)

In similar vein, social and economic impact studies can much more easily grapple with direct project employment, than with the intangible spinoffs of the project for people who will not be employed, or who, despite political stances to the contrary, will not choose to enter into employment other than for short periods.

Project employment

Limits on recruitment in the ‘preferred area’ around the mine—the Telefomin District of West Sepik Province and the Kiunga District of Western Province—were anticipated before the start of construction. Indeed it was feared that the population would not make ‘suitable material’ for the Ok Tedi labour force because, putting it bluntly in 1978, it ‘... (a) has little formal education (b) is mostly illiterate (c) lacks technical skills (d) is unsuitable for reasons of health’ (R. Castley, National Planning Office, 1978, quoted in Jackson 1993:77). Jackson’s review of the project employment data shows that 416 Kiunga District people, or 25.6% of all company workers, were employed by OTML in 1991. As the area covered had a 1990 population of 32,000 (includes 4,000 in Kiunga town) this amounts to about 1.3 persons employed per hundred head of population and for the 14,500 people in the present study area about one person in a hundred.11 Framed in community terms, typical villages of 100-250 people can expect to have between one and three young adults in employment with OTML. As Jackson says, this is obviously fewer than have been graduated by Kiunga High School (about 800 Grade 10s since 1981) and who have received vocational training in Kiunga (about 200).

Travelling around villages, however, I did not find a body of disconsolate young men and women (‘unemployed school leavers’) clutching letters of rejection from OTML. What I did find was considerable variety in the type and frequency of employment. Working for OTML was just one possibility—and not necessarily the most highly regarded—open to those with some schooling. Becoming a pastor or doing nursing, for example, are occupations held in much higher esteem, and both involve travel to other parts of Papua New Guinea for training and periodic camps or meetings.

11 Jackson (1993:95) was able to identify the villages of origin of 386 of the 416 Kiunga District employees. Specifically for the Ningerum, North and West Awin, and North and South Ok Tedi CDs, there were 148 employees for a population of 14,500, or 1.02 employees for every hundred people. If a proportionate number of the ‘unplaced’ employees came from these CDs, this rate would be somewhat higher.
Jackson’s employment figures do not cover every year from the start of construction, but it is a justifiable estimate that, in the twelve years up to the end of 1992, Kiunga District workers had logged between 6000 and 6500 employee-years of experience with OTML. As Jackson found that the average stay of Kiunga District workers with OTML was 4.45 years in 1991 (1993:93), about 1400 hirings will have been needed to accumulate this over time—in excess of the thousand-odd Grade 10s and vocational trainees even before those employed elsewhere are subtracted. On the one hand, in the construction phase of the mine, workers were signed on with lesser qualifications, but on the other, trained workers quite likely to quit and sign on again, perhaps more than once, so that the total employment pool is in reasonable agreement with the number of hirings.

Table 2 and 3 show population figures for West and North Awin Census Divisions. I was able, in the case of villages I visited in 1992 and where I found knowledgeable informants, to elicit the numbers of men and women with jobs in the Kiunga District or absent elsewhere in Papua New Guinea. This was not an ideal method of survey—and I cannot be confident of the match of my data to the out-of-date list of ‘villages’ still used
as census units—but given the time available the results must suffice as a rough guide to local employment. Table 3 shows that the villages for which I have figures had an average of 4.9 persons employed per hundred head of population in West Awin and 2.7

<table>
<thead>
<tr>
<th>District 5 Kiunga</th>
<th>CD 26 North Awin</th>
<th>Population</th>
<th>Change</th>
<th>Employment/absence</th>
<th>Per 100 pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>National Census</td>
<td>1980</td>
<td>1990</td>
<td>Gross Rate M F</td>
<td>Included with Ketimoknai</td>
</tr>
<tr>
<td>CU001 Aplam</td>
<td>165</td>
<td>219</td>
<td>32.73%</td>
<td>2.87% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU002 Brunai</td>
<td>77</td>
<td>69</td>
<td>-10.39%</td>
<td>-1.09% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU003 Haeneni</td>
<td>185</td>
<td>215</td>
<td>16.22%</td>
<td>1.51% p.a.</td>
<td>5</td>
</tr>
<tr>
<td>CU004 Hiorenkia</td>
<td>92</td>
<td>129</td>
<td>40.22%</td>
<td>3.44% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU005 Horhomrae</td>
<td>171</td>
<td>0</td>
<td>-100.00%</td>
<td>-7.18% p.a.</td>
<td>(possibly = Mohomnai)</td>
</tr>
<tr>
<td>CU006 Hosanai</td>
<td>82</td>
<td>135</td>
<td>104.83%</td>
<td>5.11% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU007 Hosomrae</td>
<td>46</td>
<td>132</td>
<td>186.96%</td>
<td>11.12% p.a.</td>
<td>4</td>
</tr>
<tr>
<td>CU008 Ihore</td>
<td>80</td>
<td>106</td>
<td>32.50%</td>
<td>2.85% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU009 Ketimoknai</td>
<td>58</td>
<td>84</td>
<td>44.83%</td>
<td>3.77% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU010 Kmenai</td>
<td>114</td>
<td>150</td>
<td>31.58%</td>
<td>2.78% p.a.</td>
<td>2</td>
</tr>
<tr>
<td>CU011 Kwoknai</td>
<td>151</td>
<td>197</td>
<td>30.46%</td>
<td>2.69% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU012 Mohomtienai</td>
<td>176</td>
<td>374</td>
<td>112.50%</td>
<td>7.83% p.a.</td>
<td>7</td>
</tr>
<tr>
<td>CU013 Rignai</td>
<td>125</td>
<td>144</td>
<td>15.20%</td>
<td>1.43% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU014 Runai</td>
<td>78</td>
<td>113</td>
<td>44.87%</td>
<td>3.78% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU015 Saisu</td>
<td>133</td>
<td>148</td>
<td>11.28%</td>
<td>1.07% p.a.</td>
<td>included with Ketimoknai</td>
</tr>
<tr>
<td>CU016 Sapirae</td>
<td>90</td>
<td>107</td>
<td>18.89%</td>
<td>1.75% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU017 Somoikwanka</td>
<td>116</td>
<td>154</td>
<td>32.76%</td>
<td>2.87% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU018 Tapoko</td>
<td>127</td>
<td>169</td>
<td>44.82%</td>
<td>4.06% p.a.</td>
<td>no data</td>
</tr>
<tr>
<td>CU019 Tmoknai</td>
<td>62</td>
<td>88</td>
<td>41.04%</td>
<td>3.56% p.a.</td>
<td>included with Tmoknai</td>
</tr>
<tr>
<td>CU020 Tmoknai</td>
<td>231</td>
<td>200</td>
<td>-13.42%</td>
<td>-1.43% p.a.</td>
<td>13</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>2359</strong></td>
<td><strong>2953</strong></td>
<td>25.18%</td>
<td>2.27% p.a.</td>
<td><strong>33</strong></td>
</tr>
</tbody>
</table>


Notes:
1. CU005 ‘Horhomrae’—name unknown but possibly ‘Mohomnai’ misspelled.
2. The figure for employed/absent persons per 100 head of population in the ‘totals’ row includes only villages for which data is available.

in North Awin. Villages with definitely fewer than two persons in work per hundred head of population include Sonai, Kmenai, Mohomtienai, Ketimoknai, Aplam and Saisu (both represented in the table under Ketimoknai). All of these are ‘bush’ villages but whereas the last three have had almost non-existent access to schooling in the past, the first three have good schools.

Villages with definitely more than four persons absent or in work per hundred head of population include Dande, Yenkenai, Matkomnai and, surprisingly, Tmoknai and Miahore. The first three are villages on the highway enjoying, to a lesser or greater extent, the benefits of good schools, a permanent OTML facility (the Yenkenai pumping station), and parents who have historically had income from rubber growing. The last two are ‘bush’ villages; in the case of Tmoknai, the explanation is that the people have a corner in Kiunga so that their opportunities reflect those of Kiungans, not rural-dwelling North Awins. Somoikwanka, for which I have no data because its entire population was absent in Kiunga at the time of my visit, also fits this pattern. Miahore is a true exception; however, only a few people are involved as Miahore has a small population.

In summary, there is patterning among the villages for which I have data on employment, but they are interrupted by exceptions. ‘Privileged’ villages on the highway and near schools consistently have more people in work; historically ‘deprived’ villages in the bush generally have few people in work. Explainable exceptions are where ‘deprived’ villages have resorted to rural-urban migration to escape their isolation.
Jackson shows (1993:81) that the common complaint that the Ok Tedi project has not provided sufficient work for local people must be qualified by the changing nature of demand for labour since the mine began. Construction difficulties led to an unexpectedly high demand for unskilled workers early on, and this favoured local recruitment, but this need has dropped off sharply since. This is highly unfavourable to the Kiunga District since it still lags behind other parts of Papua New Guinea in levels of education and training; despite considerable growth in the number of Kiunga District workers in skilled positions with OTML (13 in 1983; 90 in 1991), it is not doing as well as it could—not because there is insufficient work, but because the demand for workers with trade skills is greater than it can supply.

My opportunistically collected figures show that one category of people in the study area who have wanted jobs from either with the company or from the general labour market have probably been able to get them and will continue to do so. This category comprises young men with a reasonable standard of education or who have vocational training. Many fewer women were reported as having jobs—among those mentioned were a typist, a nurse and a supermarket worker. Among men, I am confident the bias is towards young men. No direct data are to hand for this area (and birth estimates would not be reliable here anyway), but the 1971 population pyramid for all Papua New Guinea, shown in Figure 5, is a rough guide to the proportions of men and women expected to be in various age groups. As can be seen, this structure predicts 10.9 men per hundred head of population in the age group 20-34 years, with an additional 5.3 men in the age group 35-44 years. Obviously typical villages reporting between two and six men employed per hundred head of population are not experiencing ‘full employment’—but, bearing in mind that subsistence farming remains the economic base for all the villages investigated, a higher rate of employment could only be sustained at the cost of neglecting traditional village tasks.

A point that builds on this is that I found young men not now in formal work very often had been in OTML employment in the past, but had quit this for one reason or another, typically to try their hand in a village business venture. They were quite free about saying they were ‘sacked’ (they may or may not have been) after a couple of years in the job. Anecdotes may be unreliable, but in their accounts I interpreted the attempt to follow the difficult path of balancing village obligations with the personal desire to hold down a good job and save money. It may be that, at a certain point, preceded by spells of ‘unsatisfactory attendance’ at work, they and their employers came to a parting of the ways—the young men to take their (limited) savings home to build a house, sell petrol, pay off a brideprice, buy an outboard or whatever. As in many other parts of Papua New Guinea, the maintenance of village life requires a trade-off between work and home obligations.

The group that I have not yet mentioned is that of employable women. Women are under-represented as wage-earners on any count. This springs partly from the nature of demand for labour. Typically, formal employment opportunities for women are in

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12 On some indicators, notable infant mortality and deaths in childbirth, parameters affecting Papua New Guinea’s population structure will have changed since 1971. However, it is a fair assumption that rural Western Province was ‘below’ average on these counts in 1971 and has continued to lag behind since then. The 1971 national structure, then, may not be a bad reflection of the Ningerum-Awin areas today.
clerical or rather highly skilled areas (e.g. nursing, teaching) and require post-secondary training. But, unlike the situation of their male counterparts who, for trade skills, may become apprentices with OTML, women must look to other sectors for their training.

If I am correct, the question of whether Ningerum, Awin or Yonggom people collectively have adequate skills for the mine workforce is a far less important issue than how best those among them who are educated should be distributed across a whole range of useful occupations. Indeed, with the generally backward level of development in the study area, it would be disastrous if all the school leavers were to move permanently to Tabubil to work for OTML. They are just as urgently needed in the villages to run their own communities’ affairs and to bring development to their home areas. In a related context Jackson comments that,

... two quite contradictory but equally pessimistic scenarios were frequently put up by many observers (including myself):

a. on the one hand, the project would undermine and destroy ‘traditional’ life styles
b. one the other, it would not bring sufficient benefits to the people (i.e. it would not destroy life styles enough)

Depending on one’s viewpoint [in Kiunga] the project has had both, or neither, effect (Jackson 1993:127).

This puts the finger squarely on the contradictions that the employment issue raises: everyone wants there to be more jobs, but in the same breath will explain why they personally need to be back in the village. The big question is, what will they do when they get there?
Rubber

A variety of economic crops has been tried in the North Fly. Only rubber has been of any significance since the first plantings in 1965-1966, having played, as I have noted, a key role in the movement of settlements into the corridor of the Kiunga Highway. Now, however, the situation is very different, with rubber production having dropped to a historically low level (Kirsch 1993: Figure 5). The provincial rubber co-ordinator reported in 1992 that,

It is well noted that 1991 was once again an unsuccessful year for [the] rubber industry in the province...

Problems contributing to very poor output were lack of financial back up to rubber extension programmes, lack of project reviews and poor reporting systems, isolation of smallholders and of course the low farm-gate prices (Kalama 1992:9).

An opinion I was given was that rubber was a crop that had been ‘forced upon the villagers’ by Australian kiaps and had never been a suitable cash crop for Western Province. It is true that the administration initiated planting in 1965/66 and that sixty Yonggom and Awin men were sent to Central Province for training on rubber plantations (Jackson 1979:8), but villages well north of Kiunga, where the first plantings were made, moved to the suspected road line before it was actually decided to open the road and assist with the planting of rubber seedlings there:

... ‘somehow the rumour started that the administration were to construct a vehicular road from Kiunga to Runginae to facilitate the extension of rubber planting’. Almost every settlement in the southernmost parts of North Awin [i.e. West Awin today] and the northern parts of South Awin had moved to the suspected path of this road by 1968 to gain access to rubber (Jackson 1979:9; quotation from TPNG 1966/67).

As, obviously, the villages in question were not ‘forced’ to plant rubber, the negative assessment of my informant must be qualified by the industry’s unusual sensitivity to price variations. The market situation is that of a monopsony (one buyer, many sellers), and not surprisingly the monopsonist, the Progress Company of Kiunga, unwittingly plays a system-regulating role in its buying behaviour.

In years of low prices, buying trips along the river cease, as has occurred from 1990/91. In years of reasonable prices, boats are sent out on buying trips. For example, in 1985 the entire year’s production of 23 tonnes at Atkamba village, on the Ok Tedi, was bought up on one visit at 20t/kg. In years of high prices, villagers can afford to pay freight charges to Kiunga and sell there, presumably for a better, warehouse-door price. In 1988, with cup lump rubber at 30t/kg, Atkamba villagers sold approximately the same amount in the village as in 1985, but also took a further 15 tonnes to Kiunga by themselves (data from Agricultural Development Services 1992:Table 3.11; this source courtesy of R.M. Bourke, see also Kirsch 1993:46-49).
Figure 6. Responsiveness of village rubber production to buying price for six villages in Gulf and Western Province. (Original data: Agricultural Development Services 1992:Tables 3.6-3.11 courtesy of R.M. Bourke).

Patchy village sales data are available and these show a convincing correlation between price and production (Figure 6). The run of consecutive years with sales figures follow the down turn in prices after 1988, but unfortunately do not continue into 1992, when field observation shows production had fallen to nil in outlying parts of the Kiunga District (Kirsch 1993), and from a sixth monthly output of 36.5 tonnes in 1991 to one of only 12.4 tonnes in the first half of 1992 in Balimo, the other main rubber-growing area (interim data for 1992, courtesy of B. Kalama; see Kalama 1992:Appendix C for 1987-1991 production by district). Despite this partial information, the trend is clear enough, with even a hint that production changes lag somewhat behind price changes.

An idealisation is as follows. Production varies in direct proportion to price, falling to zero only when the marginal labour cost of producing a bag of rubber drops below the opportunity value of doing something else, say planting a food crop garden. But in the Kiunga rubber industry, river buying trips by the Progress Company would seem to cut out some time before this point might arguably be reached by the average grower. As a result, all but the most diligent, or perhaps boat owning, growers stop tapping rather abruptly well before this price threshold is reached. Without information on buying patterns along the Kiunga highway, I can only guess that a similar relationship holds here; as my survey shows (Appendix C) only a few village own trucks and with the current price at K9.00 per 50kg bag, the 100km round trip distance from, say, Matkomnai to Kiunga makes road transport uneconomic for the small grower.

In a climate of rising prices, a mirror of the pattern of decline might be predicted to occur. Buying trips, by truck and boat, start up when it becomes economic to do so, encouraging local growers to restart tapping. At a higher threshold, when growers find it viable to bring in their own rubber, they step up production again. And, by virtue of the fact that growers tend to store up production for a several months before selling, it seems likely that peak production will overshoot peak prices. At all events, I suggest that the result is tapping and buying behaviour that is cycle-amplifying—by contrast with the
intended counter-cyclical, dampening effects of price guarantees and subsidies—and that this helps to exaggerate the booms and busts of rubber growing.

Fairness in buying?

A last point concerns the position of the Progress Company in the industry. Is there evidence, as some growers allege that it underpays growers for rubber? In fact, the price is set on an administrative, not a competitive basis, by the Department of Agriculture and Livestock (DAL). The grower’s price is calculated from an international price, from which subtracted processing charges and freight costs, and which is further reduced according to the ‘Dry Rubber Content’ (DRC) of the rubber. Freights charges to buying centres and from the buying centres to the factory at Cape Rodney vary considerably across the country, but in November 1991 the variation in grower prices was a mere 2t/kg, as shown in Table 4.

<table>
<thead>
<tr>
<th>Location</th>
<th>Price</th>
<th>DRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerema</td>
<td>K209.05/tonne</td>
<td>21t/kg 70% DRC</td>
</tr>
<tr>
<td>Kiunga</td>
<td>K186.65/tonne</td>
<td>19t/kg 70% DRC</td>
</tr>
<tr>
<td>Balimo</td>
<td>K202.75/tonne</td>
<td>20t/kg 70% DRC</td>
</tr>
<tr>
<td>Kavieng</td>
<td>K197.75/tonne</td>
<td>20t/kg 70% DRC</td>
</tr>
<tr>
<td>Lorengau</td>
<td>K211.16/tonne</td>
<td>21t/kg 70% DRC</td>
</tr>
</tbody>
</table>

Table 4. Recommended grower prices for cup lump rubber in different parts of PNG, November 1991. (Original data: Agricultural Development Services 1992:86; courtesy of R.M. Bourke.)

The answer, then, is that there is no evidence that the Progress Company is artificially holding the price down for growers.

Village business

Local business activity is mostly made up of small-scale livestock projects, market sales, store keeping and, in selected places, road construction and maintenance. I have no direct study of village business to report here, except to note that few of the things I heard discussed in villages as possible ventures are actually up and running as viable forms of business.

Trade stores

Store keeping is not a notably successful enterprise in this area. I had the idea of noting store inventories in each of the villages I visited, but perhaps half the stores claimed to exist were open and these had a very small range of goods in them—perhaps half-a-dozen lines only. A systematic survey would not have been illuminating. The ‘Ningerum Transport T-Store’, at Ningerum, is probably the only properly stocked store between Tabubil and Kiunga; in August 1992 it had the goods listed in Table 5. This was an exceptional store because of the wide range of brands and the fact that the power to its refrigerators was connected. A nearby bottle shop and another Ningerum store were memorable for the inability of their keepers to add up prices and their unbusinesslike tendency to undercharge.

<table>
<thead>
<tr>
<th>Clothing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationery (e.g. airmail pads)</td>
</tr>
<tr>
<td>Chilled drinks fridge</td>
</tr>
<tr>
<td>Freezer chickens, var. sizes</td>
</tr>
</tbody>
</table>

- 22 -
Tools, locks, cash boxes
Tinned meat × 9 brands
Tinned fish × 2 brands
Sugar (Ramu)
Maggi noodles
Cooking oil
River (Trukai)
Soap
Sundry radios
Instamatic camera (110)
Film (110, 135 sizes)
Stayfree and Carefree sanitary pads
Baby powder, baby shampoo
Toilet paper
Canned drinks × 8 brands
Bottled drinks × 2 brands
Fruit box drinks × 2 brands
Cigarettes × 5 brands
Honey (jar)
Milo
Coffee (Nescafé Niugini blend)
Batteries
Torch globes
Kerosene lanterns
Mortein insect spray
Aspro and Panadol
Biscuits × several brands


Vegetable markets

I inquired about sales of vegetables in every village I visited; very few people claimed to derive any income this way. The repeated comment from potential sellers was that they had no transport to any of the markets. Pampenai villagers were an exception, as they have vehicles they can catch rides on to Tabubil and Kiunga. An allocation of K3,000 is noted for a ‘minimarket’ at Ningerum in the 1992 RDF budget (Table 11, p. 47), but I saw no market operating there myself. This is not an area of Papua New Guinea where ‘informal markets’ are noted as spontaneously springing up at suitable road junctions; the only roadside market where there always a supply of vegetables for sale is that at Sisimakam; this market is housed in a building constructed by the Trust. My informant here, Cllr. Kumoto, said the market ‘looks after’ the Sisimakam people, which it undoubtedly does, as only one Sisimakam person has found employment in the District.

Kirsch (1993:52-54) looked at goods on sale at the Kiunga market and his information confirms what the villagers I interviewed said. Most sellers were from ‘corner’ settlements or Fly River villages near Kiunga; none had brought food to Kiunga from a North or West Awin, or Ningerum, village.

Local construction

The handful of local road construction businesses turn over the largest sums of money seen by businesses in the District; they play an important part in spending funds out of the provincial budget (see 49 ff.). A scattering of villages also have businesses that do building construction sub-contracting; the proprietors typically learned their skills at vocational school or as OTML apprentices. Unfortunately, I have little insight into how either kind of business operates. How did the businesses now running raise their starting capital? What skills do their owners and employees have? What is their capacity for expansion? At the present time these are all unknowns to me.

An example of a road construction company in the study area is Kire Constructions of Pampenai village. In 1992, this had two flat-bed trucks, a backhoe and two bulldozers. One of Kire’s dozers originally belonged to Curtain Star, who wrote it off when it went down a ravine. Kire extracted it and got it back into working order. If opportunism of this
nature is a typical factor in getting started, how susceptible to ill-fortune—lost contracts, for example, or mechanical failures—are businesses like this once they are running?

An example of a local building contractor is Kathha Constructions of Demesuke village. This was started as a partnership by Mr Rex Imu and Mr Ketu Krurin, who were apprentices together in Tabubil, the former a plumber, the latter a mechanic. If Kathha is not hired directly, Mr Imu works as a local supervisor for the Trust and oversees the work of local tradesmen hired by the Trust to put up water tanks, build haus win and do other village works.

I complain below (p. 56) that the provincial road building programme is marred by weak planning, last minute re-allocations of money, and a lack of completion inspections. This has its repercussions elsewhere, but it is particularly bad for the contractors, since the lack of supervision and absence of clear long-term objectives isolates them and fails to encourage them in good habits. By contrast, it is evident to me that the Trust is having a good effect on the fledgling local construction industry by putting a good number of small jobs in the hands of local tradesmen, insisting on good standards of work and, perhaps unwittingly, helping to transfer industrial skills from OTML’s mine operations out into the wider community.

Small-scale livestock projects

Small-scale livestock projects are extremely popular with development advocates and villagers alike, but in this province have grown dependent on a K2.4m/year subsidy (see Figure 9, p. 38) from various provincial government budget lines, including the highly dubious use of provincial electorate development funds. I look at particular projects in the study area in the next chapter (e.g. p. 42) and as far as I can see the subsidy is almost all wastefully consumed in running costs.

The idea of raising chickens, or other stock, is a good one; with re-organisation, it could probably be made to work. But at the present time, very few of the so-called ‘projects’ so far seen in villages appears to be self-sustaining.

Health

Describing my visits to villages in Ningerum Census Division in 1991, I said that,

... health patterns remain poor throughout the area, by Papua New Guinea standards. A few villages in the north receive OTML-sponsored medical services from Tabubil; the rest fall in the catchment of Ningerum Health Centre or are given service from Aid Posts and Health Sub-Centres run by either ECP hospital at Rumginae or the Montfort Catholic Mission.

The key threats are malaria and, particularly in Ningerum, filariasis. What proportion of women receive birth assistance from trained health workers is unknown, but where travel is not difficult women are likely to go to Ningerum or Tabubil to give birth, otherwise not (we saw a woman at the full term of her pregnancy walking unaccompanied from either Tengkim or Wombom to Ningerum). In outlying areas of Ningerum Census Division, there is no reasonable evidence that health patterns have improved since the early 1970s when a sparse network of Aid Posts was established.

I would add to this that nutrition is problematic, but underinvestigated, throughout the area. It is my feeling that the differing balances of fish, sago and regular garden crops found across the area may be responsible for the large observed variations in stature and well-being among neighbouring villages.
this stage, I cannot cite hard data to support this; I believe it is a hypothesis that would repay investigation (Burton 1991:30)

In 1992, I continued to pay attention to health and nutrition problems, visiting places either with aid posts or higher level health facilities run by the MCM (e.g. Matkomnai, Kungim), ECP (e.g. Rumginai) or the government (e.g. Haewenai). In general, the places I visited were to the south of the ‘Alice’ Ningerum villages that led me to express concern about the general health status of that area. The resources available to the Ningerum people varied markedly between villages, I had found, according to the way village lands were mapped across various ecological zones—in addition to their regular garden land, some people had better access than others to well-stocked fishing streams, low-lying stands of sago, fruiting trees, and other supplemental sources of food. To the south, however, the Awin people I visited in 1992 inhabit a topographically less rugged area. Except for the North Awins who live at Sisimakam, Kwiloknai and Tapko, almost all the remainder live a very similar environment of low hills, swamps and small streams. In place of the ecological variability that dominates the Ningerum area, access to the Highway and to navigable rivers is the most important factor explaining differences between settlements. As I have already discussed above (8 ff.), the immediate post-contact pattern of settlement has been wholly transformed by village relocations; by contrast, this was not a notable feature among the southern Ningerum villages, where people are still mostly living on, or a stone’s throw from, their own clan lands.

Recent village-based medical data are in short supply south of the Star Mountains.13 However, since the time of my previous report, what information there is has been brought together by Schuurkamp (1992) and the first results of a filariasis control programme centred on Rumginae have appeared (Turner 1991). In respect of the Ningerum, Schuurkamp says,

Malaria is considered to be the principal cause of ill-health ... Lower respiratory tract disease, chronic and acute, are common and debilitating. Pulmonary and glandular tuberculosis are present, and haemoptysis (coughing up blood) is reported as a common occurrence. Pneumonia, however, is major killing disease in adults, many of those surviving suffering from chronic infection.

Filariasis is highly endemic in the Ningerum area ...

The incidence of helminth infection, in particular hookworm ... is high ... (Schuurkamp 1992:16-17).

Since no great differences in the endemicity of the major diseases are suspected across the present study area, Schuurkamp’s remarks may be taken as applying equally well to the Awin, and indeed the Yonggom people. Turner, for example, says that his initial survey of the Rumginai area ‘revealed a population with a poor standard of health’ with, according to a set of interviews with mothers, figures for childhood mortality (0-5 years) as high as 40% (Turner 1991:13; also pers. comm.).

None of these populations are well off and, if the Star Mountains people were considered to have had a bad state of health prior to construction, Jackson says,

13 King’s section on health data (1993:Table B) shows official health returns from aid posts and health sub-centres to be incomplete and only intermittently filed; they are not very useful at all.
...it seems reasonably clear that health conditions in the lowlands were poorer than in the mountains and that, to most observers, nutrition and food intakes in the region were problem areas (1993:117; my emphasis)

OTML health facilities at Tabubil have now helped bring about considerable improvements in village health in a catchment around the town, but they remain too distant to benefit most Ningerum and Awin villagers. Only about 5% of the total population studied by the Ok Tedi Health and Nutrition Project between 1982 and 1987 were Ningerums or Awins (Schuurkamp 1992:22).

Medical services in the study area are based at Ningerum (government Health Centre), Rumginae (ECP Health Centre), Tarakbits (MCM Health Sub-Centre), Haewenai (government Health Sub-Centre) and Kiunga (government Health Centre). Aid posts provide a simpler level of care in some villages; missions also run and supervise small health posts (e.g. at Matkomnai), usually providing a better level of care than at ‘ordinary’ aid posts. However, the key point is that all the facilities act as treatment stations; none to my knowledge is able to deal with the people in its health catchment in a systematic manner. Whether or not patient records are kept in as good order as those at the Tabubil Health Centre, there is only weak capacity for areal coverage or follow-up unless patients repeatedly present themselves.14 As the serious health threats in the study area typically manifest themselves in chronic states of ill-health, only limited in-roads can be made in dealing with them. Villagers who live more than a short distance from the places of treatment are underserviced.

Female-to-male ratios as an indicator of health status

Sen (1993) shows how, in the absence of other measures, female-to-male ratios can be used as indicators of the overall success of health care. In world terms, female-to-male ratios15 of 0.91-0.93 are seen in populations without good health care and particularly with poor, even discriminatory, attention to the health problems of women. Countries with a good all round health effort, whether ‘developed’ or not, achieve ratios of 1.02-1.04.

King (1993:Table B) lists female-to-male ratios at the 1980 and 1990 censuses for the 103 villages in the Trust. Eight villages must be dropped because there was no count at either or both of the censuses; I have dropped one more as anomalous—Nakaku—because only nine men were counted in 1980. In the remaining 94 villages the female-to-male ratios are as shown in Table 6.

As can be seen, the female-to-male ratios compare with the bottom of the international heap; according to Sen (199:24), 0.93 is the national figure for India, 0.94 that for Bangladesh, and 0.98 that for North Africa, for example. Sen takes the ratio for sub-

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14 Turner (1991:7) notes a(n unnamed) village adjacent to the Rumginae hospital (Briompene) with a very low rate of child immunisation. M. Fitzmaurice (pers. comm.) says his hospital can maintain in-patient records but cannot monitor the catchment population outside it.

15 Much of the literature quotes a ‘masculinity index’ in terms of males per hundred females. Thus 0.91 is the equivalent of 109.9 males per 100 females. I can now see this as slightly misleading in highlighting an imagined ‘excess’ of males, when it is the very real deficit of females that is in question. See note 3 on p. 70.
Saharan Africa, 1.02, as a benchmark ratio for non-industrialised countries—that is, what could be achieved given good and fair health delivery. Simple multiplication of the totals for males in Table 6 by 1.02 indicates that a total of 1414 girls and women were ‘missing’ in 1980 and 2766 ‘missing’ in 1990 among the populations counted. These calculations do not take into account absentees from villages; as most of these are usually men, the picture would merely worsen if they could be added in.

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>F</th>
<th>Total</th>
<th>Ratio</th>
<th>'Missing' females</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Census 1980</td>
<td>16510</td>
<td>15427</td>
<td>31937</td>
<td>0.93</td>
<td>1414</td>
</tr>
<tr>
<td>National Census 1990</td>
<td>32973</td>
<td>30867</td>
<td>63840</td>
<td>0.97</td>
<td>2766</td>
</tr>
</tbody>
</table>


There is an ‘improvement’ of the female-to-male ratio between the two censuses, though we cannot tell if this is due to a better health effort or other factors, such as a better count of women and girls. Certainly, the apparent doubling of the populations enumerated is highly suspicious; at the national rate of natural increase, only about 25% more people are expected.

Focussing on the present study area, inspection of government figures shows that ratios as low as 0.80 are not exceptional in Awin villages. As before, absentees are not accounted for but, if the predominantly male absentees I picked up in interviews were added to the village counts, the deficits of females would only become more pronounced. To see whether the effect can be correlated to health care, I took twenty West Awin census units (Table A3) that I could positively identify with villages I had visited and classed them as follows:

- villages with poor access: no aid post in the village or in an immediately adjacent village;
- villages with some access: villages with aid posts, villages adjacent to villages with aid posts, or with good road access to a Health Sub-Centre or Health Centre;
- villages with fair access: villages adjacent to a Health Sub-Centre or Health Centre.
Health service accessibility

Ratio of females to males

<table>
<thead>
<tr>
<th></th>
<th>1955 patrol</th>
<th>Poor access</th>
<th>Some access</th>
<th>Fair access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>N</td>
<td>Males</td>
<td>Females</td>
<td>Totals</td>
</tr>
<tr>
<td>1955 patrol</td>
<td>12</td>
<td>459</td>
<td>375</td>
<td>834</td>
</tr>
<tr>
<td>Poor access</td>
<td>6</td>
<td>585</td>
<td>533</td>
<td>1118</td>
</tr>
<tr>
<td>Some access</td>
<td>8</td>
<td>558</td>
<td>563</td>
<td>1121</td>
</tr>
<tr>
<td>Fair access</td>
<td>6</td>
<td>612</td>
<td>624</td>
<td>1236</td>
</tr>
</tbody>
</table>

In practical terms, ‘poor access’ means that sick people cannot get chloroquin easily or have sores treated; mothers frequently give birth unassisted and essentially receive no perinatal care. ‘Some access’ means that chloroquin is available when the aid post is functioning properly, sores can be treated, but that birth assistance and perinatal care may not be available. ‘Fair access’ means that birth assistance and perinatal care is expected to be available, as is the immunisation of children.16

I could confidently identify twelve of the same villages in tabulations of 1955 patrol census data (Filer 1991: Tables 371 and 372), providing a useful control sample. In 1955, the population structures of each community would essentially reflect the person-years lived before contact, not the limited medical treatment that had just become available.

With this level of detail, the positive relationship between medical care and the female-to-male ratio is unambiguous and striking (Fig. 7). In 1955, as in other newly contacted areas, it is possible, but not definite, that some women and girls were hidden from patrol

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16 In fact, the lower level Health Sub-Centres are not always up to establishment strength and services suffer accordingly. Kirsch notes (1993:33) that Atkamba Health Sub-Centre had no nurse in 1992; at Haewenai, there was none on my visit and my Awin field assistant, a former nurse trainee, scrubbed up and delivered a baby a few minutes after our arrival there.
officers; further examination of patrol diaries would throw light on this. At any rate, the ratio of 0.82 for the sample is below a modern ‘bad’ rate by a considerable margin.

In 1990, the principal difference is between villages with no health services to speak off, and those with at least aid posts. The former are badly off, with a ratio of 0.91. Fig. 7 shows that this represents a deficit of some 64 ‘missing’ females, if a benchmark ratio of 1.02 were adopted as representing reasonable all-round health care. But is the 1.02 benchmark appropriate? If it is, what do the statistics mean for the neglected villages?

The 1.02 ratio does seem appropriate for the Awin villages; as it happens, this is the exact ratio seen in Awin villages close to health facilities with at least a nursing sister on duty (Rumginae also has a doctor). This level of care is not always perfect—no one will claim that a rural Health Centre can save every life—but it is above all where the benefits of mother-child health (MCH) clinics begin to be felt. By contrast, the neglected villages continue to suffer with health intervention at levels not far above those seen at contact.

Discussion

The high masculinity of rural Papua New Guinea populations is well known to the medical and anthropological literature, though I have not yet found an attempt to use female-to-male ratios as a indicator of general health, as I have done here. Lea and Lewis’ review article (1975) is the most comprehensive examination to date. They rule out a genetic explanation; at birth, the sexes have a normal ratio (about 0.95). In the ‘modern’ pattern, male mortality tends to be higher than female mortality from birth onwards, so that the age-specific ratio creeps upwards and past 1.00 until there are more females than males; in Papua New Guinea the opposite of this is consistently seen. More girls than boys die among the under fives (McDevitt 1979:57), more boys than girls are treated at health centres, and in the absence of warfare women run much higher risks in the child-bearing years than men of the same age—as many as 5-7% of rural women die for reasons related to childbirth (McDevitt 1979:68)

A full discussion of the non-medical factors which contribute to sex selective mortality cannot be made here. Economic, cultural and educational factors play a very important part. For example, with cleaner, more frequently used tracks and safer river crossings, village women run fewer of the simple risks that their environment and their daily round of subsistence work naturally hold for them. A simple improvement in the number of girls sent to school can have the effect of placing them closer to centres of treatment for longer periods. With better levels of education and economic participation, adult women can move to less traditional, but safer, occupations than were previously open to them.

Lastly, I stress again that female-to-male ratios are only an indicator of relative survival rates, and that ‘missing females’ are only ‘missing’ in relation to a particular level of health. While it is considered proportional to it, it is not a measure of the level of health itself. Thus if we see a ratio of 0.91, and an apparent total of 64 ‘missing females’, among the villages with poor access to health care, we must also imagine the men and boys who have failed to survive because health care is poor for them too, and a matching

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17 In two selected years, 1968 and 1971, 51,514 and 72,547 children under fifteen received treatment across Papua New Guinea. In both instances, 57% were boys (Lea and Lewis 1975:102).
number of women and girls, before counting the ‘missing females’ who are extra casualties.

Conclusions in regard to health

The simple human struggle for survival is a dominant feature of life in the North Fly: it is quite the opposite of a ‘tropical paradise’ as far as humans are concerned. A comparison with the main valleys of the Papua New Guinea highlands or with any coastal or island people making good use of marine resources would be highly unfavourable. These areas are generally home to denser populations that are easier to reach with health services. They also have the benefit of one or all of the following health favouring factors: more productive soils, more intensive agriculture and pig husbandry, a greater range of supplementary crops, access to marine resources. A pre-contact zero rate of growth is suspected for parts of the study area, and some populations are believed to have declined in the initial period after contact (Schuurkamp 1993:16-17, 22); possible rates of growth before contact for highland areas continue to be discussed (e.g. Dennett and Connell 1988), but most scenarios point towards a substantial pre-contact potential for growth (e.g. Golson 1982; Modjeska 1982).

Lastly, the mosquito-borne diseases that dominate the study area are not exclusive to it and can be kept in check with appropriate health programmes, as has been already shown in the Star Mountains to the north of the study area. There, threats to health were quite similar before the mine was built, but they have been effectively lifted by the presence of good medical facilities at Tabubil and the aggressive village health policies of the OTML Medical Department. No such intervention has occurred within the study area and similar gains on standard measures like infant mortality and parasite infection rates have not been made.

At present, it is the policy of the Ok Tedi-Fly River Development Trust to assist with development, loosely defined, in the villages along the river corridor. As there are no obvious grounds for excluding improvements in health from the overall vision of development, it is implicit that they form part of the Trust’s long-term objectives. However, from my rather grim analysis of health in the study area, I cannot portray better health as following on the coat-tails of development here; I can only see it as a lead objective. More pertinently, it is wishful thinking to imagine that measurable progress will be made in Trust villages by isolating them and bringing benefits to them alone—health is not an sector amenable to this approach. What is required is a properly formulated provincial health plan. This is an issue I will return to in my concluding chapter.

Education

Jackson (1993:97-112) covers a range of education issues. King (1993: Map 10, Map 11, Table C) presents sparse statistics. I did not investigate education at all.
CHAPTER 3

THE FUNDING AND ADMINISTRATION OF DEVELOPMENT

A recurrent theme of Richard Jackson’s recent review of the development of the Ok Tedi project (Jackson 1993) are the contrasts seen (a) between the poor return on investment achieved by the share-holders, including the Papua New Guinea government, and the steady level of benefits to the Fly River Provincial Government and the SML landowners,\(^{18}\) and (b) between the dramatic improvement in infrastructure directly associated with the mine, such as the Kiunga Highway and the establishment of Tabubil, and the generally miniscule improvements in development in other parts of the province over the same period. For example, he says:

Daru town is very little different in appearance today from what it was ten years ago. There are no material signs of any great expansion resulting from increased administrative spending ... (1993:60)

The [FRPG] has had a very poor record of overall expenditure and a worse one of productive expenditure: there is very little to show for the high level of financial support it has received from National Government and royalty payments to date ... (1993:145)

In this chapter I examine the budget arrangements and implementation capabilities of Western Province to see if Jackson’s propositions can be backed up with hard evidence. It is obvious that if he is right, the operations of the Ok Tedi Fly River Development Trust must be seen in quite a different light than if he exaggerates the situation or is factually in error. The minimalist position, in relation to mine benefits, is that the State should tax mine operators and use the money to provide social services and infrastructure improvements; mine operators should not directly provide benefits. It is doubtful whether this is strictly followed anywhere in the world, but if this did accurately portray the situation in Western Province, the Trust would be seen as unnecessary, and it could be seen as meddlesome. On the other hand, if the State fails to tax and spend—or at least, if it fails to spend—the architects of the Trust are justified in thinking they should ‘step into the breach’ to provide villagers with something that they can see and hold onto.

In doing this, I will at times delve minutely into budgetary matters, but my aim is to push through to a examination of where and how well Western Province’s money is spent. At this point I will float the idea that the economy of a province in Papua New Guinea is quite unlike that of a similarly-sized rural district or shire in a developed economy. In the latter case, the economic activities of the business and private sectors are generally diversified and collectively much greater than those of the local authority. Also, local businesses supply and feed off each so that spending on primary contractors have significant flow-on effects in the local economy. So that as long as they are not grossly mis-directed, public dollars (a) circulate to everyone’s benefit and (b) do usually result in the delivery of visible services. But in provinces in Papua New Guinea—other than, arguably, Western Highlands and Morobe—the business and private sectors are not diverse (e.g. they have a narrow focus on retail sales and cash-cropping) and the public

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\(^{18}\) Remembering that this is the relatively small group of villagers on whose land the mine is situated. Project impacts on ‘landowners’ extend well beyond this group, but royalty incomes do not.
budget is large in comparison to the total monetary economy. The great danger is that, after wages and salaries have been met, public spending is simply blotted up by the incapacity of primary contractors to pass on a proportion of their receipts in the form of purchases of lower level goods and services. ‘The economy’ is only weakly able to circulate publicly spent kina and if, through mis-direction, the results are not directly visible, spending falls into deep holes with few flow-on effects.

Assuming my depiction of provincial economics to be near the mark, I can reasonably say that the best way to illuminate the effectiveness of service and infrastructure delivery is to look at the sharp end of the spending programmes—what actually materialises at village level. No end of economic modelling can match this.

**Is Western Province well-funded?**

From Jackson’s statements, the claim stands that FRPG has received adequate, indeed, more than adequate funding by comparison to non-mining provinces, but has failed to put this windfall to lasting benefit. In the first place, according to Jackson, financial support from the national government rose over the period 1984-1991 to give Western Province people the highest level of per capita spending in the country. Is this true? I have figures for 1984 and 1992 (Table 7) and in real terms, central revenues rose by 102.6% for Western Province—much faster than population growth—but only by 15% for other provinces, a failure to keep pace with population growth. Only Enga, a far more

### Receipts from National Government

<table>
<thead>
<tr>
<th></th>
<th>1984¹</th>
<th>1984²</th>
<th>1992³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Province</td>
<td>K8,266,904</td>
<td>K11,821,673</td>
<td>K23,948,200</td>
</tr>
<tr>
<td>Other provinces (excl. North Solomons &amp; NCD)</td>
<td>K190,186,170</td>
<td>K271,966,223</td>
<td>K312,865,500</td>
</tr>
<tr>
<td>Western Province, per capita</td>
<td>K96</td>
<td>K137</td>
<td>K208</td>
</tr>
<tr>
<td>Other provinces, per capita</td>
<td>K64</td>
<td>K92</td>
<td>K90</td>
</tr>
</tbody>
</table>

### Citizen population

<table>
<thead>
<tr>
<th></th>
<th>1984⁴</th>
<th>1990⁵</th>
<th>1992⁷</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Province</td>
<td>86,469</td>
<td>110,000⁶</td>
<td>115,118</td>
</tr>
<tr>
<td>Other provinces (excl. North Solomons &amp; NCD)</td>
<td>2,962,602</td>
<td>3,419,538</td>
<td>3,492,886</td>
</tr>
</tbody>
</table>

**Table 7. Western Province (Department of Western + Fly River Provincial Government) receipts from central sources (inc. royalties).**

**Notes to Table 7.**

¹ In 1984 Kina, data from Axline 1986:Table 32 (original date from 1984 estimates of revenue and expenditure).


³ Data from Papua New Guinea 1991:Vol 3, Table 10.

⁴ Taken from Axline 1986:Table 49 (original data from National Statistical Office).

⁵ Taken from Suvolo 1991:Table 1.

⁶ Upper Strickland Tributaries, Murray Valley and Blucher CDs estimated: no field counts.

⁷ Projection based on 2.3% p.a. population growth.
populous mining province, edged out Western for the top spot in the provincial rankings of overall funding (Enga’s figure for 1992 was K24,711,200). The giant Morobe Province, usually holding the top ranking on other measures, received a few hundred thousand kina less (K23,530,700 in 1992).

There is a natural bias for provinces with small populations to receive high per capita levels of funding (they must still fund a basic range of fixed positions). If we exclude the three provinces with less than 100,000 people—Manus, New Ireland and Gulf—it is indeed the case that Western has almost double the normal level of spending per head of population. With K208 per person it leads the second-ranked Milne Bay (K117 per head), its own finances enriched by nearly K5m in mining-related benefits, by a huge margin. Enga Province (K99 per person), with the richest mine and receiving almost K9m in mine benefits, is firmly buried in the middle rankings (see Figure 8). The first part of Jackson’s thesis is thus well-founded.

**Provincial funding arrangements**

The second part of Jackson’s thesis, that the province has little to show for its high income, is not a naturally easy thing to substantiate. No set of departmental returns will easily yield an answer of the type we require. As I have intimated, the approach I shall take is that budget items must be tracked down on an individual basis and matched against visible progress out in the bush.

**Planning and expenditure**

The funds available to Western Province are divided in two: funds spent by the Department of Western Province (i.e. by public servants paid through national appropriations) and those spent by FRPG through the provincial budget. In principle, forward planning should enable the two sides of administration to work hand-in-hand to deliver services like health and education, and to work towards long-term infrastructure goals. In Western Province the blueprint for this was meant to be the Western Province
study and development plan 1988-1992 (Department of Western Province 1988a/b/c), but in mid-1992 it was generally accepted that the Plan’s objectives had been set aside in favour of expediency and copies of the three volumes were scarce or unobtainable\(^{19}\) in government offices, notwithstanding the fact that the Plan’s five-year period had several months still to run. The Plan, therefore, is not a guide to the spending of public money in Western Province,\(^{20}\) but at the same time it is not certain that the province would have taken a different direction had the plan been whole-heartedly adhered to. The North Fly plan consists of additional programmes and expenditures that the public service departments would have liked to have secured to boost development. Whether the plan as it stands is a polished document is irrelevant; it is enough to note that its guidelines appear commendable, such that by following proper review and reporting procedures, departmental staff could have adjusted the content from time to time as needed. At any rate, the three biggest spending areas were to have been Transport and Infrastructure, Education and Health, with Primary Industry, Forestry and a Media Unit next down the list (Table A1).\(^{21}\) The total expenditures ran to K4.0-4.5m a year and, while they may have seemed large at the time, they are now well within North Fly’s quota of supplementary monies received annually from the National Government. Documentation to hand (North Fly Political Advisory Council 1988) shows that in 1989, at least, the Political Advisory Council (PAC) budget for North Fly closely follows the North Fly Plan estimates for that year and totals K4.35m, to be sourced from royalties (K2.76m), KLM moneys (K1m) and FRPG general revenue (K0.59m).

Current make-up of provincial funds

Today Western Province receives money from Waigani in an unusually complicated manner. These following are the main sources of ‘external’ funds:

- The Department of Western receives its normal public service allocations out of national departmental budgets;
- The Minimum Unconditional Grant (MUG) is the government’s basic subvention of provincial government, and is calculated from a standard formula applied to all provinces;
- Mining Royalties are received by FRPG tied to Ok Tedi’s annual production; 1.25% of export value is shared between the provincial government and landowners. From 1984 to 1990 the split was 95:5;

\(^{19}\) I was unable to find an office in Daru that still had copies of the South Fly volumes of the plan.

\(^{20}\) To find how well the North Fly part of the plan had been received I interviewed the men who were in the two most senior positions in Area Co-ordination at the time. Both were happy with the basic content, though they regretted the haste in which it was rushed together. Both pointed to the fact that it was commissioned when the area was under the direct administration of Waigani, which it had been since 1982, but appeared just as the authority of FRPG was restored to North Fly under the Kiunga-Lake Murray Agreement, and that the plan was dropped—or allowed to lapse—more or less immediately thereafter. A factor mentioned in Daru was that the architects of the South Fly plan left the province not long after they finished work on it. No review was in train in 1992, the supposed final year of the plan and, while there were approved planning positions in both Daru and Kiunga, most of the incumbents in filled positions were ‘acting’. According to my inquiries in Daru the Assistant Provincial Research Officer, Social Planner, and Senior Projects Officer positions were vacant. This presumably left only the Provincial Research Officer and four junior positions filled.

\(^{21}\) Tables with an ‘A’ prefix are to be found in Appendix A.
from January 1991 it has been 70:30 (i.e. formerly 1.1875% and now 0.875% of export value is received by FRPG);

- A Special Support Grant (SSG), nominally set at 1% of export value, is paid to mining provinces to meet extra infrastructure costs. In the case of Western, the agreement dates to late 1990, K3m was allocated for 1990, K5.1m for 1991 and K4m for 1992. Because the last amount, in particular, is not 1% of export value, the formula is perhaps not followed exactly. By agreement, 40% of the SSG in a year is earmarked for South Fly, 40% in North Fly (excluding Tabubil) and 20% in Tabubil District. In North Fly, a further breakdown is supposed to be: ‘Alice villages’, ½ share, ‘Highway villages’, ¼ share, Kiunga-Everill Junction, ¼ share (Burton 1991). I have not seen a definition of the first two categories;

- The Kiunga-Lake Murray (KLM) Agreement, signed with the national government in 1987, provides an extra K1m a year to cover the cost of transferring Area Services in North Fly from the (national) Department of Provincial Affairs, the administering agency 1982-87, to FRPG. The five year agreement expired at the end of 1991 but KLM funds are still included in the 1992 budget, handed down in November 1991;

- Additional grants under K100,000 a year: Staffing Grant, Town Services Grant, MUG underpayments from previous years;

- Sundry ‘Border Development’ grants historically obtained from time to time and possibly funds in the defence budget earmarked for border airstrips, patrols etc (details not known).

‘Internal’ revenues amount to a few hundred thousand kina a year and come from items such as liquor sales tax, licence fees and rent.

**Appropriations for 1992**

The 1992 allocations for FRPG appear in Table A2. The recurrent costs of operating the provincial government appear as essentially fixed items in the budget: the lines for the Offices of the Premier and Speaker, Support Services, and various maintenance and minor works items. The Office of the Premier comprises the Executive Arm of FRPG and is made up of the Premier, Deputy Premier and eight provincial ministers. The Office of the Speaker comprises the Legislative Arm and is made up of the Speaker, Deputy Speaker and twelve provincial members. The two offices divide between themselves (most of) the emoluments and allowances of the twenty-four provincial members. I term these items here the ‘main budget’.

After this the North and South Fly Development Programmes are large, tied appropriations which essentially assist the Department of Western Province to bring services to the villages in North and South Fly respectively. In Kiunga, for example, FAS District Co-ordination is run out of this budget line. Also, considerable slabs of the North and South Fly Development Programme budgets are also ear-marked for road, waterway and airstrip building and maintenance, and construction.

Finally come the ‘special’ funds that Western Province enjoys because of the unusual position it holds as the home of the Ok Tedi project. They are the K4m SSG and the K1m KLM agreement funds. Scrutiny of both SSG and KLM spending allocations shows that, perfectly as intended (but see below), they go almost entirely on infrastructure improvements like roads and classrooms.
An adjunct to the main budget, and sourced out of general revenue, are ‘grants and transfers to public authorities’: subventions, usually of K10,000 or less, paid to institutions like the De Montfort Boys Town, vocational centres, the Catholic, United and Evangelical Church of Papua (ECP) church education services, and various sports, women’s and cultural councils; and secondly, a total of K254,000 paid to local government councils to cover basic running costs.

‘Rural Development Funds’, again sourced from general revenue, are K40,000 payments made for each provincial electorate and are the provincial counterpart of the K100,000 payments (formerly) made over to national members. They are managed by committees which, known either as District Development Committees (DDC) or RDF committees. The membership is made up of the provincial member, public servants from the District Office, and the electorate’s councillors. Since there are twenty-four provincial electorates, RDF funds make up a sizable proportion of the total budget available to districts and, because of the number of electorates, amount to K960,000, or more than three times the allocation made to the three national parliamentarians in the same budgetary year.22

Appropriations by type of expenditure

The formal budget lines do not give the clearest picture of how money is spent, because many items contain very similar items (e.g. ‘staff housing’ could appear almost anywhere). In Table 8 I have made a first separation between ‘main’ budget and ‘special’ budget items. After this I have transferred grants and subsidies and any capital works for the districts from the main to the special section, but have moved the administrative costs of the big special grants to the main section. The idea of this is to make the best possible contrast between the provincial government’s in-house spending and funds specifically ear-marked for district works and village development.

22 With the provincial government in suspension, RDF spending is, I assume, terminated. This does not deter me from a detailed analysis: the name has gone, but the shape and purpose may be seen again elsewhere.
Table 8. Re-organisation of 1992 budget lines.

In doing this, I have assumed that it is valid to assume that the construction of houses, classrooms and roads, and the cleaning of airstrips, stations and waterways is contracted out to business operators of one sort or another. The results, which should not be taken as exact given the difficulty of interpreting tersely labelled budget items, show that while ‘the cost of the provincial government’ is about K5.3m, K12.9m is accounted for by the special expenditure items I have distinguished and is paid to construction companies, councils, village-level organisations, and non-governmental bodies.

There is a lot of talk nationally on the question of the performance of provincial government but the scope for practical research on the matter is inversely correlated with the degree of focus on political process, intrigue and operational weakness in the formal organisation of provincial government. The purpose of dividing the budget the way I have is to avoid studying ‘how the provincial government is run’ in this institutional sense, and thus to separate the almost intractable from the tractable. To maximise my chances of saying something constructive, I will set aside the main section of the budget—it holds much of interest, but I cannot reasonably say anything insightful about it.

The special section, by contrast, is amenable to objective scrutiny because the allocations involves things that should be visible in villages, such as agriculture projects and roads that can be visited and examined at first hand. In addition, it is of great relevance to the Ok Tedi project that the special spending, broadly conceived, is intended for mine impact mitigation. It is significant that more money is involved here than in the main section of the budget.

**Breakdown of supplemental and contracted-out expenditure**

I have broken down the second figure of K12.9m into seven categories as shown in Figure 9. This shows that almost all the special spending is disbursed on three types of project:

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23 I have left building maintenance items with the main budget.
a. Grants made at village level (K2.4m). These are drawn from three main sources: the Village Development Funds given to provincial electorates; SSG budget lines labelled ‘Sectoral Fund’ or ‘Grants to Individuals and Non Profit Organisations’; and a KLM budget line labelled ‘Grants to Individuals and Non Profit Organisations’. Sundry other items in the provincial budget, by their nature, must also be directed at the village sector; these are funds provided for ‘walkabout’ sawmills and petrol services.

b. Works (K1.8m) that are most likely to be undertaken by local contractors; this category comprises airstrip and station cleaning, and rural road works. The contractors used typically have a few construction vehicles in working order: bull-dozers and tipper or flat-bed trucks, but rarely graders. In North Fly the only ‘large’ road construction company is the joint venture company Curtain Star whose major contract is with OTML for highway upkeep; a section of SSG-funded road building was also recently done by them. Curtain Star can do basic engineering construction, it has access to proper road metalling and it has a fleet of heavy construction vehicles. By contrast, the smaller operators (cf. p. 23) have a limited ability to put in corrugated culverts, to undertake bridging operations or to haul gravel other than over short distances.

c. All building construction (K2.6m) outside the main towns: teachers, station and health staff houses, single and double classrooms, health sub-centres and the like. In this case I assume that the work is mostly contracted to building companies that typically have a longer standing as business ventures, than those involved in (b), have a regular staff of tradesmen and are able to put up the standard designs involved (e.g. L40, H65 and H90 houses and standard classrooms). This may not be the case at remoter stations; for example, at Haewenai a new double classroom had been built by carpenters called Hore Bros., a village business group based at Haewenai.

As shown in Figure 9, four further categories make up the special spending: grants to organisations and to councils are mainly found under ‘Function: Grants and Subsidies’ in the main FRPG, but also occur as minor items in other places (e.g. school sports grants, grants to churches); ‘mine pollution studies’, an ambulance (for Ningerum) and village radios (for Star Mountains village) are SSG allocations.
What happens to this spending in the field? The best way to find out is to visit the places mentioned in budget and project descriptions, and I was able to do this in a range of instances. Obviously, there will be a bias towards Ningerum and the Awin CDs in my analysis—I could not be everywhere at once in 1992—but hopefully my observations will ring true for other areas. I now turn to specific cases.

**Spending on village level projects**

It is an article of faith in reputable development philosophies that project funds are most effectively spent at village level. Certainly, aid donors like to see their dollars turned into seeds, vaccine shots and clean water supplies that ‘small’ people can benefit from. As I have just shown, this sector has been very successful in garnering resources to itself in Western Province; it is not unempowered. How well, I shall now ask, is money being spent on village level projects in areas I was able to visit?

*Local Government Councils*

The council system is the formal level of village government, but operates on a shoe-string budget. Rural councils receive an annual grant to cover members’ sitting allowances, the wages of an executive officer, a typist, basic stationery, one or two station labourers, boatmen and, possibly, some building and maintenance costs. Eleven councils are listed in the budget and were allocated K16,000-K29,000 each for 1992. Ningerum’s allocation was K20,000. In addition to this, head tax (Ningerum: K5 for men and K2 for women) and trade store licences (Ningerum: K10 per store) may bring in extra money. In 1991, Ningerum collected K2872 in head tax, K387 in back tax and K1326 in trade store licences. Town councils have further ways of raising money such as market fees and rentals: rural councils have nothing to rent and, in Western Province, few markets to speak of. Thus if Ningerum is typical, the total income may amount to no more than K25,000 a year.

Though K25,000 a year is modest indeed, it would be wrong to assume that the provincial government automatically pays up. My inquiries took place in late August 1992, but no North Fly council had yet received its 1992 grant. At Ningerum, the staff had long since been laid off, only one of the year’s sittings had been held and there was no money to pay the council’s ferryman (the council provides a free ferry service across the Alice to and from Dikam village—I have used it). Council minutes showed that the same thing had happened in 1990, with lay-offs in force until around June of that year. Inquiries in Kiunga and Daru revealed that none of Olsobip, Star Mountains, Nomad, Ningerum, or Kiunga councils had received their grants because of ‘lost paperwork’. This was as much as I could find out.

If there are no meetings, critics of the council system will say ‘who will notice the difference?’, but this is an unfair criticism. I have no illusions that councils uniformly make wise and sensible decisions, or are best placed to see the villagers’ needs—quite the contrary in plenty of cases—but the neglect of councils contributes to the

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24 In Ningerum, these were K60 for the council president, K50 for the deputy and K40 for ordinary councillors. There are normally six sittings a year.
powerlessness and the ‘lost-in-the-bush’ syndrome that village officials so often complain of. Also, if councils make erratic and silly decisions, who is to blame? Surely the responsibility for ensuring that ‘council development’ is fostered and that the council system works rests higher up. Village courts are also much maligned, but at least village court magistrates are not expected to work in a complete vacuum. This is a genuine case of negligence.

The demise, or at least periodic moth-balling, of the Ningerum council provides a concrete example of the relationship between the activities of the Trust and what are properly local government functions. In mid-1991, the moorings of the Ningerum pontoon were torn away by the Ok Tedi in flood and the pontoon itself swept some kilometres downstream. The pontoon is the most sophisticated of the ferry crossings along the river and an appropriate, low cost alternative to bridging it. Councils should provide similar services all over the province. But with the meagre funds available, repair by the council would have been out of the question; the pontoon would surely have remained where it lay for several years. But this time the Trust was easily able to repair it and put it back on the river. On the other side of Ningerum station there was no council money to pay the Dikam ferryman his K44.45 a fortnight; here, the Trust has hired its own ferryman for the pontoon crossing. The result is a working pontoon, but tacitly it confirms the powerlessness of the Council.

In similar fashion, the Ningerum Council has periodically attempted to provide village water tanks. In May 1989 it was decided to buy fourteen water tanks for the villages ‘close to the polluted Alice River’ (Resolution 42/89), including Kwiapae, Bige, and Miamrae. I have indeed seen council-installed tanks in villages (and there are possibly some in those villages), but they are not many in number in the district. Whether or not the ones mentioned were delivered, the records do not show, but the first two villages now have received tanks and haus win as part of their Trust entitlements (note that villages may also have tanks on Aid Posts and school buildings bought from other budgets). Again, the Trust was able to deliver quickly what the Council has been struggling over a period of years to do.

Can lessons be drawn from the weakness of the council? In my opinion, there are few. What can only be described as the utter neglect of councils is not a monopoly of Western Province; the inception of provincial government was bound to reduce the importance of councils all over the country. All the same, this structural problem is made worse by the fact that few councillors—because the whole point is that they should be village representatives—have the educational background to be able to stand up to the system and they are easily ignored or out-witted by provincial officials.

**Rural Development Funds**

In contrast with the meagre funds that councils have to spend, the allocation of K40,000 to each provincial member means that between K80,000 and K100,000 is available to spent by someone else over the same areas (there are twenty-four electorates, but only eleven councils). An example of RDF spending is given in Table 9, the list being made

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25 There are people who are worse off: in the Sengseng area of West New Britain there are places whose last (and, so far, only) government representatives were luluais.
up by the RDF committee (a.k.a. District Development Committee) as explained earlier. On the one hand, the composition of the committee means that the very people who missed out at the council chambers have a good chance of picking up a small project by the grace of their provincial member. But on the other, the whole concept of disbursing money outside the council chambers for village level projects defeats the purpose of having a tier of government especially to represent village interests.

<table>
<thead>
<tr>
<th>1. Grant to business group</th>
<th>K3,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Grehosore rubber block access road</td>
<td>K1,000</td>
</tr>
<tr>
<td>3. Outboard motors</td>
<td>K4,000</td>
</tr>
<tr>
<td>4. Kranai chicken project</td>
<td>K2,000</td>
</tr>
<tr>
<td>5. Tuwe farming</td>
<td>K2,000</td>
</tr>
<tr>
<td>6. Grants to Divisions</td>
<td>K3,000</td>
</tr>
<tr>
<td>7. School toilet, Matkomnai</td>
<td>K1,000</td>
</tr>
<tr>
<td>8. Mohomnai aid post</td>
<td>K2,000</td>
</tr>
<tr>
<td>9. Cane project, Matkomnai</td>
<td>K3,000</td>
</tr>
<tr>
<td>10. Sisimakam chicken project</td>
<td>K2,000</td>
</tr>
<tr>
<td>11. Access road, Miamrae</td>
<td>K2,000</td>
</tr>
<tr>
<td>12. Relocation of Tapko village</td>
<td>K2,000</td>
</tr>
<tr>
<td>13. Upgrading of DDC [RDF]-funded chicken projects</td>
<td></td>
</tr>
<tr>
<td>Wanginai</td>
<td>K1,000</td>
</tr>
<tr>
<td>Hiorenka</td>
<td>K1,000</td>
</tr>
<tr>
<td>14. Operational grant</td>
<td>K3,000</td>
</tr>
<tr>
<td>15. Miamrae youth group chicken project</td>
<td>K1,500</td>
</tr>
<tr>
<td>16. Kmenai bridge</td>
<td>K2,000</td>
</tr>
<tr>
<td>17. Ningerum Community School</td>
<td>K1,000</td>
</tr>
<tr>
<td>18. Contingency</td>
<td>K3,500</td>
</tr>
</tbody>
</table>

|                  | K40,000 |


An examination of these projects shows why I have identified RDF spending as being made at village level: the lion’s share is taken up with grants to youth groups, chicken projects and the like. It is right to be sceptical of the worth of these projects since a reasonably-sized literature now exists describing how exactly such things operate, namely: fitfully. For example, a Sepik youth group looked at in some detail would hardly be described as a dynamic organisation or a model way to revive the rural economy; it spent and good deal of the time in a state of dormancy and its initiatives were heavily dependent on its mainly absent leader who eventually proved not to have the management of a village self-help group uppermost in his mind (Stephenson 1988).

By category of spending, K18,500 is here earmarked for small scale agriculture and artisanal projects, K11,000 for outboards and road improvements. K4,000 for schools and aid posts, and K7,500, perhaps, for administration. I have varying qualities of information on two agriculture projects, a bridge, the cane project, and roadwork.

26 By courtesy of the Ningerum District Office.

27 At least, K3,000 was allocated for an ‘operation grand’ [sic] and K3,500 for contingencies.
Chicken projects are by far and away the most popular village enterprises in Papua New Guinea. In fact, village business, youth and womens groups often seem at a loss to come up with any other form of productive activity. Youth may, so it is said, be drawn to poultry-raising because their members do not yet have access to the village land they would need to start cash crop projects. There is a grain of truth in this, but as a generalisation, it is unsatisfying. A stronger incentive for their formation is the likelihood of winning a small project grant; certainly, the idea has immense popularity in Papua New Guinea and a few years ago at the time of the National Youth Movement Programme there were believed to be over 10,000 ‘official’ youth groups in the country. Not all of these will have received grants, of course, but thousands did. There have been few reviews of how the money was spent. Perhaps it is unfair to view other kinds of village ‘self-help’ group in the same light, but there is often only a fine line between them.

Case No. 1: Kaekae chicken project

Kaekae, a fictionally named village, is home to one of the fair number of small scale livestock projects that may be seen in North Fly. The chicken project consists of a predominantly bush materials building where commercially bred chicks are raised for cash sale in the local area. The capital costs are not great and all items can be procured locally: chicken wire, nails and carpentry tools, and one or more kerosine lanterns to keep the birds warm at night. By contrast, the inputs specific to chicken-raising are not available locally. Chicks must ordered at a Division of Primary Industry office and are flown in from Lae or Moresby; stockfeed—no local substitute having been discovered—must be ordered from a supplier at Sogeri.

<table>
<thead>
<tr>
<th>Date</th>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>23/08/91</td>
<td>RDF grant of for 1991</td>
<td>K1,000.00</td>
</tr>
<tr>
<td>25/08/91</td>
<td>Stockfeed, 20 bags, Radho Dev. Pty (Port Moresby)</td>
<td>(K640.00)</td>
</tr>
<tr>
<td>25/09/91</td>
<td>Vehicle hire - Haidauwogam Youth Group</td>
<td>(K90.00)</td>
</tr>
<tr>
<td>25/09/91</td>
<td>100 day-old chicks, New Guinea Table Birds</td>
<td>(K93.00)</td>
</tr>
<tr>
<td>6/02/92</td>
<td>100 day-old chicks, New Guinea Table Birds</td>
<td>(K105.00)</td>
</tr>
<tr>
<td>11/02/92</td>
<td>20 litres of kerosene - Shell</td>
<td>(K19.74)</td>
</tr>
<tr>
<td>11/02/92</td>
<td>Bank fee - Westpac</td>
<td>(K2.50)</td>
</tr>
<tr>
<td>11/02/92</td>
<td>Labour</td>
<td>(K49.00)</td>
</tr>
<tr>
<td>11/02/92</td>
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<td>(K0.76)</td>
</tr>
<tr>
<td><strong>Balance</strong></td>
<td></td>
<td><strong>K0.00</strong></td>
</tr>
</tbody>
</table>

Table 10. ‘Kaekae village’ chicken project, 1991 accounts.

At Kaekae itself, I located a representative of the ‘Kaekae Business Group’. He explained that the venture was preparing to order its fourth batch of chickens, the first three, I understood, in lots of 200, having been successfully sold at K7.00 per bird, thus a total of at least 600 (and

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28 Notwithstanding the fact that members of village ‘youth’ groups in PNG range in age from under ten to fifty years or more.

29 In the interests of neutrality. (R. Kaekae, however, is a real river in North West Awin constituency.)

30 The District DPI office had a figure of K8-K10 per bird. Note that we don’t know what percentage of the chickens is consumed by the shareholders or dies before the salable age.
possibly as many as 800) chickens had been raised worth between K4200 and K5500. The group comprised a group of share-holders, who started the business by themselves with K300, and the village komiti kept the paperwork and the bank passbook, which now contained K1000. This had all been achieved without outside assistance.

This sounds like a great accomplishment, but the truth is otherwise. The business group received a grant of K2000 from the 1990 RDF allocations, and a further K1000 in 1991. I was able to secure the 1991 accounts for this project (Table 10), by courtesy of the District DPI officer who was administering the RDF grant. It contains no surprises except one: the grant is wholly consumed by running costs. The figures I have quoted mean that sales to date have been subsidised by the public purse to the tune of about K5.00 per bird. None of the money has been used, as might be thought reasonable, to strengthen the capital base of the project. It has received repeat allocations of money from Western Province’s special spending money—for what? The inescapable answer is that the government is paying the people of Kaekae village to eat their own chickens.

**Case No. 2: Sisimakam chicken project**

In the 1991 RDF allocations there is an entry of K2000 for a chicken project at Sisimakam village. Hoping to elaborate on my findings from Kaekae village, I went to inspect it. It did not exist. What I found was a small, unfinished enclosure with some chicken wire owned by the Ketimoknai31 Business Group. My informant, the Ketimoknai councillor, told me that so far only enough money had been forthcoming from the District Office to buy roofing iron, carpentry tools and a lamp. The project had been a ‘late allocation’ and there was no money left for them.

This reason is unconvincing (especially in mid-1992) because, as Table 9 shows, the allocation was clearly made and the sum of all the allocations, including an allowance for contingencies, comes to precisely the K40,000 allotted to the provincial member. The explanations than come to mind are (a) that other grants were wrongly overspent, (b) less than K40,000 was placed in the RDF account in the first place, or (c) although the K40,000 exists on paper, it is not ‘all there’ because of bottlenecks in the provincial accounting system.

The latter point requires clarification. Many people I spoke to complained that allocations and reimbursements often took many months to come through (e.g. education agency funds claimed by the MCM mission in Kiunga, health funds for the running of the Tabubil Health Centre, and the council grants I discussed earlier). In one case K14,000 was owed to a church for the rental of offices in Kiunga. A cheque was raised on the correct account, but it bounced and had to be re-presented for payment. The problem seems to be that the process of acquitting provincial expenditures between Daru and Port Moresby is cumbersome and the provincial government’s cash float frequently becomes exhausted; thus, the money is ‘there’, but only as a budget line and not at the bank where it counts. Of course, this knowledge is not much comfort to the Ketimoknai Business Group.

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31 Ketimoknai is a component village of Sisimakam.
Case No. 3: the bridge over the river Kmen

The river Kmen (a.k.a. Yome) has a strong, deep current and gives motorised canoe access to Haewenai station from Wai Mari (a.k.a. Ok Mart). Haewenai now consists of a cluster of villages: Mohomtienai, Haewenai, Hosomrae and Kmenai. The station has a health sub-centre and large school and thus services a considerable, but isolated, population. The bridge in question would give Hosomrae and Kmenai villages an easy way to cross the Kmen to the station and would replace the existing ‘bridge’—a partly submerged sloping log of some vintage. Nothing elaborate is needed; a foot-bridge made out of local timber with some sawn decking would be ideal. The 1991 RDF budget has an entry of K2,000 for this.

The Kmen bridge is discussed in the Ningerum council minutes. In 1990, it was reported that a pregnant woman had slipped off the log and was injured; the Haewenai councillor said he wanted a steel bridge put in the next year (Item 95/90). The council was asked for K300. (It may or may not have been given.)

Case No. 4: the Yatra bridge

The Yatra bridge is a plank-decked log bridge across Yatra Creek at Matkomna built by Fr. J-C. Béland years ago; it once allowed mission vehicles to cross between the MCM mission station and the now closed Matkomna airstrip. Fr. Béland does not maintain the bridge, because he does not use it; most of the decking has now fallen through and pedestrians going to and from Kasrenai village must cross on a 20cm-wide beam five or six metres above the Yatra Creek. The Kasrenai people could make good use of a new bridge because their present settlement at the airstrip is located away from their village lands. A vehicular bridge would allow a road to be pushed through to their old place, and would make it viable for a greater land area to be opened up for rubber cultivation.

Council minutes at Ningerum (Item 3/88, Resolution 45/88) note that a submission to renovate the bridge was passed on to the PAC (North Fly Political Advisory Council) for funding. Evidently this was not forthcoming.

Bidding for minor works is often farcical, but there is a common pattern. Villagers grumble about the need for a bridge, their councillor bids for a few hundred kina to buy nails; his fellows agree at council but resolve that a ‘proper’ bridge must be built; the member is pressed and a proper bridge turns into a magnificent bridge, and so on. At each step, the project gets bigger and bigger. The fact is that no individual steps forward with an actual plan, an actual team of workers, actual timbers with which to build the bridge and an actual date on which they will start work. No work is done to speak of and pregnant women (the sick, the aged, infirm, anthropologists, etc) continue to risk life and limb. As interviews, the minutes of meetings and old patrol reports show, situations like this can persist for over twenty years.

In the case of the Kmen bridge, we do see an allocation of K2,000—but still no bridge. The slippery log, along which all the pregnant women of Kmenai and Hosomrae must pass to get the health sub-centre, not to mention the school children from these villages, is a ridiculous thing to see on a station. A sum of K300 would probably buy materials for an adequate ‘do-it-yourself’ bridge; K2,000 would the sawn boards and spike-nails to build a superior quality wooden bridge; but the steel bridge as requested at council would cost many thousands more.

Why have the Haewenai or Matkomna/Kasrenai villagers not repaired either of the bridges themselves? The answer is that they have yet to show the organisational or
construction skills that would make it possible. At the time of one of my overnight stays at Matkomnai, village youths had hauled a ten metre log across the Yatra adjacent to the bridge, but they had abandoned it askew across the creek. If they have succeeded in rebuilding the bridge, I applaud them—but I have to say that for every bridge that is built, a dozen more are left to fall into a rotten and dangerous condition.

Case No. 5: Matkomnai cane project

North Fly certainly has forest resources and it is reasonably believed that cane could be productively exploited for manufacture into furniture. I attempted to visit the Matkomnai cane project, granted K3,000 in the RDF budget, at its workshop rented from the council on Ningerum station, but it was unattended and in several weeks I did not come into contact with its proprietor.

It is unfortunate that I did not get to meet the caneworker. However, I am not deterred from saying that formidable obstacles stand in the way of success for this type of enterprise. Cane furniture is indeed made in Papua New Guinea, but the output is low and the high prices in relation to quality are an obstacle a market accustomed to Southeast Asian prices. At one time, Air Niugini offered a 50% discount on freight for handicrafts in an attempt to stimulate production, but it may be a greater handicap in the end that the nature of demand—what exactly it is that customers are looking for—is not easily felt and adjusted to by producers. The grant to the cane factory is obviously a subsidy. This is fair enough, but only as long as there is actual production and there are actual sales to subsidise.

Another ‘subsidy’ is evident in Table 9 in the RDF allocations for outboard motors. Since a public service requisition for any equipment must be accompanied by a rather more detailed description of the purpose (e.g. rubber marketing, extension patrols), and this is not seen here, it would seem that this a straight and out acquisition of outboards for a particular village group, probably, since the only navigable waterway in North-West Awin is the Wai Mari (Ok Mart), for use between Rumginae and Sonai/Haewenai.32 There is a good case for subsidising transport in a huge province like Western, but the correct method is to think up a proper (and legal) means of delivery—for example, to extend ferry services to longer routes. In many areas cash is hard to come by, but all villages can do something to finance their own transport. Feelings about access to transport run high in North Fly, but not always in a constructive way:

Case No. 6: The refugees and the outboard motors

In July 1992, the Kiunga council raised the matter of refugees owning motor canoes for business purposes. It was moved ‘...that refugees, not being in their own country, should not be allowed to own outboard motors ...’ and, further, that the ones they now have be taken away from them by the police. The motion (No. 24/09) was carried unanimously and a letter instructing the police to confiscate existing outboards owned by them was sent out.

An explanation is as follows. Market sellers at Kiunga bring their produce in from outlying villages and settlements, but Irian Jaya refugees, it is claimed, are greatly over-

32 The Haewenai councillors sent a motorised canoe to fetch me from Rumginae but this one certainly did not have a brand new outboard.
represented in proportion to their numbers in North Fly (actually only four out of 48 sellers were refugees the day Kirsch went to the market). Having no representation in government and no land where they can grow tree-crops, they can only earn money by selling vegetables—people claim that they put more effort into selling produce than do local area Kiungans. If it is a complaint, then, that the refugees own ‘too many’ outboards (and thus dominate vegetable sales) this must be because they have earned the money to buy them from garden and market work. Logically, the same avenue is open to others.33

Other village grants

Beyond other small-scale farm ventures, the remaining RDF allocations in Table 9 are for a school toilet, improvements to an aid post, two village access roads, and one ‘village relocation’. The school and aid post grants are well directed, but it is right to be sceptical of the purpose and value of the small road works. Given the very high cost of plant hire, grants of under K5,000 will not hire bull-dozers for very long. Thus I assume it is intended that the work be carried out by hand. This is fine if culverts have to be built by hand or bridging done (but see above), but in the cases mentioned I did not see such things. The alternative, spending on work with spade and sarip, is always dubious because so little is achieved (see below under SSG grants), and in instances where access roads are intended for essentially private use there is scarcely a strong case for the use of public money. The ‘relocation’ of Tapko, a highway village at Km 83, in Table 9 (also ‘village relocation - Tamaro’, a highway village at KM 73, to which K10,000 is given in the North Fly SSG programme), is a puzzling thing to spend money on. A naive observer could be forgiven for asking, ‘relocation to where?’.

North-West Awin: summary

If the school and aid post grants, and the operational and contingency funds—although I cannot say what these were spent on—are ‘good’ allocations and the rest are ‘bad’ ones (i.e. ill-advised, should not receive public money), the ‘bad’ spending accounts for about 74% of the whole.

I draw attention to the fact that in the Ningerum council minutes a few years ago, a bid for road maintenance money was prefixed with the statement that ‘the village people need money to pay for their council tax ... the villagers have no means to meet the tax rate’ (Item 62/89). I can easily see the value of employing local labour on public works programmes, but none at all where project spending is a front for direct income.

Another constituency

33 Actually, the Kiungua council has good reason to thank the refugees, not punish them. In 1991, it collected some K14,000 in market fees (at 50t per seller).
The sections above dissect only one constituency’s funds for one year; I summarise the allocations for Ningerum constituency for 1991 and 1992 in Table 11. The first set of allocations concentrates on school and aid post improvements and grants to churches, but in 1992 these items were all slashed. Grants to chicken projects, and to business and youth groups balloon out (perhaps I unfairly include K600 to a ‘ladies sewing and reading club’ here) and a new item is a minimarket for Ningerum station. This may be a worthy thing to spend money on—if it exists. The Ok Au airstrip is a village-built strip near Ambre. I was unfortunate not to see this, visiting the nearby Kwakim and Savepon villages in 1991, but I am informed it is not long enough for use (and DCA has closed quite good airstrips in the district, e.g. at Haewenai). True, there are apocryphal cases of remote villages building their own airstrips in the 1960s and of planes landing on them, but money should not be spent on unplanned and unserviced strips in the 1990s.

If the items in the top half of the table are ‘good’ allocations and those below are ‘bad’ allocations (with caution), then ‘bad’ spending was a tolerable 18% in 1991, but a poor 69% in 1992.

**SSG and KLM funds**

The SSG funds amounted to K5.1m in 1991 and K4m in 1992. Large amounts of this money were directed at the village sector in both years. Approximately K1.1m of the 1991 South Fly grant of just over K2m was, according to informants, handed out to village groups at a public gathering in Daru in the form of K1,000-K5,000 cheques for small agriculture projects. I do not have the 1991 figures, but the 1992 budget figures bear witness to the same purpose, with a further K1.1m (67%) of a total of K1.6m put into a ‘sectoral’ programme which has seven lines: ‘small holder cattle development’, ‘small holder piggery development’, ‘small holder crocodile development’, ‘small scale food production’, ‘conservation of rural environmental service’.

<table>
<thead>
<tr>
<th>Item</th>
<th>1991</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational grant/contingencies</td>
<td>K 6,100</td>
<td>K 4,500</td>
</tr>
<tr>
<td>Grants to schools, aid posts + village water tanks</td>
<td>K 19,900</td>
<td>K 4,800</td>
</tr>
<tr>
<td>Grants to churches and NGOs</td>
<td>K 4,000</td>
<td>K 3,500*</td>
</tr>
<tr>
<td>Grants to divisions and local council</td>
<td>K 4,000</td>
<td>nil</td>
</tr>
<tr>
<td>Grants to business, women’s, youth groups + piggery/poultry projects</td>
<td>K 3,500</td>
<td>K 13,800</td>
</tr>
<tr>
<td>Ok Au airstrip</td>
<td>K 3,000</td>
<td>K 2,000</td>
</tr>
<tr>
<td>Ningerum minimarket</td>
<td>nil</td>
<td>K 3,000</td>
</tr>
<tr>
<td>Member’s residence + constituency vehicle</td>
<td>nil</td>
<td>K 9,300</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>K 40,500†</strong></td>
<td><strong>K 40,900†</strong></td>
</tr>
</tbody>
</table>

**Table 11. Ningerum constituency RDF allocations.**

**Notes:**

* Includes K1,500 for ‘conservation of rural environmental service’
† Allocations do not total to K40,000.

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34 A cheque for K3m was handed to Norbert Makmop by Ted Diro for 1990 in a public ceremony at the Tabubil basketball courts in January 1991. The money is known to have been placed in an interest-bearing account in Port Moresby and to have been two-thirds spent—but only K200,000 of this seems to have reached Western Province (see newspaper account in Burton 1991:Appendix F).
fishing development’, ‘small holder poultry development’, ‘small scale business development’, and ‘community projects’. There is no further explanation under these headings. I should say here that I have no argument with spending money on business skills, marketing and technical/vocational training in any of these areas, or infrastructure where this can be spelled out. Unfortunately, this is not how the money has been allocated and informants say that there is little to show for any of the farming projects.

The 1992 North Fly SSG allocations place a much greater emphasis on roads and school buildings, and the Tabubil District ones are different again, so that the overall SSG budget is not entirely disbursed at village level; still, about K1.5m (37%) in total goes to the village sector.

KLM funds have run at K1m a year since 1988. The way they are spent is in marked contrast to the above and only K20,000 (2.0%) goes on identifiable village projects. I suggest that this reflects the historical inheritance of the Kiunga-Lake Murray Agreement and the kind of planning inputs made during the 1982-87 period of direct rule by the Department of Provincial Affairs, that are conspicuously absent in the RDF and SSG allocations.

Conclusions

At K2.4m a year, village sector projects make up a substantial slice of the Western Province budget. Unfortunately, the admirable philosophy of spending money as close to the people as possible appears to have turned into an aimless cake-slicing exercise. Not nearly enough of the spending is productive. Useful minor works still languish for want of initiative; enterprises which should be self-sustaining are needlessly subsidised. I do not know of other provinces that channel money through provincial members; present procedures in this province seem highly irregular and are certainly not a model for good government.

In my analysis, two-thirds of the K2.4m is directed at people and projects that have scant capacity to put the money to profitable use. The proper place to get funds for a small farm projects is the Agriculture Bank of Papua New Guinea or another rural credit agency; if the small farming projects funded here are worthy of RDF support, they should be able to repay loans. If not, public money should not go anywhere near them.

A final word concerns the position of divisional and district officials, who in theory have a responsibility to see that spending on projects is properly planned and supervised. These people say that the provincial members and village leaders divide up the grants—they see them as ‘slush funds’—without much consultation and then demand that they oversee the projects. In the case of the ‘Kaekae chicken project’, the provincial DPI Extension Officer was the only person who could do the ordering of supplies and at least we have a record of how the money was spent, but with minor works the divisional involvement may be limited to the processing of cheques in favour of local contractors and suppliers. Again, this is no way to govern.
Works carried out by local contractors

A total of K1.8m is earmarked for capital works likely to be undertaken by local contractors in 1992, according to the classification I used in Figure 9. The budgetary sources for these works are as shown in Figure 10:

As can be seen, most of the activity will take place in North Fly, with the largest contributor being the North Fly SSG. The purpose of Special Support Grants is to help mining provinces even out the level of development in their districts and the intention is that the bulk of the money should be spent on infrastructure. This is what has correctly happened in North Fly (as I have shown much of the 1991 and 1992 South Fly SSG was wrongly directed at village level projects).

The questions to ask of this are threefold. Are the projects that fall under this heading appropriate? What visible progress has been made at the project sites? Are the contractors capable of doing their work effectively?

Large projects

The Cardno & Davies Road and bridge feasibility study, North Fly Area (1989) is the most up-to-date planning study to hand. I am handicapped here by a weak knowledge of cost-sharing arrangements between the Ok Tedi-Fly River Development Trust and District Co-ordination in Kiunga on major works underway; in particular work in progress between Kiungu and Konkonda and on the Kwiapae-Dome link, planned work between Dome and Atkamba, and planned work on an Ok Tedi bridge. However, this should not affect my ability to examine a range of road projects in other places—and as before I will concentrate on the Ningerum District.
Cardno & Davies were asked to plan and cost (a) an Ok Tedi bridge, (b) a Strickland bridge, (c) a Dome road link (d) a road from Ok Menga to Olsobip, and (e) a road from Sisimakam to Bolivip. In summary, possible Ok Tedi bridge sites were found above Dome and at the Ningerum ferry site and costed at K2.02m and K2.05m; a Strickland bridge was costed at K2.26m; roadworks between Dande and the east bank of the Alice opposite Dome were costed at K960,000; the Ok Menga road was costed at K14.4m; and the Bolivip road was dropped as impracticable.

It is no doubt possible that the authors of the study might have chosen more expensive options than strictly necessary, but the items they were considering are all ‘large’ projects and each includes major engineering challenges. Cost-cutting might be achieved in some areas, but the orders of magnitude must be correct (for example, road costings were compared with those for the Enga and Mendi highways). This poses planners with the problem of deciding how much money should be spent on infrastructure in a remote and underdeveloped area. If the Olsobip council has about 3,500 people, a road project costing over K3.5m a year for four years will cost K1,000 per person per year. Is the high cost justified?

One answer is ‘yes’, reasoning that as most of the inexpensive roads have already been built in Papua New Guinea—in the densely settled areas of the highlands, for example—the only ones left are expensive ones. Accordingly, it is simply a matter of equity to build them, however much the cost. This assumes that there are sufficient funds to go round, but at the moment, and even with the SSG monies, a spare K3.5m a year is not available. Despite this, though, it would be incorrect to conclude that the Olsobip road has been shelved.

Case No. 7: the Ok Menga-Olsobip road

Various items of documentation show that from 1990 money was released for work on a pilot track for the ‘Ok Menga-Olsobip road’, starting at the Ok Menga hydro station: probably K50,000 in 1990 from the Star Mountains Council and a similar amount (or more) from the 1991 SSG. The contractor on this road is Curtain Star.

A visit to the site of the road on 4 Sep 1992 showed that the road has penetrated approximately 1.5km towards the old Migalsimbip village site up extremely steep gradients. The bedrock here is limestone (or limestone rock fall debris), but the track is so rough that a four-wheel-drive can pass only as far as the 1km mark. Few people live permanently at old Migalsimbip today, most live at the new highway village near Ok Menga and return only for gardening. There is no allocation for this road in the 1992 budget.

Assuming that K100,000 has been spent so far, what has been achieved? Cardno & Davies estimated that work on this section of the Ok Menga road would cost K160,000/km. It is misleading to say that 1.5km of road has been built, because what has been done is extremely rough and as much work again is needed to put in culverts and and grade the surface to a reasonable standard. I also found that the road does not follow the Cardno & Davies plan to head east from Ok Menga, but goes northwest to old Migalsimbip. Bearing in mind that none of the possible routes has been surveyed, as

35 I understand that the latest Ok Tedi bridge design is less expensive than the one contemplated by Cardno & Davies, for example (R. Ette, pers. comm.).
recommended, the only valid comment is that heading blind into the bush risks coming up against obstacles that are physically impassable or extremely expensive to traverse. Earlier, in discussing planning arguments for this road, I failed to consider the possibility that sizable amounts of money would be spent, but without hope of actually making progress. At the present rate—no budget line allocates money to it in 1992—it will take decades to reach Olsobip. Therefore it must be said that not much has been achieved so far.

Case No. 8: the Ok Tedi bridge

The Ok Tedi River is bridged in two places: at the upper Ok Tedi bridge on the Tabubil-Mt Fubilan road near Bultem and at the lower Ok Tedi bridge on the Tabubil-Ok Ma road. Both bridges were built for the mine project. Two groups of people further downstream have been calling for bridging further downstream: the Ningerum people, who have long wanted a bridge to replace their existing ferry, and the Yonggom people who would like road access to the Dome-Iogi-Atkamba group of villages.

The Department of Works studied the Ningerum site in 1983, the West Bridge Corporation of Canada studied both the Ningerum and Dome sites in 1987, and Cardno & Davies looked these and three alternative crossing sites near Dome in 1989 and, of the Dome crossings, preferring a site 8km upstream of Dome village. By 1992, OTFRDT had decided to build the Ningerum bridge, using a new design, and in cooperation with the provincial Department of Works.

In 1991 the ferry pontoon was swept away in a flood and the Trust had it repaired and put back at the ferry crossing. But in mid-1992 Awin Tamaro landowners (i.e. from the highway side of the crossing site) wrote to demand K250,000 in compensation for damage to the site, space to anchor the ferry, and for future lease payments for the land (see Appendix D). This froze plans to start work on the bridge footings.

The Ok Tedi bridge is likely to become the next most important major construction in the Ningerum District after the Kiunga Highway. It will bring about profound changes on the way of life in the Ningerum area, signalling an end to its isolation and bringing opportunities, for the first time, of economic development. It is therefore an appropriate project and, accordingly, the provincial government should be taking the lead in integrating its construction into a longer term plan to bring roads to the inland parts of both the Awin and Ningerum areas. There is also an important rôle for local leaders to play in ensuring that land and labour are made available where necessary and in seeing that potential disputes are settled without fuss.

In 1992, an agreement had been reached in principle for the provincial Department of Works to direct some of its road allocations to site preparations and access road work; it is too early to comment on how this will work out. But I found that councillors and other leaders from the area did not exude confidence that the landowner complaint was about to be settled and, if it was, that they would be the ones to settle it. Whether this particular obstacle has been surmounted or not, matters of this nature should really be

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36 This was at a well-attended meeting on 18 August 1992 at Ningerum Council Chambers. My response was to ask who else would settle the dispute. I pointed out that there was some urgency to do this, as the Trust is not obliged to build the bridge in this position and it could move it—I was alluding to the other crossing sites evaluated—elsewhere.
handled by the Council. It is another manifestation of the Council’s lack of authority (and assertiveness) that this did not happen.

Small projects

The two very large projects just mentioned are still on the drawing board, notwithstanding the work carried out at Ok Menga. Most current work for local contractors lies with much small road building and maintenance projects (see Figure 11).

![Figure 11. Breakdown of 1992 budget funds earmarked for local contractors.](image)

The 1992 grants for roads into and within the Ningerum and Tabubil Districts are as shown in Table 12. (Apparently no allocations were made for any parts of the Tabubil District other than Ok Ma.) The assortment chosen for funding is highly varied, ranging from impassable tracks to well-gravelled, all weather surfaces.

Case No. 9. The road to Ok Ma 11.

As I described previously (Burton 1991:13-14), a cluster of Kasuwa Ningerum villages inherited the Ok Ma dam access road, relocated themselves to a settlement known as Ok Ma 11 and have transferred to the Star Mountains Council. At Ok Ma they enjoy ‘normal’ services for the first time, having their own aid post and school. They also have access to Tabubil via the lower Ok Tedi bridge. The bridge, according to a prediction in the late 1980s, should by now have been buried under metres of sediment washing down the river; fortunately this has not happened, but the pier footings are susceptible to erosion and will need stabilisation from time to time during the mine life. The road to Ok Ma is in excellent condition and is the key to the well-being of the Ok Ma people. Were it or the bridge to be closed, the people would be more likely to set up ‘corners’ around Tabubil than to disperse to their old villages. Maintenance work on this road is highly appropriate.

After this item, station maintenance, and work on the access road to Haidauwogam the rest of the list in Table 12 is notable for the absence of maintenance money for the
secondary roads that are in actual use. Funds for the Dande-Bige part of the Dome link road are an exception; I visited this on 20 August 1992.

<table>
<thead>
<tr>
<th>Road Description</th>
<th>Cost (K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ok Ma road maintenance (links to lower Ok Tedi bridge)</td>
<td>K 30,000</td>
</tr>
<tr>
<td>Ningerum Station road maintenance</td>
<td>K 20,000</td>
</tr>
<tr>
<td>Access road, Haidauwogam (links to Highway)</td>
<td>K 10,000</td>
</tr>
<tr>
<td>Dande-Bige-Dome (links to Highway)</td>
<td>K 70,000</td>
</tr>
<tr>
<td>Ralengre-Haewenai (links to Highway)</td>
<td>K 30,000</td>
</tr>
<tr>
<td>Kiunga-Konkonda (new road, under const.)</td>
<td>K 70,000</td>
</tr>
<tr>
<td>Konkonda-Atkamba (west of Ok Tedi)</td>
<td>K 8,000</td>
</tr>
<tr>
<td>Atkamba-Kungim (west of Ok Tedi)</td>
<td>K 70,000</td>
</tr>
<tr>
<td>Ningerum-Kolebon (west of Ok Tedi)</td>
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</tr>
<tr>
<td>Ningerum-Hukim-Derongo (west of Ok Tedi)</td>
<td>K 30,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>K 378,000</strong></td>
</tr>
</tbody>
</table>

Table 12. Road allocations in the northern part of Kiunga District, 1992.

**Case No. 10: The Dande-Bige link**

In early 1992 a village contractor received K30,00037 for gravelling and improvements to this road, starting at the highway end. The contractor owns a tipper truck and hauled gravel in from the Tope gravel pit at the Wai Mari (Ok Mart) bridge (at Km 34). Before he started work the top section of the road was partly gravelled; he did more gravelling towards Senamrae but, according to Councillor Aetru from Holpenai, a dispute with the Senamrae villagers led the man, himself originally from Holpenai, to abandon the work. He appears to have done this in the vicinity of the Holpenai-Senamrae border.

The result is a well-gravelled road as far as and beyond Holpenai—an improvement on its condition in 1991—but further deterioration at swampy hollows towards and beyond Senamrae. This case illustrates the good and bad aspects of road spending. It is good that work can be given to local contractors as, in theory, this should help to build up their capacity. This coincides with local wishes. In 1990 the Ningerum councillors discussed the matter of tendering for contracts; the names of three local firms were put forward with the comment that they should have priority over operators from outside the area (Item 92/90).

The negative side is that the small contractors are poorly organised, can call upon few resources, and have a weak ability to survive financial crises. Realistically, they cannot be left to work unsupervised for, as the same Ningerum councillors observed, ‘the contract operators ... sometimes don’t attend work and claim money only’. In the case of the Dande-Bige road, the contractor put in some spade-dug side drains, but he did not build up causeways across the most swampy places or build durable culverts. The result is that the higher, driest section of the road has got better, but the lower, wetter section is in the same, ‘fair weather’ state it was in before. Was the K30,000 well spent? The answer is that it was spent, but the job was half-heartedly done.

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37 This may not be the real figure because I do not have documentation on 1991 allocations; it will not have been lower than this though.
A key problem is that local roadworks are not inspected at the time the contractor is on the job. This is a simple question of getting good value for money. Works inspectors will probably say they get out to road projects whenever they can, but that their transport vote is insufficient for their needs, etc. Whatever the reason, a completion inspection before final payment should be mandatory. In the next case, I am confident I was the first driver to take a conventionally-wheeled vehicle to the end of the section of roadwork.

*Case No. 11: the Sisimakam-Haewenai road*

The Ningerum Council has long held the desire to see a ‘back road’ built between Sisimakam and Haewenai (Burton 1991:16-17). Information received at the Ningerum District Office was that K70,000 was spent in 1991 and K30,000 in 1992 on pushing the road south from Sisimakam. I visited the road both in 1991 and in 1992. In the second year I was able to drive to within about 400m of old Ketimok (Ketimoknai) village. The track, however, was in very rough condition and no previous tyre marks disturbed the track imprints of the dozer used for the work.

Here is a case of a potentially useful road on which quite large amounts of money have already been spent but which little prospect of completion in the near future. The road is probably proceeding at a cost of K10,000-K15,000 a kilometre for ‘fair weather’ track. With K30,000-K50,000 to spend each year, the first objective of reaching the old villages of Ketimoknai, Saisu and Aplam could be attained within three years. Unfortunately, this is by no means the same as ‘opening a road’ to them. The main problem will be maintenance. Firstly, with this foothills area receiving around 6000mm of rain a year, no road can be considered ‘open’ without constant attention. Gravelling is essential, but does not now extend beyond Sisimakam.

Secondly, a reasonable volume of traffic is needed to show that there are enough road users to justify continuing funds for maintenance. My notes show that the Sisimakam villagers—that is, the former inhabitants of the three villages mentioned—only have one vehicle at the moment. They cannot grow rubber and have few sources of income: remittances, perhaps, from the one villager working in Tabubil and one absentee at Balimo, Rural Development Funds or similar grants from the government (but little actually received, see p.43) and the meagre takings from their roadside vegetable market. Unfortunately, there is virtually no prospect of the situation changing when Sisimakam is linked with Ketimoknai, Saisu and Aplam.

The distant objective of joining the remaining North Awin bush villages of Ripnai, Brunai, Runai/Ihore with a Sismakam-Haewenai link road is unattainable with a continuation of present efforts. By the time Saisu is reached, maintenance of the completed section of road will annually absorb the K30,000-K50,000 now used for its construction.

*Case No. 12: the Ralengre-Haewenai road*

Complementing the objective of extending a feeder road south from Sisimakam to Haewenai is that of working north to Haewenai from Ralengre. Informants at Haewenai said that K15,000 was spent on the road ‘in 1983’, but that there had been no construction activity since, neither at

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38 I did not have time, regrettably, to discuss these matters with the Provincial Works Manager.
Ralengre nor at Haewenai. I was advised against walking to Ralengre and it was denied that there was a passable track. The councillors (for Haewenai + Mohomtienai and Kmenai + Hosomrae) were more interested in the idea of re-opening the Haewenai airstrip—closed in the 1970s—than in road-building (see Ningerum LGC Item 16/88 regarding the airstrip).

In actual fact, the provincial Department of Works has made substantial progress on the road from Ralengre. A fully gravelled and culverted road of all-weather standard now reaches approximately six kilometres north from the highway, crossing the river Wai Tiu with a corrugated metal pipe bridge (Plate 5) and terminating on the south bank of the river Wai Atime.

Walking south from Haewenai, an excellent road bench exists between Haewenai and Somoikwankia. South of the river Wai Brom—now used by Somoikwankia villagers for canoe traffic—I found that the hand-cut bench can be traced for a short distance through dense bush. Finally a section of about four kilometres north of Wai Atime appears either to have never had a hand-built road or all traces of one have sunk back into the swamps.

The irony here is that, alerted by staff at the Rumginae hospital, I found the finest section of provincially-built road I have yet seen in North Fly between Ralengre and Wai Atime—yet no informant between Haewenai and Somoikwankia professed knowledge of it and a guide picked up at Haewenai was taken by surprise at the sight of it. I gained the strong impression that money not personally seen by villagers for whom a road is being built fails to register as money spent on their behalf. To be fair, though, all current traffic between Haewenai and Rumginae is by canoe along the Wai Mari (Ok Mart) so that few Haewenai villagers would have had occasion to see the road under construction. The complex of hamlets at Somoikwankia was deserted at the time of my visit, but traffic between it and Rumginae is also by canoe, using the Wai Brom; a lockable outboard shed is maintained on this river just below the village.

Haewenai has become the service hub for that half of the North Awin population situated to the east of the Wai Mari. Its positive attributes include a community school with nine teachers, one of the largest in North Fly, a Health Sub-Centre, and a nominal total of twelve stores (probably half are actually open). Its four component villages have had comparative success in finding employment: thirteen work in Tabubil and seven in Kiunga. These things would seem to indicate good value for a modest capital outlay, so it is valid to ask whether road access, with its high cost, is really necessary.

To elaborate, the Wai Mari is a broad and easily navigable river with few rapids; it is not a bar to the transportation of building materials or special equipment such as might be needed by a school or health centre. On the other hand, its tributary Wai Kmen, which serves Haewenai, is narrow, filled with log snags and subject to rapid rises and falls in level. Improvements could be made here (compare Case 3 on pages 44-44) if the council took more than a desultory responsibility for keeping the channel clean. Put together, the negative attributes of Haewenai are the perception of its isolation, the day it takes for each half of the trip to and from, say, Ningerum, and the actual interruptions of access experienced after storms or during dry spells. Haewenai suffers, in common with other
off-road centres in Papua New Guinea, from the difficulty of keeping its health and school staff and from the reluctance of District Service staff to pay regular visits.\textsuperscript{39}

It is true that Haewenai could be better served with present resources than it is, but the eventual arrival of the road at Haewenai will solve the problems of remoteness at a stroke: the volume and frequency of traffic between Haewenai and the highway will increase enormously and will give villagers their first real chance of participating in the cash crop economy. It should cut the travel time from Rumginae to an hour or so, making it realistic for both villagers and District staff to travel in and out in half a day. In short, the road might be expensive but it will change the lives of half a Census Division. I also noted above that Somoikwankia village was deserted in September 1992; its houses were locked and its inhabitants in their corner at Kiunga. Road access probably would not ‘empty the corners’ at Kiunga, but it would give them the reasonable option of going home to their own land.\textsuperscript{40}

\textbf{Case No. 13: roads west of the Ok Tedi}

An extraordinary feature of the 1992 road allocations is the 40\% of the total that is earmarked for roads \textit{west of the Ok Tedi} (Table 12). There are no vehicles on this side of the river. It may be that, in anticipation of a bridge, it would be a good idea to commence roadwork in areas immediately connecting with this. In Ningerum CD, the two existing roads are Ningerum-Kolebon and Ningerum-Hukim; they were built by hand in the 1970s using RIP (Rural Improvement Programme) funds (Burton 1991). There is no doubt that, even they see no vehicular traffic, these roads have been very useful and serve to link up the Ningerum villages in a way that would be impossible were they slippery tracks through the forest. However, the K40,000 and K30,000 allocations for 1992 are far beyond what would be justified by way of annual maintenance for foot/bike tracks. For example, head tax returns show that there are about 60 adult males living at Kolebon and about 90 living at Wogam; these 150 men must be presumed to be those who will carry out the maintenance, if all turn out—no others live along the Ningerum-Kolebon road. At the rural wage, the K40,000 allocated is the equivalent of over three months full-time work for them. I suggest that the likelihood of this actually happening is most improbable. If, on the other hand, a small amount of the money is for hand maintenance and the rest is for works connected with the proposed Ningerum bridge, the allocations are not too large, just poorly described.

There has been agreement between the Trust and the provincial government for the latter to put some road funds towards the cost of the bridge at Ningerum (see Case 8). It is possible that some of this money was involved; unfortunately, the latest information (mid-1993) is that the money marked for this in 1992 did not materialise.

\textbf{Money spent on local contractors: conclusion}

As has just been seen, major construction projects aside, the bulk of spending at this level is on small, locally-based contractors. Three-quarters of this spending is on road construction and maintenance. Unfortunately, the road-building effort is marred by the

\textsuperscript{39} There were patients, but no nursing sister, at the Health Sub-Centre at the time of my visit. My Matkonnnai guide, having some nursing training, scrubbed his hands and delivered a baby within a hour of our arrival.

\textsuperscript{40} Note that the provincial member, Kwave Kukinai, is from Mohomnai, an almost deserted hamlet in the hinterland of Haewenai. He is a resident of Ningerum.
dubious allocation of quite large sums to roads which do not seem to form part of a consistent plan (e.g. Ok Menga-Olsobip) and to areas where there are no vehicles (west of Ok Tedi). Where money is spent on roads which fit into a logical plan (e.g. Dande-Bige, Sisimakam-Ketimoknai), a lack of supervision and inspection means that value for money is unlikely to be obtained. I do not have documentary evidence of this, but anecdotes told to me suggest that promised allocations are also switched to other sectors at short notice.

I emphasize again that there are no easy solutions to the problems of road construction through a sparsely inhabited and mountainous area. All options are likely to be very expensive—but then this is all the more reason to put the sums that are available to the best possible use.

**Building construction**

As I have already indicated, I have little knowledge of the K2.6m a year (see p. 38) building construction sector beyond a few observations about local contractors. But, as noted above, the types of works that this sector involves are much more definite than in road construction. Much more of the work involves housing and classrooms built to standard designs and, presumably, for a more or less fixed price. More of the companies involved are larger and more stable. More of the work is done on stations and in towns where it can be inspected more thoroughly. What is at question is not whether the allocations, which are spread across many budget lines, are wise ones, but (a) whether they are large enough to meet the demand, especially for notoriously poorly housed government employees like the police, and (b) whether sufficient is set aside for maintenance. Secondary matters concern the proportion of buildings materials that is obtained locally, generating further work in the districts. The obvious candidate for ‘local content’ is timber, but the whole area of sawmilling is complex and I do not propose to pursue it further.

**‘Special’ funding for development: conclusion**

In this chapter I have done an analysis of the 1992 Western Province budget by breaking it down into ‘main’ and ‘special’ budget items. Leaving the ‘main’ budget alone as the recurrent costs of provincial government, I have been able to show that the ‘special’ funds are overwhelmingly spent in three sectors: village projects, road construction and maintenance, and building construction. Together these account for 89% of the ‘special’ budget, or K6.8m.

In my analysis, I have deliberately avoided the question of whether the sums of money seen on paper are actually spent on the allocations they are put down for. Opinions differ on this. Some authorities say that there is little latitude for money to be transferred between budget lines during the financial year. On the other hand there is plenty of evidence from all provinces that allocations fail to be released on time, lapse for whatever reason, and that this throws budgetting into chaos. How this can happen I am not sure; I would point to disorganised accounting procedures before looking at other
explanations. A subsequent analysis looking at the acquittals of each allocation is a logical follow-up, but such a study might be very short indeed—I have already said I do not believe inspections and site visits are made except in a minority of cases, and I would not therefore expect the ‘acquittal’ of a project to be particularly illuminating. Recent information is the 1993 Special Support Grant funds have been held back by Waigani pending the acquittal of the 1990-92 allocations.

In my characterisation of the situation, spending in the three big ‘special’ sectors declines in effectiveness the closer the money is to the village when it is disbursed. I see this as a disappointment and a set-back to the ‘small is beautiful’ philosophy of rural development, but it does occur for understandable reasons.

- The building sector may not be perfect, but it can do the job. Money earmarked for and spent on a double classroom goes to a reasonably well set-up industry with the capacity to build fixed items for a set price. Unless the truly unexpected occurs, the classroom is built and the school children can move into it;

- The road construction sector is plagued by an absence of clear provincial objectives and planning, and the lack of supervision of contractors. Some roads are indeed built and prove to be vital links between remote villages and service centres. However, the contractors are undercapitalised and have uneven access to key resources like gravel. Some road allocations are also, it is quite evident, made on a political whim. Road building is always expensive, but (a) there is no point in throwing money at projects the contractors objectively do not have the capacity to build and (b) there is absolutely no point in allocating more than token sums to areas with no cars;

- Money spent on local livestock projects is given away without the corresponding empowerment of local DPI offices to manage the schemes in a co-ordinated way. This money is certainly put in the hands of villagers, but all evidence to date points to the conclusion that no sustainable economic activity is generated by this highly political action.

My portrayal of economic progress in the North Fly is thus a dismal one. I am aware that by saying this frankly, I run the risk of ‘crying wolf’. However, I must point out that any impression that there is time to spare would be an illusion. Mine revenues will not last forever; I say it is certain that the prospect of a dwindling provincial income will one day ‘concentrate minds wonderfully’ and cause a good deal of anxiety. But it would be far better if minds were concentrated on the matter right away.

The national scene

I began this chapter with the two main questions posed by Richard Jackson in his recently published review of the Ok Tedi project. Firstly, is the province well funded? And secondly, does it have as much to show for its high income as it should? I found that

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Nobody else seems to have better ideas. Standish (1979:104-107) mentions a budget put through the Provincial Assembly in Simbu without actual figures in Kina against the budget lines—making it theoretically possible for officials to make changes ‘at whim’—and later where estimates for works were not submitted until after the budget became law. Axline’s 318 page monograph on provincial financing suffers the weakness of scarcely mentioning accounting, except to say that in some provinces substantial underspending and overspending occurs because it is ‘difficult or impossible to know half-way through the fiscal year how much money is available to be allocated to specific tasks’ (Axline 1986:169).
whether or not it is well funded in developing world terms, there is no doubt that Western Province does well by Papua New Guinea standards (Figure 8). I have answered the second question in the negative—and this gives rise to the impression of drift.

In actual fact, the combination of adequate funding and lack of progress is a worrysome one. In political terms, it might be pointed out that the same players have been on stage since the mine began operations, but that a time will come when a younger generation of aspiring leaders will emerge to challenge those who have gone before. The most predictable question they might ask is, what is there to show for the money?

On the national resources scene, Western Province holds a vitally important place. It is the mainland mining province with the longest record of large mine operation, and the one with the longest experience with both royalty payments and the supplemental funds given by Waigani. Newer mining provinces ought to be looking at Western for lessons in how to avoid mistakes and plan out their windfall spending. Unfortunately, were they to look at the moment, they would only see a lack of capacity to spend the new money. It could be argued that this is an artificial problem because other provinces will simply not have the good fortune to face the same difficulties. However, in the current restructuring of the timber industry and with the recent surge in timber prices, tens of millions of Kina may begin to flow into a mooted ‘Project Area Investment Fund’ (Papua New Guinea 1993). Suddenly many other provinces may face large windfall incomes.

Much firmer economic and social development planning is required and a provincial structure allowed to emerge where planning objectives can followed through to village, hospital and cash crop garden level without interference and diversion. I turn to this problematic topic in the next chapter.
CHAPTER 4
REVIEW AND PROPOSALS

Summary

My report is substantially different in orientation from that of Kirsch (1993). He is almost exclusively concerned with river villages which have experienced direct mine impacts; I have dealt with a minority of river villages and the remainder are less directly affected by mine operations. All but one of Kirsch’s villages are Trust villages; about half the ones in my study are. In economic terms, all rubber-growing villages have seen a dramatic price collapse since 1988. All but the northernmost of Kirsch’s villages relied on rubber as the principal means of cash income; the rubber villages of West (and South) Awin are cushioned from the same loss because they have a greater diversify of economic opportunities courtesy of the Kiunga Highway.

The intrinsic differences in the areas of study, then, have led us in different directions. Kirsch correctly addresses the issue of physical mine impacts; I have found the most pressing matters to do with the lack of a discernable direction in regional development. My findings come under the following headings.

Social development

Substantial changes in the pattern of settlement among the Awin began at contact in the 1950s and were intensified in the 1960s when the MCM and ECP\textsuperscript{42} missions both established stations in the area bringing schools and basic health care, and when the first rubber plantings were first made, in the case of the southern villages,. The presence of the Ok Tedi mine has transformed the area again, but it was arguably the construction of the Kiunga-Tabubil Highway in 1981-82 that brought the largest change affecting the daily lives of the majority of villagers in the study area. It confirmed the new settlement pattern and allowed vastly improved access to the service centres of Kiunga, Rumginac and Ningerum, and the mining town of Tabubil.

All readily accessible villages in North and West Awin were visited during fieldwork; thirteen of them are villages in the Ok Tedi/Fly River Development Trust. I was easily able to see the contrast between the areas that have historically had good access to mission facilities, schools, health services, etc, and those whose access has been much poorer until recently. The former, characterised by the villages of West Awin, are now distinguished by much higher levels of economic participation; the bulk of employed Awin people are drawn from them (about 4.9 persons per hundred head of population) and most of the village businesses among Awin villages are located in them.

The latter, characterised by the villages of North Awin, have still to send more than a handful of students to high school, have fewer members in employment (about 2.7 persons per hundred head of population), and have little participation in business and cash cropping.

\textsuperscript{42} Or its precursors.
**Health and nutrition**

The status of village health throughout the Kiunga District is not good. A lack of systematic data limits what can be said in detail on this subject, but on various measures of morbidity the area ranks as below average for Papua New Guinea. I believe I have found a useful regional indicator of mortality, namely the high level of masculinity apparent in poorly serviced Awin communities. In world terms, female-to-male ratios of 0.91-0.93 are seen in populations with poor, even discriminatory, attention to the health problems of women. Countries with a good all round health effort, whether ‘developed’ or not, achieve ratios of 1.02-1.04. In disadvantaged Awin villages, I found substantial deficits of women, with female-to-male ratios below 0.90 unexceptional and worsening with distance away from health facilities. The sex selective mortality which underlies the effect has been shown in other poorly serviced parts of Papua New Guinea to occur in all age groups.

My conclusions in relation to health are that firmer health and demographic data are needed as part of proper District-wide health monitoring effort and that a health plan should be drawn up—along with co-ordinated plans for other sectors—which specifies clear goals and a timetable for achieving them. Institutional strengthening is a high priority in health, but exactly which agency should take the lead is a matter for further discussion.

**The economy**

Approximate village employment figures have been noted above. Exactly what level would be considered ‘full employment’ is hard to say. Bearing in mind that some of the working age population must remain in village tasks—whether in subsistence, cash cropping or household work—if the social and cultural support system of the village is to be maintained, then beyond a figure as low as five persons employed per hundred noticeable changes in village organisation may start to occur. Exactly what level of formal employment is optimal in a non-urban area remains problematic; business carried within villages is usually less disruptive, but it is not always an option in the study area.

An analysis of the village rubber output conclusively shows that annual variations in production are accounted for by the joint sensitivity of growers and buyers to price. Prices are today at a historic low and rubber production has dropped to almost nothing. It will not recover without a large rise in world prices.

Local business activity is mostly made up of small-scale livestock projects, store keeping and, in selected places, road construction and maintenance. Small-scale livestock projects are extremely popular with development advocates and villagers alike, but in this province have grown dependent on a K2.4m/year subsidy from various provincial government budget lines, including the highly dubious use of provincial electorate development funds. The evidence I was able to obtain pointed to the wasteful consumption of the grants under this scheme in running costs. Store keeping is not a vibrant sector, and with little spare money in the villages turnover is not great. The construction businesses turn over the largest sums of money, but, without knowledge of how their capital is built up and renewed from income, how permanent and successful these should be considered to be is not easy to decide.
Local and provincial government

I attempt an analysis of provincial government spending to see whether (i) the Fly River Provincial Government receives funds sufficient to its needs, and (ii) whether its spending allocations and policies reflect an effective way to bring development to the province. I am able to show that Western Province receives a high absolute level of funding (it ranks second to Enga and higher than Morobe), but that large sums are allocated in a way that outstrips the province’s administrative capacity to manage the spending properly.

I found that local government had entirely ceased to function through the North Fly in 1992. This was because payment of the province’s grants to the councils had become stalled in the bureaucracy. The councils themselves were greatly in need of institutional strengthening.

The performance of provincial government

My general theme is obvious—the overall performance of provincial administration has been poor in Western Province. I wish to point out that I do not need to single out individuals, groups of people or departments for criticism; if this is felt, it is not my intention. The causes are systemic and quite familiar to those with relevant experience.

While I have made many observations in the text, ‘non-performance’ cases are less well illustrated than they could be because, by their nature, they contribute to a lack of clear evidence. For example, ‘weakness in keeping orderly records at rural posts’ means that few things are put down on paper. A rather minimal example is clinic returns, which are either not made, or made and then lost, but which we know must be sent in. But with little other documentation originating at government stations of all kinds it is often impossible to find out what is or is not getting done.

Axline’s categories of performance

Axline (1986:161-175) adopts five categories under which provincial government administrative performance can be evaluated. It may be useful to summarise my assessment of North Fly and Western Province in his terms:

General planning, programming and policy making

‘Among the [provincial governments with effective policy-making structures] plans have been drawn up in one or more sectors and ... steps have been taken to bring these sectoral plans together into a co-ordinated provincial development plan’ (Axline 1986:161-162).

In WP, a Five Year Plan was drawn up by divisions in 1987, but was basically discarded by the provincial assembly on its return from suspension and resumption of responsibility for North Fly.

‘At the other end of the scale ... poorly performing provincial governments suffer from lack of organisation, ineffectiveness, low morale and little policy direction ... policy decisions are limited to the adoption of a provincial budget.’ (Axline 1986:162).

In Axline’s last two reporting years, 1981 and 1982, the nineteen provincial governments each passed an average of 3.8 legislative acts.
Only two simply passed the budget in these two years; in each case, one was Western Province.

At project level, there is a preference for selecting large, expensive projects, rather than drawing up lists of valuable minor works or maintaining existing infrastructure (e.g. Kmen bridge, Case 3, p. 44 and councils not paid, p. 39).

Some decisions are made in the face of detailed advice to contrary or in a plainly illogical way (e.g. Olsobip road started without engineering plan, Case 7, p. 50, inoperable airstrip built at Ok Au, p. 47, roads built in area with no vehicles, Case 13, p. 56).

Finally, budget lines not matched with genuine costings or quotations (e.g. budget items, including wages, typewriters, computer maintenance agreements and standard house designs, rounded to nearest thousand Kina, cf. Fly River Provincial Government n.d. [1991], see p. 69).

Co-ordination, co-operation and communication

‘Many provincial governments do not have regular monthly meetings of division heads and ... there is often no established procedure for written reporting ... In many cases, there is inadequate direction from the top, with division heads being bypassed in reporting from the field, and little co-ordination of divisional plans’ (Axline 1986:163).

The frequency of divisional meetings etc in Western Province is unknown to me, but geographical considerations militate against good communications (cf. King et al. 1990).

There are obvious lapses in communication between headquarters and rural posts (e.g. councils not paid, p. 39, clinic records not kept or not remitted to headquarters, note 13, p. 25).

Political co-operation and support

‘In many provinces there are serious problems in the area of political co-operation and support [ranging from] political interference in administrative matters ... to a virtual breakdown of control by provincial government ... In one or two cases, political interference from the national level has contributed to conflict and disruption’ (Axline 1986:166).

Political interference in Western Province is obvious in the case of the missing K3.1m 1990 SSG payment and the dumping of the Five Year Plan. David King (pers. comm.) points to the paralysing effect of North Fly-South Fly rivalry on the provincial assembly’s ability to consider legislation, let alone pass it; this appears to remain an intractable problem (cf. King et al. 1990). On the other hand, the national members are not notably involved in provincial government matters—the North Fly member is not Western Province born and his voter base lies essentially with Tabubil mine workers.

At the provincial-local level, the inappropriate institution of ‘Rural Development Funds’ for provincial members undermines council responsibilities. Further, RDF subsidies are given to enterprises in the absence of adequate extension services or business guidance (e.g. small-scale livestock projects, 40 ff.).
Administration and management

‘Generally, the quality of provincial administration and management is all provinces is low ... staff development is extremely important ... [but a] number of provincial governments have no staff development officer. In others the position is vacant ... part time [or] classified at a level too low to properly exercise the function’ (Axline 1986:167).

*Human resources and staff development are clear weaknesses in Western Province. The province has a very small pool of university graduates for whom employment with OTML would undoubtedly be a much more attractive proposition than working in Kiunga or Daru, and even properly qualified non-graduates are hard to find—as noted earlier (see note 20 on p. 34), three out out four planning positions were unfilled in 1992. Finally, a notable ‘brain drain’ of experienced public servants from Kiunga into employment with OTML at Tabubil rounds off a particularly dismal outlook for human resources.*

*At the level of financial management, budget lines are overspent (e.g. no funds released for an allocated project, cf. Table 9, p. 43) and, historically at least, have been underspent (cf. Axline 1986:Table 38). Certainly, acquittals are not made promptly, accurately, or at all (e.g. previous year’s SSG not acquitted, p. 58).*

Local and district affairs

‘It is at the level of local government and district administration that provincial government policies are most clearly related to the people they are meant to benefit ... Local-level government ... is in a bad state in nearly every province of Papua New Guinea’ (Axline 1986:169).

*Local government had entirely ceased to function in the North Fly in 1992 (p. 39).*

Axline’s work essentially relates to the early period of provincial government, prior in this province’s case to the temporary separation of North Fly from FRPG control; at the time Western Province appears to have been home to one of his two worst performing provincial governments. It is possible that other provinces have encountered more severe problems that Western’s since the early 1980s; otherwise there are few reasons for wagering on an improvement in ranking if his evaluation were repeated today.

What needs to be done next

There will be no orderly path to development under present arrangements. A worst case opinion I have heard suggests that even if a comprehensive provincial development plan could be drawn up immediately, the province would lack the capacity to implement it. The highest priorities are unambiguously:

- institutional strengthening focussing on (a) human resources, and (b) the implementation capacity in the divisions

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43 Jackson (1993:112) says that OTML had only two recently recruited graduates from the Preferred Area in employment 1991, only one of the two being, I understand, from Western Province.
• an immediate start on a new provincial development plan, setting out and justifying the goals for each sector, and providing a timetable for their achievement.

A plan will be useless without stronger capacity to get things done; the capacity to spend budget allocations is worthless without a clear vision of what allocations to make and what they will lead to in the future. Unfortunately, I cannot prescribe which agency or agencies ought to take the lead role in bringing these things about. I am sure that some aspects of the problem are matters to be dealt with at national level. On the other hand there may well be areas in which negotiation and consultation can be profitably entered into at provincial level. Ultimately, though, the whole question of provincial administration is a matter for the Papua New Guinea public service and political systems to resolve. Western is not the only province to face the problems I have outlined and, though I believe that representations can usefully be made on its behalf—the simple existence of this report is one—the matter cannot be forced.

The position of the Trust

The position of the Trust remains an important one. I have mentioned before (p. 3) that Trust and provincial government activities form a zero-sum game; that is, because the Trust has begun its work by filling needs that have been left unmet by provincial and local government, its list of projects are dependent on district services and councils. Were this situation to change—if district services became able to function properly—it follows that the Trust’s responses would change too. I take it as axiomatic that an improvement in the performance of government at this level is to be desired.

How the Trust can be fitted into a wider scheme without loss of autonomy is a difficult question. Certainly, frank talks should be held with relevant national departments and provincial divisions, by way of making very clear to them what the Trust wishes to see accomplished. Agencies for development assistance may even be conceived of as having a role to play in specialist areas pinpointed as being in crisis, perhaps in a similar way to the assistance now being given to the rubber industry by the Asian Development Bank. However, my own recommendation is that the Trust should make a policy shift in the direction of bolstering the local government councils that lie in its area of operation. There are several reasons for this.

The Trust in partnership with councils?

Attempts by the Trust to liaise with provincial, or even, national departments must be seen as fraught with difficulty. Because of the ‘zero-sum’ relationship I have mentioned, offers to share in development efforts can only lead to undesirable tensions and possible accusations of interference by OTML in political affairs.

But at the council level, the situation is rather different. Among rural councils, a professional standard of administration is not expected and therefore its absence cannot be deplored when it is not found. In my experience, council executives never feel threatened by assistance when it is offered, because they owe their positions to local knowledge, the trust of village leaders, and a modest ability in running meetings; not to an expertise in public administration. In the North Fly, the councillors naturally retain the usual mixture of human frailties, but there is no doubt their views, aspirations and abilities mirror those of the village people they represent. The councils are a low budget tier of government (39 ff.), and are supposed to form the most direct channel between
higher forms of government and village affairs. Unfortunately, in many provinces this channel has been studiously ignored by those above; in North Fly it had been blocked off.

Unfortunately, the present weak position of councils is due to more than the non-payments of grants. The K40,000 electorate development funds empower the provincial members at the expense of the local government councils. The fact that a ‘District Development Committee’ or a ‘Rural Development Programme Committee’ is convened to distribute funds among projects means that the institutional function of the council has been eroded away. Equally, moves by the Trust to empower its representatives, unless they are always subordinate to councillors, will inevitably add to the erosion of council authority. Worse, the selection of certain villages among many to become Trust villages runs counter to the founding principle of local government which is to look after the community as a whole.

There is a depth of feeling among councilors from different areas concerning the selection of Trust villages. In an impassioned speech at the Ningerum Council Chambers,44 an Awin councillor whose non-Trust village is sandwiched between two Trust villages rose to ask why some Awins were favoured with benefits, while others not:

We aren’t in the Trust. Why? We are all locals!45

He has a fair point. Under the terms of the 1991 SSG agreements (Papua New Guinea 1991) his village would be included in one or other of the terms ‘Highway villages’ and ‘Alice villages’ (although I have yet to see these categories defined properly). There are already so many different funds and grants aimed at the area (34 ff.), that he can be excused for having given up trying to differentiate between them. As a past President of the Ningerum Council, he will also feel the sting—he did not point this out to me—that circumstances have so arranged it that the villages of both the incumbent Presidents of the Ningerum and Kiunga Councils are in the Trust, while his is out of it.

The counter that the Trust is a benefit to be enjoyed specifically by those villages directly affected of disturbed by OTML activities, and that his is not, is not a strong argument. Village informants are still puzzled by the Trust, because all feel impacted by company activities. Even many of those who receive Trust benefits have adopted an attitude of waiting and seeing what the Trust will do—because they cannot yet see where it fits in. Of course, if people suffer actual losses or measurable inconvenience, then proper compensation should be paid to them on a case by case basis. But if local development is the aim, then the area covered by a local government has already been determined to be the natural extent of a particular community, and it is this community that should be the subject of a rounded development effort. To do otherwise is to court divisiveness.

I set in opposition to this, a view in which the Trust and the councils in whose areas it operates would enjoy a relationship of partnership. In this view, the councils would

44 In an informal meeting for my benefit on 18 August 1992. Eight councillors, one former member and thirty other people were present.

45 Mipela no stap long Trust. Bilong wanem? Mipela olgeta ‘locals’ [sic].
regain some of the responsibility they are generally seen to have lost since the formation of provincial governments (e.g. Axline 1986:170).

I freely acknowledge that in their present state the councils pass capricious motions and fail to make wise use of what meagre resources they do have. But I have said above that a high priority is institutional strengthening and this applies just as well to the councils as it does to provincial divisions. Because their spheres of activity are so limited, I do not believe this to be a difficult task at all. Basic improvements can easily be made at a clerical level—such as in help with book-keeping, minute-taking and photocopying—and in the supply of very basic business advice. There is little point in me specifying elaborate measures; the councils need a hand, not a sheaf of fine print.

The Trust and community development

Given these improvements, I urge a shift in the emphasis of Trust operations away from a list of special villages and towards a more regional effort based at local government level.

The first objection I will hear to this is that of cost. This is simply met. The current (1991 and 1992 allocations) budget for all eleven Western Province councils is K254,000 a year, and, as is obvious from earlier remarks, the first step is not to increase this but to see it paid at all. Since any large increase of the budget, say a doubling, would exceed their present capacity to administer spending, an overwhelming demand for more funds would seem to be highly unlikely.

The key to funding actually lies away from the Trust altogether. Hopefully, the Rural Development Funds, budgetted at K960,000 in 1992, are already or will shortly be a thing of the past. I cannot prescribe that these funds be garnisheed for the councils, but I would hope that they do remain available in some alternative form for use in the same areas. I do not believe it is beyond imagination to see them spent more wisely through proper local level structures of decision-making. Of course I have in mind the councils.

With the provincial government in suspension, a window of opportunity has opened that could make the re-structuring and upgrading of the council system perfectly possible. It may be that others have plans to replace the councils as we now know them with some other type of organisation. Some provinces have adopted ‘community governments’ in place of councils. I approve of this as long as it does not result in an unnecessary upheaval that few can understand at village level.

Proceed with caution

I cannot be more specific in my recommendations than this. If I put up more detailed proposals without a process of consultation with those who must devise and implement, I will undoubtedly detract from my overall goal of seeing constructive change occur. I can prompt for changes, but the pace cannot be forced. Others must find and implement the actual solutions for themselves.

The cases in point are the urgent needs for institutional strengthening, a renewed planning effort at provincial level, and the suggested redeployment of the Rural Development Funds. How would the Trust go about seeing these things come to pass? I can simply urge a process of consultation with provincial and national authorities. This
must be done with clarity in what the objectives are and a care to see that the approach is made openly.

I cannot predict whether this can be done successfully, but the alternative to a coordinated development effort is to see the rest of the 1990s passing with little to show for the considerable sums becoming available for this purpose. In turn, the absence of tangible results will only serve to focus resentment on organisations that do operate in an efficient and successful way. The most visible of these, as today, will be OTML.
### APPENDIX A
#### DATA TABLES

<table>
<thead>
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<td>K 18,100</td>
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<td>K 71,500</td>
<td>K 77,000</td>
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*Table A1. North Fly Five Year Plan - project expenditures (Dept. Western Province 1988:77)*

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**Total: K14,522,900**


**KEY**
- NFDP/SFDP = North/South Fly Development Programme
- Royalties = payments to Ok Tedi landowners
- SF/NF SSG = South/North Fly Special Support Grants (40% each)
- KLM = Kiunga-Lake Murray Agreement Funds
- RDF = Rural Development Funds (K40,000 x 24 provincial electorates)
- Tabubil SSG = Tabubil Special Support Grant (20% of total)
- Support Services, Premier, Speaker = FRPG salaries, allowances and running costs (Daru)
- Grants = Grants to Local Government Councils, vocational centres and Church educational services
- Works = Land survey, minor road improvements and some housing
- Outstanding = liabilities carried over
- Prov. Maint. = Airstrip maintenance and some housing
- Gen. Admin. = Law and Order Ctte, Emergency Operations etc.
## Female-to-male ratios

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<th>M</th>
<th>F</th>
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<td>41</td>
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<td>28</td>
<td>73</td>
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<td>20</td>
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<tr>
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<td>Menumgrup</td>
<td>68</td>
<td>54</td>
<td>122</td>
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<tr>
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<td>Senamrae</td>
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<td>38</td>
<td>70</td>
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<td>Ipoknai</td>
<td>17</td>
<td>17</td>
<td>34</td>
<td>1.00</td>
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<td>Mimingiri</td>
<td>31</td>
<td>21</td>
<td>52</td>
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<tr>
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<td>Kasrenai</td>
<td>18</td>
<td>18</td>
<td>36</td>
<td>1.00</td>
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<tr>
<td>1955 patrol</td>
<td>Matkomnai</td>
<td>49</td>
<td>34</td>
<td>83</td>
<td>0.69</td>
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<td>1955 patrol</td>
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<td>144</td>
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<td>75</td>
<td>143</td>
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<td>81</td>
<td>149</td>
<td>1.19</td>
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<td>94</td>
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<td>79</td>
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<td>Hosokumgu</td>
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<td>65</td>
<td>118</td>
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Table A3. Female-to-male ratios in Awin villages. Data for Fig. 7, p. 28.

Notes:


2. ‘Poor access’, ‘some access’, ‘fair access’ (to health care) explained on p. 27.

3. ‘F/M Ratio’ is \( \frac{\text{Females}}{\text{Males}} \). Another expression of the same measure is a ‘masculinity ratio’ quoted as the number of males per 100 females. This is calculated as \( \frac{\text{Females}}{\text{Males}} \times 100 \).
The usual village of residence of the councillor is underlined and village names are followed by census unit designations, where applicable.

(this corrects the list given in Burton 1991: Appendix A)

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<th>Councillor</th>
<th>Villages and Census Units</th>
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<td>North Ok Tedi</td>
<td>Kurem KARUNG</td>
<td>Ambaka (CU001), Birimkanka</td>
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<td>2</td>
<td>North Ok Tedi</td>
<td>Karolus KITOM</td>
<td>Kungim (CU003), Kungembit (CU002)</td>
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<td>3</td>
<td>Ningerum</td>
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<td>Tengkim (CU024), Wombon (CU028), Digam (CU010)</td>
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<td>Ningerum</td>
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<td>Bikim (CU004), Minipon (CU018)</td>
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<td>Hukim (CU013), Yongtau No.2 (CU032)</td>
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<td>7</td>
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<td>9</td>
<td>Ningerum¹</td>
<td>Taobtaman OGARUN</td>
<td>Derongo (CU009), Nioksikwi (CU020), Duombonkim (CU011), Ankwit (= Tundenhiatkwi), Kumkwit</td>
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<td>10</td>
<td>Ningerum</td>
<td>Onia AWONKA  (V/P)</td>
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<td>Kolebon (CU014), Tingkw (CU026), Yongtau No. 1, Bumbin</td>
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<td>12</td>
<td>Ningerum</td>
<td>Kakwet KABOLAB</td>
<td>Wogam (CU027), Wuwungo (CU030), Ningerum-Tamaro (CU022), Kwakwi (CU016)</td>
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¹ Except for Derongo, which remains with the Ningerum Council, the component villages of this Ward transferred to the Star Mountains Council in 1983, joining the former Wards 29-31 (Bultem and Finalbin; Atemkit and Kavorabip; Wangbin). Either way, most of the people reside at Ok Ma 11.
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<th>Villages and Census Units</th>
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<td>14</td>
<td>North Awin</td>
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<td>Tapko (CU018), Kwiloknai (CU011), Sapirae, Rumepu</td>
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<td>Keba ESSEM</td>
<td>Ripnai (CU013), Brunai (CU002), Mohomnai</td>
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<td>North Awin</td>
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<td>Haewenai (CU003), Mohomtienai (CU012)</td>
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<td>Tmoknai (CU020), Tminhore (CU019), Somoikwankia (CU017), Tumsen</td>
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<table>
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<th>Villages and Census Units</th>
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<td>Oar GAI</td>
<td>Wanginai (CU021), Nonigire (CU016), Sutpenai (CU023)</td>
</tr>
<tr>
<td>23</td>
<td>West Awin</td>
<td>Ketu DOWOE</td>
<td>Menumgrup (CU013), Menum, Sonai (CU020), Miahore (CU022)</td>
</tr>
<tr>
<td>24</td>
<td>West Awin</td>
<td>Padien PRURI</td>
<td>Grehorsore (CU003), Ipoknai (CU008),</td>
</tr>
<tr>
<td>25</td>
<td>West Awin</td>
<td>Aetru WOKNAI</td>
<td>Holpanai (CU005), Senamrae (CU018), Dande 1 &amp; 2 (CU002)</td>
</tr>
<tr>
<td>26</td>
<td>West Awin</td>
<td>Russel WAIDUMA</td>
<td>Bige (CU001), Miamrae (CU014), Kwiapae (CU012), Tripianae</td>
</tr>
<tr>
<td>27</td>
<td>West Awin</td>
<td>Steven GANG</td>
<td>Kasrenai (CU009), Matkomnai, Demesuke</td>
</tr>
<tr>
<td>28</td>
<td>West Awin</td>
<td>Duwang KABE</td>
<td>Yenkenai (CU007), Mimgire (CU015), Hosokumgu (CU006), Gumenai</td>
</tr>
</tbody>
</table>
APPENDIX C

GAZETTEER OF CENSUS UNITS AND COUNCIL WARDS:
WEST AND NORTH AWIN CENSUS DIVISIONS

Ward 13. Hiorenkia, HosonaiTV, Awin TamaroTV

Councillor 1991/92: Sarum SOWENAM (Hiorenkia)
Map reference/location: WJ173736 / Kilometre 73 (Tamaro), WJ214776 / Kilometre 80 (Hosonai).
Recent relocations: Hiorenkia was formerly several kilometres to the east. Hosonai has moved its position slightly.
OTFRDT: Hosonai and Awin Tamaro are Trust Villages.
Nearest school: Ningerum C.S. at Kilometre 72-73.
Nearest health facility: Ningerum Health Centre
Churches: n/s
Formal organisations: n/s
Employment: n/s
People outside the District: n/s
People from outside the Dist.: n/s
Stores: n/s
Vehicles/Outboard canoes: n/s
Water supply: Tanks & haus wins built by OTML.

Comments
Hiorenkia is said to have moved to the present position in 1972. Villagers said that Krenham Wonhenai, the member for North Fly from 1972-1977, and himself from Hiorenkia, told them to move there. At present Hiorenkia is situated on the land of Simenkia village.

Simenkia, at Kilometre 74, is not listed as a ‘village’; it is counted as part of Awin Tamaro, which in fact consists of several distinct settlements.

(Not surveyed in 1992.)

Ward 14. TapkoTV, KwiloknaiTV

Councillor 1991/92: Bon DAWOE, Council President (Tapko)
Map reference/location: WJ242782 / Kilometre 83-84.
Recent relocations: Old Tapko was 3 km to the east. Old Kwiloknai was 6 km to the southeast. Sapirae village has joined Tapko.
OTFRDT: Tapko and Kwiloknai are Trust Villages.
Nearest school: Ningerum C.S. at Kilometre 72-73.
Nearest health facility: Ningerum Health Centre
Churches: n/s
Formal organisations: n/s
Employment: n/s
People outside the District: n/s
People from outside the Dist.: n/s
Stores: n/s
Vehicles/Outboard canoes: n/s
Water supply: Tank & house win built by OTML.

Comments

Both Tapko and Kwiloknai are examples of how not to choose an appropriate village site. Tapko now occupies a ribbon of Highway between Kilometres 83 and 84, while Kwiloknai, originally situated one ridge away, is spread out between Kilometre 96 and 98. The impact of dust and noise on the inhabitants is considerable — a house we were hosted in physically shook whenever a semi-trailer went by — but as noted elsewhere all these villagers were warned not to build houses right on the road. (Using a dozer to push short feeder roads inland a kilometre or so might encourage people to vacate the road corridor.)

(Not surveyed in 1992.)

Ward 15. Sisimakam: compound village made up of Ketimoknai, Saisu, Aplam

Profile

Councillor 1991/92: Kumo GUMENG
Map reference/location: WK340940 / Kilometre 106.
Recent relocations: Sisimakam is a new village formed from the three inland settlements of Ketimoknai, Saisu and Aplam.
Nearest school: Kwiloknai C.S. at Kilometre 97.
Nearest health facility: Ningerum Health Centre
Churches: SDA and ECP.
Formal organisations: No youth and women’s groups, but they are under discussion; Ketimoknai Business Group.
Employment: Tabubil, 1; Ningerum, 0; Kiunga, 0.
People outside the District: Balimo, 1 man; Hagen, 1 youth at school.
People from outside the Dist.: One Telefomin woman is married and living here.
Cash crops: None.
Economic activity: Vegetable sales at road side market (shed built by OTML); two working stores.
Vehicles/Outboard canoes: Cllr. Kumo has the only vehicle.
Water supply: 1 tank built by OTML, 1 tank built by LGC.

Comments

As can be seen from the ward profile, Sisimakam has a very low economic and social developmental status, consistent with the isolated position of its population in relation to schools, rubber schemes, or other development projects. All but its youngest members grew up in the bush at the three constituent villages, which formed the northernmost communities of Aekyom speakers. East of the river Wai Gubu (Gumo in its lower reaches) lay an essentially uninhabited zone at the foot of the Hindenberg range bordering the lands of Faiwol speakers, probably used only for hunting and gathering. One clan from Ketimoknai and two clans from Aplam have Faiwol origins (‘Faiwol’ and ‘Plinmin’) but are Aekyom speakers today (see also Brunai, below).
The economic participation rate is very low and few villagers have had basic schooling. As a consequence, their economic prospects are very poor. Case 2 on page 43 describes a failed attempt to secure Rural Development Funds in 1991.

The Sisimakam-Haewenai road now extends to the foot of the hill below Ketimoknai village, but it is not in a good enough condition, nor does it extend far enough, for it to be used to gain access to Ketimoknai by four wheel drive (see Case 11 on page 54).

**Ward 16. Ripnai, Brunai, Mohomnai**

*Profile*

Councillor 1991/92: Keba ESSEM  
Map reference/location: Approx. positions only: WJ 425842 (Ripnai), WJ 418784 (Brunai), WJ 447797 (Mohomnai).  
Recent relocations: Few people remain in these villages. Some former inhabitants are found at Sisimakam and there may be others at Haewenai and in Kiunga.  
Nearest schools: Mohomtienai.  
Nearest health facility: Bundyaen Health Sub-Centre, Haewenai.  
Churches: ?  
Formal organisations: ?  
Employment: ?  
People outside the District: ?  
People from outside the Dist.: ?  
Cash crops: None.  
Economic activity: None.  
Vehicles/Outboard canoes: Outboards may be owned at Mohomnai.  
Water supply: ?

*Comments*

There is canoe access to Kiunga from Mohomnai via the Wai Gumo, Wai Piang and Fly Rivers. Ripnai is on the same ridge system as the Sisimakam-Ketimokai road and lies about 8km to the south of the present end of it.

‘Mohomnai’ is named after a river, the Wai Mohom.

Two clans at Brunai (‘Faiwol’ and ‘Plinmin’) originated in the Star Mountains but are Aekyom speakers today (see also Sisimakam, above). The Faiwol-Awin border northeast of the villages is located at a gorge on the Wai Piang (? = Wok Feneng) called Piang Trumbon at WJ 540895 on the Ningerum topo sheet.

(Information from Cllr. Kumo Gumeng of Sisimakam; I have not visited these villages.)

**Ward 17. Runai, Ihore.**

*Profile*

Councillor 1991/92: Kien MOBIAI  
Map reference/location: Approx. positions only: WJ 448721 (Runai), WJ 465680 (Ihore).
Recent relocations: Few people remain in these villages. Former inhabitants are found at Haewenai and in Kiunga.

Nearest school: Mohomtienai.
Nearest health facility: Bundyaen Health Sub-Centre, Haewenai.
Churches: ??
Formal organisations: ??
People outside the District: ??
People from outside the Dist.: ??
Cash crops: None.
Economic activity: None.
Vehicles/Outboard canoes Unknown, but outboards may be owned.
Water supply: ??

Comments

Most of the inhabitants of Ihore were said to have moved to Runai where there was only ‘one family’ left.

(Information from Haewenai informants; I have not visited these villages.)


Profiles

Councillors 1991/92: Ward 18, Kave GRE. Ward 19, Pomewo GRUMHOE.
Map reference/location: WJ 361676 (Kmenai), WJ 357672 (Hosomrae), WJ 348676 (Mohomtienai), WJ 357676 (Haewenai).
Recent relocations: The villages of Ward 18 are said to have been located 5-7km to the northeast before the construction of the Haewenai airstrip. Mohomtienai is said to have been located 2km to the northwest.
Nearest school: Mohomtienai Community School, a Level 4 ECP agency school with nine teachers in 1992 (Grades 1A/B, 2A/B, 3, 4, 5A/B, 6).
Nearest health facility: Bundyaen Health Sub-Centre, Haewenai.
Churches: Mainly ECP
Formal organisations: Hore Bros. carpenters. Others unknown.
Employment: Tabubil: Kmenai, 2; Hosomrae, 4; Mohomtienai, 4; Haewenai, 3. Kiunga: Kmenai, 2; Hosomrae, -; Mohomtienai, 3; Haewenai, 2. Ningerum: -.
People outside the District: One man at Ilimo Farm, Port Moresby.
People from outside the Dist.: None in villages.
Cash crops: No rubber grown here.
Economic activity: Stores: Kmenai, 3; Hosomrae, 1; Mohomtienai, 4 closed, 1 open; Haewenai, 3.
Vehicles/Outboard canoes Ten outboards owned across both wards; two vehicles owned in Kiunga.
Water supply: Tank at health sub-centre, but not on the school houses.
Comments

These two wards make up the settlement collectively known as Haewenai. Access is by canoe up the Wai Mari (Ok Mart) to Miahore, then up the Wai Kmen to Haewenai (navigable all the way in good conditions). The Haewenai airstrip was closed in 1973, according to the Cllr. Pomewo, because it was ruled too short for safe use. (A hill at the eastern end would need levelling before it could be re-opened, even if this was desirable.)

‘Haewenai’ comes from a hill called ‘Haewe’ at the origin site. The founding village was called ‘Begrup Haewenai’.

‘Mohomtienai’ was said to mean ‘resting place’ and was the name of a hill at the founding site.

‘Kmenai’ did not exist before the kiap came and called several clans together at a site higher up the river on a tributary of the river at the airstrip, called Wai Kmen. At the airstrip, the river was formerly called Wai Yome, but the name Wai Kmen has now replaced it.

‘Hosomrae’ is derived as follows. A Hore man came to place Some and started a settlement where the placename was Kurome. He changed the name to Some and then Ho-som-nai.

Case 13 on page 56 discusses progress made to date on road construction between Ralengre and Haewenai. Development at Haewenai is described there in more detail.

Ward 20. Tmoknai, Tminhore, Tumsen, Somoikwankia.

Profile

Councillor 1991/92: Sobre HUKIN
Map reference/location: WJ 373629 (Tmoknai, Tminhore), WJ 371637 (Tumsen), WJ 352588 (Somoikwankia).
Recent relocations: A former site of Tmoknai lies 500m to the southwest. Three settlement sites exist at Somoikwankia; one was abandoned and two were empty in September 1992. Large Tmoknai and Somoikwankia corners exist at Kiunga.
Nearest school: Mohomtienai from Tmoknai (1½ hrs walk); Sonai from Somoikwankia (by canoe).
Nearest health facility: Bundyaen Health Sub-Centre, Haewenai.
Churches: Tmoknai: Catholic, four ECP members. Somoikwankia: Catholic, some ECP.
Employment: Tabubil: Tmoknai, 2; Somoikwankia, ?
Kiunga: Tmoknai, 10+; Somoikwankia, ?
Ningerum: Tmoknai, 1; Somoikwankia, ?
People outside the District: One Tmoknai man at Daru, two in Port Moresby.
People from outside the Dist.: ?
Cash crops: No rubber grown.
Economic activity: Stores: Tmoknai, 1; Somoikwankia, 1. Tumsen have a store in Kiunga. All village income obtained in Kiunga (ex. employees elsewhere).
Vehicles/Outboard canoes Tmoknai: 3 outboards, 3 vehicles at Kiunga
Somoikwankia: 2 outboards, 1 vehicle at Kiunga.
Water supply: One LGC tank at Tmoknai (needs repair).

Comments

Tmoknai is the major settlement. Tumsen, a hamlet 800m north of the main settlement, is considered part of Tmoknai (Tumsen is a clan). Tminhore is physically at Tmoknai, but is considered to be a separate village.

Both Tmoknai and Somoikwankia have large corners in Kiunga and the lifestyle of the villagers appears to conform more the pattern seen among the peri-urban South Awin than to that among other North Awin villages. Indeed, Somoikwankia village was completely empty at the time of my visit—the houses were well-maintained but locked up.

Case 13 on page 56 discusses progress made to date on road construction between Ralengre and Haewenai. If and when the Ralengre road reaches these two villages, their economic prospects will change again.

‘Tmoknai’ is named after a river, Wai Tmoke, that flows into Wai Mari.

‘Somoikwankia’ is derived from ‘Somoi’, the principal clan.


Councillor 1991/92: Kasi TUTU
Map reference/location: WJ 160704 (Pampenai, highway) & WJ 238673 (Pampenai, bush)
WJ 144643 (Kranai, highway) & ?WJ 220631 (Kranai, bush)
WJ 144643 (Sirigiri on highway at Yenkenai), WJ 247702 (Sirigiri, bush),
WJ 200678 (Sirigiri ‘camp’ halfway to Pampenai).
Recent relocations: All three were purely bush villages until ca. 1971. The bush village of Kranai is probably uninhabited, but Sirigiri people are split between Yenkenai, on the highway, and their bush village. Pampenai people have a (just passable) road to their bush village and are also split between the two sites.
Nearest school: Yenkenai C.S. (Grades 2 & 4) or Ningerum C.S.
Nearest health facility: Aid Post at Yenkenai or Ningerum HSC.
Churches: Pampenai: ECP.
Formal organisations: Kire Constructions - shareholders are Pampenai villagers; women’s club at Pampenai.
Employment: Tabubil: Pampenai, 3 men + 1 woman, a typist at the Police station;
Tapko Gravel: Pampenai, 1 man;
Kiunga: Pampenai, -;
Port Moresby: Pampenai, 1 man;
People outside the District: Pampenai: one nurse training at Balimo; one High School student at Kerevat; one woman married a Sepik and lives in the Ok Tidetau corners at Tabubil.
People from outside the Dist.: A Tolai man is married to a Pampenai woman (and works for Curtain Star at Alice Pit); two others.
Stores: Pampenai: two stores
Economic activity: No rubber blocks. Some sales of banana, sago and kaukau at Tabubil market are possible for Pampenai women if a vehicle belonging to Kire will take them there. No fish sold. Tyre service and workshop operated by Kire at Pampenai. Chicken project at Pampenai.
Vehicles/Outboard canoes Kire Constructions: 2 dozers, 1 backhoe, 2 flat-backed trucks, 3 landcruisers, 1 bus (numbers in working order unknown).
Water supply:

Comments
‘Pampenai’ is derived from Wai Pamuke, a small creek at the bush village that flows into Wai Tipe, pen, river mouth, and -nai, the place suffix. Pam(uke)-pen-nai or ‘Pumuke-river mouth-place’.

Ward 22. Wanginai, Nonigire, Sutpenai

Profile
Councillor 1991/92: Oar GAI
Map reference/location: WJ 155700 / Kilometre 69 (Wanginai, highway) & WJ 275689 (Wanginai, bush)
WJ 295670 (Nonigire, approx.)
WJ 288648 (Sutpenai, approx.)
Recent relocations: Wanginai was purely a bush village until ca. 1970. Since the construction of the road, some inhabitants have moved to their highway corner; still, the bush village is large and corner dwellers probably commute between the two places. Nonigire and Sutpenai: the proportion of people living elsewhere is unknown.
Nearest school: Wanginai children stay on highway and go to Ningerum C.S.; Nonigire and Sutpenai children are spread between Sonai C.S. (Grades 1, 2, 3), Ningerum C.S. and Haewenai C.S.
Nearest health facility: Aid Post at Wanginai (orderly transferred to Mahonmai in July 1992); otherwise Ningerum HSC or Haewenai HSC.
Churches: Wanginai, Catholic; Nonigire, Catholic + ECP; Sutpenai, ECP.
Formal organisations: A women’s club at Kilometre 69 (set up with assistance of govt. and Catholic Mission).
Employment: Wanginai: Tabubil, 6 men; Kiunga, 1 man.
People outside the District: None.
People from outside the Dist.: One Wanginai woman has married a Faiwol.
Stores: Wanginai: Gre clan, a store at Km 69; Mepu clan, ‘bottleshop’ at Ningerum and a store at Ningerum station. (Nonigire, Sutpenai: no stores operated at present.)
Economic activity: No rubber grown at any place. No chillies etc; no vegetable or fish sales. A chicken project was started with DDC funds in 1990; all the chickens have been sold and more are being ordered.
Vehicles/Outboard canoes Wanginai: 3 cars, no outboards. Nonigire: 1 cars, 3 outboards. Sutpenai: no cars, 2 outboards.
Water supply: One leaking tank on the Aip Post at old Wanginai.

**Comments**

Wanginai is served by road as far as Pampenai; the major obstacle to pushing the road further is Wai Tipe creek some two hundred metres east of Pampenai. This is ten metres wide in a deep gully. Logs straddle the creek for pedestrians to cross; a good deal more work, and the addition of bridge decking, is required before vehicles will be able to cross. Just over halfway between old Pampenai and old Wanginai is a collection of houses called ‘Wanginai corner’ and where the track branches south to Sutpenai and north to old Hiorenkia. Evidently this was the original patrol road linking the inland villages. The track is in good condition.

Nonigire has/had a council ferry service. This was closed in 1992 due to shortage of funds.

‘Sutpenai’—mouth of Wai Suite place, su(i)t-pen-nai.

**Ward 23 Menumgrup, Menum, Sonai, Miahore**

**Profile**

Councillor 1991/92: Ketu DOWOE

Map reference/location: WJ 260580 (Menumgrup, approx.), WJ 234558 (Menum, approx.), WJ 300608 (Sonai), WJ 308649 (Miahore).

Recent relocations: Menumgrup has been moved to a site on the River Kaekae near Sonai. Old Menum is empty and people have moved to new Menumgrup.

Nearest school: Sonai (Grade 1, 2, 3), Rumginae, Haewenai.

Nearest health facility: Rumginae Health Centre; Haewenai HSC.

Churches: ?

Formal organisations: Menumgrup youth group. Demsel Business Group at Sonai (may have changed name).

Employment: Tabubil: Sonai, none; Miahore, 2 men; Menumgrup, 2 men.

Kiunga: Sonai, 2 men; Miahore, 3 men; Menumgrup, 2 men.

Ningerum: Sonai, -; Miahore, -; Menumgrup, 3 men.

People outside the District: Whole ward: two men from Miahore in Port Moresby (1 PNGDF, 1 security guard); a man and his wife at Iowara Refugee Camp.

People from outside the Dist.: Not known.

Stores: Sonai & Miahore, 3 stores; Menumgrup, 1 store at Ningerum, 1 store in village.

Economic activity: No rubber blocks. No chicken projects (Miahore trying to start one).

Demsel Business Group (or under new name) sells petrol at Sonai.

Menumgrup Youth Group runs store in Ningerum and sells diesel, petrol, kerosene there.

Vehicles/Outboard canoes: Sonai & Miahore: 5 outboards, no cars; Menumgrup, 2 outboards, 2 vehicles on highway.

Water supply: No water tanks at any place.

**Comments**

The villages of Sonai and Miahore have good access to Rumginae by canoe up the Wai Mari. This river is wide and only has a few patches of rapids. The Menumgrup people
have moved to a site near Sonai and it is not far for them to walk to Sonai. The cost of outboard fuel is a problem for all these people, but they are positioned so as to be able to make use of public service traffic to and from the school at Sonai and to and from the school and health sub-centre at Haewenai.

‘Miahore’—principal clans are Mia and Hore.

‘Menum’—only clan is Menum.

‘Menumgrup’—principal clans are Menum and Grupe.

Ward 24 Grehorsore, Ipoknai

Profile

Councillor 1991/92: Padien PRURI
Map reference/location: WJ 188549 (Grehorsore), WJ 191539 (Ipoknai)
Recent relocations: In 1972 Grehorsore moved from the old site 4 km to the east on the other side of Wai Smake to a road side site on land belonging to Matkomnai village at Kilometre 48. In 1984 it was relocated to the present site which allows them access to their own land. Ipoknai have moved a short distance to the present highway site.

Nearest school: Matkomnai C.S.
Nearest health facility: Matkomnai HSC.
Churches: Grehorsore: Catholic, some ECP. Ipoknai: ECP.
Formal organisations: Grehorsore youth project (assisted by Catholic Mission).
Employment: Grehorsore: Tabubil, 2 men; Kiunga, 1 man and 1 woman, a nurse, married to a Sepik.
Ipoknai: Tabubil, 2 men and 1 woman (works in supermarket); Kiunga, none.

People outside the District: Grehorsore: Port Moresby, 3 men; 1 man is a teacher in South Fly.
Ipoknai: none.

People from outside the Dist.: None.
Economic activity: Both villages have rubber blocks but have not been tapping for at least a year. Grehorsore: chickens raised + 2 goats. Ipoknai: chicken project. Occasional vegetable and sago sales if a vehicle is available to transport the produce to a market.

Vehicles/Outboard canoes: Neither village owns any outboards or cars.
Water supply: No water tanks.

Comments

‘Grehorsore’—principal clans are Gre, Hore and Sore.

Informants at Grehorsore said they used to catch fish in Wai Smake, but there have been ‘no fish to find’ since the Yenkenai pumping station was built (see Ward 28 and Plate 2).
Ward 25. Dande 1 & 2, Holpanai, Senamrae

Councillor 1991/92: Aetru WOKNAI
Map reference/location: WJ 225520 / Kilometre 40 (Dande 1)
                      WJ 196518 / Kilometre 44 (Dande 2)
                      WJ 198493 (Holpanai)
                      WJ 197457 (Senamrae)
Recent relocations: Kimasara was a village 3 km NE on Wai Mari; it was abandoned in 1976 and the people moved to Senamrae. Its inhabitants previously lived at Smakpen, the junction of Wai Smak and Wai Mari.
Nearest school: Senamrae (Grades 1, 2, 3, 5, 6), or Matkomnai C.S.
Nearest health facility: Senamrae Aid Post, or Matkomnai Health Sub-Centre
Churches: Dande: Mainly Catholic, some ECP.
          Holpanai: ECP.
          Senamrae: ECP.
Formal organisations: Dande Women’s Club (roofing from DDF grant, sewing machines etc from Catholic Mission); Dande Youth Group
Employment: Dande: Tabubil, 5; Kiunga, 2; Nomad, 1 Health Extension Officer.
           Holpanai: Tabubil, 1; Kiunga, 1.
           Senamrae: Tabubil, 1; Kiunga, 2.
People outside the District: Dande: 1 girl training as a nurse in Rabaul.
                           Holpanai: none.
                           Senamrae: none.
Stores: Dande: none.
        Holpanai: 2 stores.
        Senamrae: none.
Economic activity: Rubber growing at all four settlements, but no rubber has been tapped for about two years. Dande has a chicken project and a tyre service (operated by the DYG). Holpanai: home village of a road contractor. Senamrae: no businesses.
Vehicles/Outboard canoes Dande: none.
               Holpanai: 1 vehicle, 0 outboards.
               Senamrae: 1 vehicle, 2 outboards.
Water supply: Dande: 1 tank built by Catholic Mission.
               Holpanai: 1 tank built by LGC (broken)

Comments
Dande is a cluster of hamlets on the Highway. From Dande a passable feeder road runs south via Holpenai and Senamrae to the villages of Ward 26. Of these, Senamrae village is located on the land of Tipianae village. Note that Mia, Hore and Dem clans at Senamrae probably each have land towards the Alice River in the northwest.

Ward 26. Miamrae (+ Tripianae), KwiapaeTV, BigeTV

Profile
Councillor 1991/92: Russell WAIDUMA
Map reference/location: WJ 188446 (Miamrae/Tripianae)
                      WJ 150435 (Kwiapae)
                      WJ 144404 (Bige)
Recent relocations: Miamrae is a ‘new’ village formed adjacent to the existing village of Tipianae, probably in the 1950s, and consisting of the two clans Mia and Amrae who lived to the northwest of the present site.

Nearest school: Senamrae C.S.
Nearest health facility: Senamrae Aid Post
Churches: Bige: all ECP
Formal organisations: ?
Employment: ?
People outside the District: ?
People from outside the Dist.: ?
Stores: ?
Economic activity: Rubber currently tapped at Bige (S. Kirsch, pers. comm.)
Vehicles/Outboard canoes ?
Water supply: Water tanks supplied by the OTFRDT at Kwiapae and Bige (2).

Comments


Kwiapae and Bige are Trust villages.

Kwiapae and Bige land is affected by inundation and sediment deposition from the Alice River as I have previously described (Burton 1991:25-27).

Ward 27. Kasrenai, Matkomnai, Demesuke

Profile

Councillor 1991/92: Steven GANG
Map reference/location: WJ 179571 (Kasrenai)
WJ 173563 (Matkomnai)
WJ 138529 (Demesuke, bush village) & WJ 172562 (Demesuke, highway)
Recent relocations: Demesuke villagers have a corner on the western side of the highway at Matkomnai, established in 1971. Their own land is at the bush village where there are seven houses. Before the Catholic Mission at Matkomnai was established in ?1962, Kasrenai was ca. 2km northeast of its present site. (on south side of Wai Smake).

Nearest school: Matkomnai C.S. (Grades 1-6).
Nearest health facility: Matkomnai Health Sub-Centre (3 nursing officers, 4 nurse’s aides)
Churches: Matkomnai/Kasrenai: Catholic, some ECP.
Demesuke: Catholic.
Formal organisations: Demesuke: ‘Kathha Constructions’, a partnership between two former OTML apprentices sub-contracting for OTFRDT. ‘Hogo Mates’ Youth Club, but no longer active.
Employment: Matkomnai/Kasrenai: Tabubil, ca. 15, inc. 1 female nursing sister at govt. Health Centre; Kiunga, >10 for OTML, 5-10 in govt.empl.
Demesuke: Tabubil, 3 men; Kiunga, 4 men, inc. 1 teacher; Ningerum, -.
People outside the District: Matkomnai/Kasrenai: ? Demesuke: 2 men live on rubber blocks at Kupiano, where they went in ?1962; Cllr. Steven also went to work in Moresby then, but he returned. Note: Jackson (1979:8) says that 60 Awin

- 83 -
and Yonggom men were sent to Central Province rubber plantations to learn rubber growing techniques in 1965/66.

People from outside the Dist.:  
Stores:  
Economic activity:  
Vehicles/Outboard canoes:  
Water supply:  

Comments

Matkomnai Catholic Mission (CU401) is a rural non-village census unit. Its airstrip (opened ca. 1964) is closed. The presence of the mission here for thirty years has resulted in a higher proportion of High School graduates than in other villages in the area, and the unusually high number of people in employment.

Ward 28 YenkenaiTV, MimigireTV, HosokumguTV

Profile

Councillor 1991/92: Duwang KABE  
Map reference/location: WJ 143642 (Yenkenai)  
WJ 140590 (Mimigire)  
WJ 165712 (Hosokumgu)  
Recent relocations: Many current inhabitants of Yenkenai went to live at Mendua, near Alice Pit, around 1960. Mendua was abandoned when people became sick there and the people went to live at Hrumei and Gumenei, to the east of Yenkenai. When the road first came to Ningerum around 1970, they moved to the present site of Yenkenai. Sarae is an old village site to the southwest of Mimigire; all its people now live at Mimigire. Old Hoskumgu was about 2km southeast of the present site.  
Nearest school: Yenkenai C.S. (Grades 2 and 4).  
Nearest health facility: Matkomnai HSC or Ningerum HSC.  
Churches: Yenkenai: Catholic, some ECP.  
Formal organisations:  
Employment: Tabubil, about 6 men; Kiunga, 7 men; Yenkanai pumping station, 7 men (whole ward).  
People outside the District: About 15 absentees working for govt. or missions, all within Western Province.  
People from outside the Dist.:  
Stores:  
Economic activity: A large new rubber plantation started at Mimigire in 1990 (not visited). A very large chicken house was under construction at Kilometre 61 in 1992.  
Vehicles/Outboard canoes: Yenkenai, 4 cars; Mimigire, 3 cars; Hosokumgu, 2 cars.  
Water supply: Yenkenai, 2 tanks from Trust; Mimigire, 22 tanks from Trust, 1 council tank; Hosokumgu, 2 tanks from Trust.  

Comments

All three villages in this ward are Trust villages.
OTML operates a pumping station for the slurry pipeline at Kilometre 61. Overflow water is discharged into a creek here, where it enters the head of Wai Smake (Plate 2). This was the cause of strident complaints downstream of Kilometre 61; at Grehorsore, for example, it was claimed that fish had disappeared from Wai Smake (see page 81). In 1987, Ningerum Local Government Council minutes record the complaint that the outlet was polluting Wai Smake and that copper slurry had been spilled at the pumping station three times; a letter was written to OTML Public Relations about it (Item 102/87). This parallels concerns about pipeline spillage getting into the Wai Kaekae and Wai Mari systems.

A significant number of Kranai and Sirigiri people have corners at Yenkenai, but they are not part of this ward—see Ward 21.
APPENDIX D
CORRESPONDENCE AND WRITTEN COMPLAINTS

It is easy to read many things into the voluminous correspondence between villagers and various offices of the government and OTML. All field staff have experience of complaints, and most say they prefer the direct method of dealing with the issues in person with the correspondents. Action is thus taken, but in general the letters themselves are filed with no great attempt to go through them point by point. In any case this would be by no means an easy task. Most of the letters are hard to decipher and while the drift is easy to catch, the detail is lost. Because most of the writers are untutored, much of what is not understood appears quaint or incredible. But is this so? Presumably the writers have gone to some trouble to get their messages across, so it may be worth a second look.

It may be an objection that, being in office files, the correspondence is confidential. Nominally this may be so, but it is worth bearing in mind that many of the writers—probably most of them—carefully preserve copies of what they write and, when interviewed, raise the same issues and make a very great deal of their efforts at recognition. One regular correspondent I met in his village had several folders in which he kept correspondence dating back many years.

There is some point, therefore, is trying to represent what it is the writers are actually saying. There is a historical purpose in this; it should not in future be said that there is no record of the people’s grievances. Also, many who read this may not have the benefit of experience at Ok Tedi. For them, this selection will help to place the cases I have written about in a better context.

The Ningerum bridge site

Word-processed letter addressed to the Senior Liaison Officer, Department of Minerals and Energy, and copied to OTML Public Affairs, the OIC Ningerum, and OTML Environment.

SUBJECT: CONCERN NINGERUM FERRY SITE
28 July 1992

The Land Leading from KM75 to Ningerum Ferry Site where the Ok Tedi Environment Station was not signed an agreement and not being paid for the long time services from either the government of Ningerum Station or the Ok Tedi Environment with the land oweners of Awin Tamaro, since 1981.

During some years, the Works and Supply and the Ok Tedi Environment have been monitoring some labours who had settled in around the area and wasted some bush materials and the rich soil itself. And that is such as:

1. Sticks, posts, sago leaves, bush ropes for buildings.
2. Made gardens on this area in order to procure food to feed themselves and do your services.
3. Apart from above is Wild Life.
OTML and the Works Dept. have damaged the area by cutting down trees and causing soil erosion.

The two groups, the Ok Tedi Environment and the Works and Supply who mainly using and wasting our environment whom they think bilong to nobody else, and that is such as;

1. stones, sand, gravel etc.,
2. chopped down big tress,
3. cut down, soil one side of the river,

To provide space for anchor the Ferry.

On 26/7/92 we found that trees had been cut down and survey pegs put in for the new bridge.

As we, the landowners aboserved on side on date 26/7/92 and found out that you have already cut doen some big tress and being put up some peeks on sides of the river for establish of the bridge.

Before you do any more work on the bridge, you will have to pay us K250,000 (K250.00 is no doubt a typing error) in compensation and agree on terms for a lease of the site.

Before any further establish of putting up new bridge in this same area, we would like the Ok Tedi to compensate us. “THE AWIN TAMARO” with the sum of Two Hundred and Fifty Thousand Kina (K250.00) for your long time services. And sign an agreement with us for our permanent least payment on your further site construction.

Failure to response this claim may result in either destruction or design to departure from this site.

Thanks.

[signed]
LANDOWNER - AWIN TAMARO
(NATIVE OF NINGERUM)

Comments

The complainant feels his group should be paid for the use of the ferry site and the environmental station. Historically, the government has paid for land on which major items of infrastructure are built, such as airstrips, rural stations and highways, but it is unlikely that the ferry site would be considered in this light, as there has been no significant loss of land. I visited the site and noted preparatory work for the bridge on the west bank—but it hard to see how Awin (i.e. east bank) landowners could complain about this. The writer mentions labourers who, if I interpret him correctly, he accuses of trespass. My guess is that his first grievance is with these people, who, it would seem quite likely, are people from his own village. The other half of the problem appears to arise from a feeling that he has not been consulted about the bridge project—perhaps he feels it is his group who should be in charge of the bridge, not that of the unidentified ‘labours’.
‘The place change nogut in 1983 and until now 1992’
A hand-written letter of complaint received by the Tabubil District Office in connection with ongoing compensation claims. This is one many received in connection with flood damage investigations. I will address the substantive matters of compensation at another time, but this example illustrates two problem areas:

- genuine complaints are poorly presented because their authors are not articulate in their manner of presentation;
- the complainants as a whole are not represented by an appropriate negotiating body, such as the full Local Government Council or a specially convened pressure group, nor is it addressed to in a more specific way than to ‘you’ or ‘the company and government’; this letter is repeated in form many times over.

The letter appears eccentric, rather than forceful, and its inconsistencies—or rather unexplained points that require clarification—do not make it the easiest kind of evidence to submit as an actual application for compensation.

It will be seen that the writer (name unknown, but probably a young man in Cllr. Onia AWONKA’s clan) refers to ‘the company people’ and ‘you company and government’ when the field investigations were being carried out from the District Office, not by OTML. At village level people may not think the distinction is important, but in reality it is a vital one. Indeed, the State and the mine operator may—probably do—represent diametrically opposed positions. The villagers’ innocence of this after a decade of mine operations is extremely worrying, compounded by the fact that the letter is written in the name of the village councillor, who is himself a representative of ‘the government’.

What implications this has for the basis of future dialogue between villagers, company and government can only be guessed at. Obviously there is much work to be done on all sides.

[date of receipt 6 August 1992]  
KAR KIMKUWI  
CLAN  
WURIMKANATGO VILLAGE  
96 km  
PO NINGERUM  
WESTERN PROVINCE  
P.N.G.

The Ok Tedi river has destroyed graves. The relatives of the dead wish to claim compensation.

Mr Ondap KAWUT’s nephew, Benson DEIMNEP, died while swimming in the river in 1983. We attribute his death to the effect of tailings in the river. We still want compensation—OTML did not say they were investigating claims at that time.

The grave of another nephew, Ahoat DAIMNEP, has been washed away.

The grave of his wife, Ketamin BARANEM, has also been washed away.

OK TEDI RIVER DESTROYED THE DIAD PEOPLES’ CEMETORY, THEIR LIST AND THEIR RELATIVES WHO ARE A LIFE TRYING TO CLAIM THE DEMAND.

1. ONDAP KAWUT

1. HIS NEPTEW'S MR BENSON DEIMNEP WAS KILLED BY THE GOLD & COPPER MEDECINE WHILE HES SWIMMING THE OKTEDI RIVER IN 1983. HIS RELATIVES & UNCLE WANT THIS PERSON COMPENSATION, BECAUSE THE COMPANY PEOPLE DIDN'T COME & TELL US BY THAT TIME.

2. HIS NEPTEW'S CEMATORY WATER TOOK IT AWAY HIS NAME AHOAT DAIMNEP

3. HIS WIFE CEMATORY WATER TOOK IT AWAY HER NAME KETAMIN BARANEM
Mr Kumuni Kawut's sister's grave has been washed away. Two of his pigs died in 1983. He attributes their deaths to eating contaminated fish.

Ms Denun Kanarap's father's grave has been washed away. His name was ?Jack Kanarap.

Her daughter's grave has been washed away. Her name was Pak Denun.

Three of her pigs died in 1983. She attributes their deaths to eating contaminated fish.

Mr Onia Bondok's mother's and brother's grave have been washed away. Their names were Hainok Katipok and Bondok Ateni.

Mr Eikik Kiweng lost four pigs in 1983. He attributes their deaths to eating contaminated fish.

The graves of two of Mr Gololap Loweng's brothers, his father and his grandfather have been washed away. He wants compensation.

The graves of Mr Awonok Unem's father and mother, and two grandfathers have been washed away. He wants compensation.
The graves of Mr Keberak EIKIK’s mother, father and mother’s sister have been washed away. He wants compensation.

11. KEBERAK EIKIK

1. HIS OWN FATHER’S CEMATORY WATER TOOK IT AWAY TRYING TO CLAIM HIS DEMAND. NAME KAID KANARAP.

2. HIS MOTHER’S CEMATORY WATER TOOK AWAY NAME - DUMKON TUMON

3. HIS MOTHER’S CEMATORY WATER TOOK IT AWAY NAME - NON TUMON

We are saying here that the graves of nineteen people have been destroyed by the river over a period of years.

We have not previously made a complaint because you have not asked about damage to graves before. On the other hand, we have often made representations about garden damage to the company and government, but to no effect. We do not want the same thing to happen to the list of graves.

Please pay compensation for the graves and pigs as soon as possible.

Cllr. Onia AWONKA

Signed _________ [no mark]

OK IN THIS LIST WE ARE SAYING THAT ALL OUR PEOPLE’S DEAD BODIES AND THEIR CEMATORIES WERE WATER DESTROYED THEM LONG TIME SO WE WANT YOU TO SEE AGREE WITH US FOR THIS BECAUSE THE COMPANY DIDN’T TELL US BEFORE AND WE DIDN’T LIST DOWN BEFORE. SORRY IN THIS CASE BEFORE BACK GROUND WE DIDN’T HAVE THIS CASE. BUT WHEN OKTEDI GOLD & COPPER STARTED THE PLACE CHANGE NOGUT IN 1983 AND UNTIL NOW 1992. BEFORE WE HAVE LIST DOWN THE OKTEDI SITE GARDENS AND WE HAVE BROUGHT TO YOU COMPANY & GOVERNMENT BUT YOU DIDN’T PAY US ABOUT THE GARDEN SITE WE HAVE BEEN WAITING FOR IT AND YET WE ARE NOT RECIEVING. WE DON’T WANT LIKE THAT TO HAPPEN WITH THIS LIST OF PEPEAR. WE WANT YOU PEOPLE TO SEE MAKE THE DEMAND FOR OUR PEOPLE’S AND PIG COMPANSATION TO US IMMEDIATELY AS SOON AS POSSIBLE. BECAUSE OKTEDI COPPER & GOLD STARTED AND THIS THINGS “HAPPENED WHY NOT?” OK.

I AM COUNCIL ONIA AWONKA NINGERUM LOCAL GOVERNMENT COUNCIL

I SIGHT __________ ONIA AWONKA

Comments

Case 4. If the complainant is Onia BONDOK, then Bondok ATENI is more likely his father, not his brother.

Case 10. The second grandfather listed does not carry his mother’s patronymic; he may be a great-uncle (in English terms).

Case 11. The second ‘mother’ listed is obvious the complainant’s mother’s sister.
APPENDIX E
SELECTED AWIN ORIGIN LEGENDS WITH GEOGRAPHIC ASSOCIATIONS

Represented here are essentially summaries of the stories, that is what remains after a fairly short preparation time for the informants and an abbreviated translation into English. However, special attention was given to getting the names of places and the animals and people mentioned in the stories as correct as possible. Anyone with the wish to obtain fuller versions of the stories must use a tape recorder and transcribe the exact words of the narrators in their own language.

The stories were discussed by the informants, men aged 45-60 years, and recounted in the Aekyom language. Generally clansmen told their own stories, but comments and explanations for all the stories were provided by all present. They were verbally translated into English for me by Benedict Steven of Matkomnai.

There were few occasions when informants were able to attempt a general explanation for all Awin groups. In The creation of the world, below, the primary creator is the mother turtle, Huhule. As recounted in that story, other animals are given the task of giving rise to particular lines of people. While birds and fish feature from time, a python-woman seems to be the second most important creation being. In The creation of the world, she is called Osara. A fairly common character is the culture hero Wiwe. Wiwe is seen as a human figure, but with the power to shape mountains—he raises or reshapes the Star Mountains, for example, in one story—and create rivers. He is the supervisor of the distribution of people across the land in their various clans (see Wiwe and the names of Aekyom clans). Wiwe is not seen as an Aekyom clan founder, though as he marries a daughter to at least one founder he must logically be an ancestor. He intercedes to straighten out anomalous, pre-human behaviour (e.g. the deviance of the cannibalistic Akimkaioke/Kanipkanoke in eating his sons in the Grupe clan stories).

Wiwe bears obvious comparison with the Lake Murray-Middle Fly culture hero, Nggiwe (Busse 1987:89 ff.). Nggiwe is similar culture hero who travels about giving rise to Boazi and Zimakani customs. Another resemblance comes in a document handed to a patrol officer at Lake Murray in 1984 by Kuni people attempting to verify a land claim. In this document, Nggiwe is referred to as ‘Kamokanem’ (Busse 1987:91). It could be that this and ‘Kanipkanoke’ (Grupe legend from Haewenai, below) are cognate variants. I would have to investigate further to substantiate this.

The creation of the world


In the beginning the surface of the earth was covered in water. It was a time when lightning, earthquakes and violent winds reigned and when solid ground was not to be found. Then the wind whipped up large waves and the breaking surf turned into the turtle, whose name was Huhule. Huhule lived in the water for time and where she
dropped her faeces, land formed. Huhule laid an egg and hatched the crocodile, dupe. Huhule laid more eggs and from these hatched all the game animals, birds and other animals that humans find useful today, and these spread out across the land she had created. However, she had still not hatched out people themselves. At last she laid an egg out of which hatched a dark-skinned person, a Papua New Guinean. But this is only one type of human being: she laid a second egg out of which hatched a light-skinned person, a European. ‘Hey!’ she said, when she saw the light-skinned person, and so pleased was she by the appearance that she gave the European pencil and paper, the means to become educated; she did not give these things to the dark-skinned man.46 To the animals like cassowaries and snakes she gave orders to finish off the creation of the separate lines of clanspeople as they were too many for her to do by herself. They went about this task and this is how each of the different clans has its own origin story. But it Huhule herself who created everything in the first place.

Wiwe and the names of Aekyom clans

Matkomnai village, 17 August 1992. Informants: Cllr. Steven GANG, Komiti Marcus DEWIN.

The culture hero, Wiwe, made the land, rivers and mountains. He marked out the boundaries and gave the clans of the Aekyom area their names. At this time people moved from place to place quite frequently and this explains the recurrence of the same clan names in different places.

Grupe clan


A bird, called O (a night flying hawk—not an owl—that makes the sound ‘O, O’), picked up a stone in the Star Mts. at a place called Awemtem. It carried the stone in its talons and flew south, dropping it at a spring called Kiomgwam (on the road between ‘Sirigiri camp’ and old Pampenai). The stone broke in half and out came a woman called Grupe Suwe. She married a man called Akimkaioke and they began to raise children. But Akimkaioke killed and ate the first-born. Then he killed and ate the second-born too. Other people saw this, seized Akimkaioke and a white pig he owned and took him to a lake called Ubaba, near Tabubil (seen as probably Lake Wangbin). They threw him into the lake and killed and cooked his pig. Then they smeared the grease from the pig round the rocky rim of the lake so that he couldn’t climb out. In this way, they put an end to Akimkaioke’s deviant behaviour. Suwe’s last-born boy was called Sure; the Grupe Suregire are his descendants.


There was a stone in the Star Mts. near the lake Ubaba (identified as Lake Wangbin) on a mountain called Ware. Murmuring sounds could be heard coming from it. The first man

46 Obviously this scheme leaves out the majority of the world’s populations, including almost all indigenous peoples, who cannot be fitted into this dark-skinned/light-skinned classification.
of earth, Wiwe, was out hunting and came across the stone which was turning about on the ground. He picked it up to see that there was a man inside calling out. He was Akimkaioke and Wiwe brought him back to his house and raised him to manhood. Then he married him to one of his daughters. They lived at Ubaba. When Akimkaioke and his wife had children, if a boy was born he killed and ate him. He spared those born as girls. Wiwe saw this and sent a bird called O to save the next boy that was born. The O bird did this and also carried off a sister. The bird carried the boy and girl to a place near Pampenai called Goa. The boy and girl grew up, married and had children. Their descendants are the Grupe.

Akimkaioke raised pigs and thought he would hold a feast at which he would kill and eat Wiwe. However, Wiwe realised what would happen and invited Akimkaioke to his own feast first. He took tree bark and raised the (Star) mountains and made it impossible to escape from the lake at Ubaba. Then he seized Wiwe and threw him into the lake, smearing the steep mountainside around with pig grease so that he could not climb out again.


Long ago at a mountain called Kinhoi not far from Haewe, the site of the old Haewenai village, there lived a man called Kanipkanoke and his wife. The wife (name unknown) bore him many children, but as one was born after another Kanipkanoke would kill and eat it. Wiwe the culture hero became aware of this and when Kanipkanoke’s wife had a new baby he had the sono bird of prey seize Kanipkanoke in its talons and carry him off and drop him in Lake Wangbin, which is called Obaba in the Aekyom language and which is on the mountain made of the coils of the great python-woman, Osara. Osara invited Wiwe to a feast at the place Umere and killed her pig Ugiam. Wiwe took pig grease and smeared it on the steep rockfaces around the lake Obaba so that Kanipkanoke could not climb out again. From that time Kanipkanoke’s deviant habits were never seen again and the last born child was able to grow up safely. His descendants became the Grupe clan.

Somoi clan


Long ago a large tree- and ground-living kaewi kapul lived at a place called Degune at the head of Wai Rime (near Kilometer 99) and gave birth to a human being. From this person arose the Aekyom Somoi clan and a Rome (Ningerum) clan of the same name. The two groups were one at first and lived together at the head of Wai Rime near Haidauwogam. From here, smaller groups split off and came to live as Aekyom Somoi at other places: for example, Aplam, Sapirae, Kmenai and Somoikwankia.
Ihore clan


The great python-woman Osara laid a stone instead of an egg at the place Wainde between Saisu and Mohomnai. Two sisters who lived nearby were out hunting when they heard a faint voice calling out. They looked around but saw nobody. Then they saw a curious stone bumping about on the ground. They decided to take it home and keep it in their house. Every day the sisters would go out about their work, but there was a man inside the stone and every day he would come out, make a fire, cook food and eat it, and go back into the stone before the sisters returned home. The sisters became suspicious but they did not know what was happening. One day, the younger stayed behind to keep watch while elder sister went out to work. Sure enough the man came out of the stone, lit the fire, cooked his food and ate a meal. But as he prepared to go outside, the younger sister burst out of hiding and, catching his arm, shouted for the elder sister to come. Together they held the man fast and they told him that he must remain and become their husband. He obeyed and the descendants of the two sisters and the stone man grew in numbers. Some went north into the mountains and became the Faiwol group called Ibiatkoi (whereabouts unknown to informants). Those who remained behind became the Ihore clan. The Ihore never ate pythons and never allowed others to cook and eat them in their presence: they feared that even the cooking smells would cause them great harm (the taboo is no longer observed).

Kwotkoi clan


Long ago a kunoi bird killed a smaller hune bird and ate it. After a while the kunoi bird went looking for a place to defaecate. The python-woman Osara suggested the place Saroke just north of the present settlement of Sisimakam. The bird defaecated there and its faeces was carried down the creek Wai Sale to its mouth, Salpenai. Two sisters lived nearby and were out collecting sticks along creek to use as firewood. Suddenly they saw the face of a man floating in the water. They pulled him out and revived him in front of a fire. He was called Smo and he married the two sisters. Smo’s son was called Skai, and Skai’s son was called Toti. At the time of Toti’s birth the river was flowing under the house making a gurgling sound like ‘kukukuku...’ or ‘kwotkoi, kwotkoi...’ Thereafter the descendants of Smo took the clan name of Kwotkoi. Some live at Brunai, Ripnai, Mohomnai and Nonigire.

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47 Said to be at about Kilometre 108 where the road has been rerouted several times. Note that this is well north of the head of Wai Mari.
Mepu clan

*Tmoknai village, 27 August 1992. Informants: Srike DEHO and Waike HUKIN*

A snake called Dio laid an egg at the bottom of a whirlpool in a bend in the Wai Bire, a river in the east across Wai Gumo. A man and a woman hatched out. A spirit being wondered out loud what to call their clan. He suggested Mepu coming from *me* [‘mother/marrigeable cousin’] + *pu* [‘vagina’]. The man and the woman moved to a place on a hill in the direction of Wai Piang (the Fly) and Mohomnai (probably on the other side of Wai Gumo), where their descendants multiplied in number. A dispute then arose over the behaviour of a dog. Two brothers shared a house. One owned a dog. The other came home to find that the dog had excreted in his sleeping place. The brothers fought over this and the second brother left home. As he left, he said ‘Because we fought over your dog, I name this place Saningen [‘dog’s excreta’].’ The descendants of this brother founded branches of the Mepu all over the Aekyom area, e.g. at Tapko and Wanginai; from Wanginai branches went to Ihore, Tmoknai and Kiunga. The remaining descendants of the dog-owning brother are a brother and sister who live at Ihore and Runai respectively.

*Pampenai village, 24 August 1992. Informants: Kebi PRURUNAI and Ure PRURUNAI*

A bird, called Hune, was feeding on the seeds of a black palm. It flew away and went into a cave at the mountain called Ri in the Star Mts. It left its droppings in the cave and a man called Smerehupe arose from the black palm seeds in the droppings. He turned back into a bird and flew south to a creek near old Wanginai village where he was attracted by the flashing of light on a *gedwem* eel. He alighted and became a man again; the place where he saw the eel and landed is called Gedwem. He married and bore two sons, Nong and Apo. They had sons called Alipe and Kohu. Alipe gave rise to the clan branch known as Mepu Alipegire. Kohu gave rise to the clan branch known as Mepu Binkia, the second-born. The Mepu at places like Kiunga and Tmoknai are other branches of the clan.

Hore clan

*Hosomrae village (story told at Tmoknai), 27 August 1992: Informants: Yok KATIWI and Bema DABIEN*

Two brothers lived at a mountain called Ambroi on the Ningerum side of the Wai Tri (the Ok Tedi river). The younger brother wanted to cross to the Aekyom side to go hunting. A *bro* fish suddenly appeared, he stepped onto it and it carried him across at a place called Kwinamdore. Then he hunted for the rest of the day. It got dark and he could find the fish to cross back again. He slept the night in the buttress of a *tkume* tree (*tkume dutnam*). The next morning his elder brother called out to him from the far bank in their

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48 Usually the creator figure is named as Wiwe; however, these informants did not know of Wiwe.

49 I reproduced a version from Hosonai village in my previous report (Burton 1991:Appendix E). The *bro* fish is identified as the Fringe-Lipped Mullet, variously *Crenimugil heterochelius* or *Crenimugil labiosus*. This fish has been displaced from the Ok Tedi but is still found in tributary streams such as the Ok Birim (Smith et al. 1992:28).
Ningerum language. He tried to answer but his speech had changed to the Aekyom language. He said ‘Sorry, I will stay here on this side; marry my wife and look after my children.’ The elder brother did this and his descendants live there today as a Ningerum clan. The younger brother continued hunting and gathering on the Awin side of the river where he met people of the Kwankia clan. They asked him if he had a wife and he said did not, so they gave him one of their daughters. She bore him two sons, Kakinai and Yore. These brothers settled in the Wanginai area for a time, then they separated. Yore moved to Pumopene on the Wai Kmen and from there to the mountain called Some, on the road between Haewenai and Tmoknai. He built his house with timber of the some tree which grows there. He decided to rename his settlement Hosomrae from Hofre + som[e] + rae. The older brother Kakinai settled at Miahore. Some Hore people still live at Hosonai where the younger brother crossed the Ok Tedi on the bro fish.
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Plate 2. A source of complaints: the overflow pipe at Yenkenai pumping station at the head of Wai Smake (see p. 85).
