

**MIDDLE FLY AND
NORTH MOREHEAD
AREA STUDY**

OK-FLY SOCIAL MONITORING PROJECT REPORT No. 10

for Ok Tedi Mining Limited

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PREFACE

Fieldwork for the *Middle Fly and North Morehead area study* was undertaken for OTML's Environment Department over a period of six weeks in March/April 1994 and two weeks in August 1994.

This volume is the tenth in a series of reports for the Ok-Fly Social Monitoring Project. Colin Filer's *Baseline documentation. OFSMP Report No. 1* and my own *The Ningerum LGC area. OFSMP Report No. 2*, appeared in 1991. My *Advance report summary for Ningerum-Awin area study. OFSMP Report No. 3*, David King's *Statistical geography of the Fly River Development Trust. OFSMP Report No. 4*, and the two major studies from the 1992 fieldwork, Stuart Kirsch's *The Yonggom people of the Ok Tedi and Moian Census Divisions: an area study. OFSMP Report No. 5* and my *Development in the North Fly and Ningerum-Awin area study. OFSMP Report No. 6*, were completed in 1993.

In 1993, I gave a precis of our findings to date in *Social monitoring at the Ok Tedi project. Summary report to mid-1993. OFSMP Report No. 7*. Some material from this and Report No. 6 were included in a paper presented by me at the 'Mining in the Asia-Pacific Region' workshop held at the Australian National University in September 1994 entitled *Local-level mining benefits in a mal-administered regional economy: the case of Western Province, Papua New Guinea*.

In 1994, a final round of fieldwork studies was undertaken; this work has been summarised in *Interim findings for 1994. OFSMP Report No. 8*. David Lawrence's *Lower Fly area study OFSMP Report No. 9* appeared in May 1995, and David King's *Socio-economic surveys of Trust villages. OFSMP Report No. 11* and Budai Tapari's *Development or deterioration? Socio-economic change in the Morehead District. OFSMP Report No. 12* appear concurrently with this volume.

John Burton
Canberra

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I received assistance from a great many people in carrying out the research for this report. At the risk of omission, I list below the ones whose names are closest to hand. (I regret to say I am unable to list many women—who were entitled to their opinions just as much as men—but it was not always easy for me to get their names without appearing pushy.)

Andrew Zeipi, Eniyawa village
Austin Paul, Aiambak village
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Budai Tapari, UPNG
Chew Boo, Progress Company, Kiunga
Chris Obaki, Wangawanga village
Cllr. Dick Kumbange, Kuem village
Cllr. Elijah Anato, Wangawanga village
Cllr. Makina Sinba, Aewa village
Cllr. Matthes Kilai, Kaviananga village
Cllr. Romanus Angati, Bosset village
Cllr. Valentine Vitalis, Bosset village
Dabara Amati, 2I/C, Nakaku
David Pikumi, Aewa village
Dawasi Tangura, Nakaku
Edika Tamiya, Nakaku
Edmund Kasinakawe, Aiambak village
Fr. Edward, MSP, Bosset
Ian Wood, OTML
Jacques Crépeau, St Gerards, Kiunga
Jean-Claud Béland, Matkomnai
Jeff Ransley, OTML
Jerry Kinemi, Pukaduka village
Joel Paimer, Wangawanga village
Kapi Egam, Wangawanga village

Kayama Sinba, Sita Trading, Suki
Kayemen Bokawa, OTML
Kinemi Waitima, Pukaduka village
Marcellus Markus, Bosset village
Martin Semmebe, Gwaku village
Melchior B. Samet, headmaster Aiambak C.S.
Michael Donoma, Kaviananga village
Michael Yani, Wangawanga village
Mrs Kasaka Naipu, Gwibaku village
Murray Eagle, OTML
Naipu, Gwibaku village
Pastor Pereme Livai, Kaviananga village
Pauline, Aiambak
Pikumi Swakina, Aewa village
Ralph Kokori, Aiambak
Raymond Alimisa, Aiambak
Richard Kapi, Komovai village
Romanus Primus, Bosset village
Sadura Tangura, Aewa village
'Sister' Ernest, Bosset Health Sub-Centre
Sister Pat, St Gerards Parish, Kiunga
Stanley Aintum, ADO, Nakaku
Tau Tangura, Riti village
Unumda Bamati, Pukaduka village
Wayri Wobi, Kawatagwa/Holpanai
Xaverius Lucas, Bosset village

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(at end)

TERMS AND ABBREVIATIONS

APCM	Asia Pacific Christian Mission, formerly the UFM and a forerunner in Western Province of the ECP.
ECP	Evangelical Church of Papua, successor to the APCM. The national headquarters are at Halengoali, Tari, and, in Western Province, at Balimo.
FRPG	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.
LGC	Local Government Council. The formal third tier of government in Papua New Guinea, operating through Provincial Affairs departments and funded through a line in provincial budgets. (Some provinces operate a Community Government system instead.)
OTML	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). Until recently, the shareholders were BHP, Amoco, a consortium of German metal mining institutions, and the Papua New Guinea government
SSG	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.
Trust village	Village in the Lower Ok Tedi-Fly River Development Trust.
Trust, the	Lower Ok Tedi-Fly River Development Trust, 'the Trust'.
UFM	Unevangelised Fields Mission, a forerunner in Western Province of the ECP, notably among the Gogodala and Suki people. In 1938 Mr Drydale made the first UFM visits to Suki villages, but the mission was only effectively established from 1944 when Mssrs. Twyman and Dennis re-established a UFM presence at Suki and extended UFM influence up-river as far as Komovai and Kaviananga.
VDF	Village Development Fund. Grants of money made as part of the Trust budget to each person recorded by annual census as living in a Trust village.

ORTHOGRAPHY

Boazi and Kaeti speakers use an ‘rh’ sounding phoneme (a voiced velar fricative, Busse 1987:41) similar to ‘r’ in French *rue*; this is difficult to render into a generalised *tok pisin* style spelling system. Voorhoeve (1970) uses the IPA γ symbol for this, as in *gusu papaya*, (Boazi). Kaeti-speakers at Kuem produced a written account of their history, using the letter ‘q’ instead. In the latter case, I know nothing about the general vocabulary and do not imply a comparison between Kaeti and Boazi; the examples are just group names. However, since they have gone to the trouble of being very particular with their orthography, I will follow their use of the ‘q’ symbol here, thus:

This report	<i>Tok pisin</i>-style	Voorhoeve	Meaning	Speaker
gusu papaqa	gusu paparha	gusu papaya	‘skin white’ = white man	Boazi
Qayu	Arhayu		(an ancestor)	Kaeti
Qouzi	Rhouzi		(group name)	Kaeti
Baipaq	Baiparh	Mbaipay	Barramundi (clan name)	Boazi
Giqa	Girha	Ngeya	Cuscus (clan name)	Boazi
Qame	Rhame	γ ami	Turtle (clan name)	Boazi
Qei	Rhei	γ i	Crocodile (clan name)	Boazi

Table 1. Comparison of orthographies.

In one Boazi clan name, Möi kwin, ‘diver clan’, a mid vowel is found. This is similar to the (‘r’-less) sound in English *lurk*, and may be heard as in German *hören*.

In some cases, my spelling of group names will differ from that of Busse. This generally occurs with names I heard from their owners at places other than Bosset, where a different pronunciation may be suspected. Thus at Bosset, informants said ‘Kamek’ of the Wangawanga people, but at Wangawanga the people said ‘Komak’. (At Mipan they said ‘Koumek’.) I am willing to be corrected.

OBSERVATIONS

We ... now took advantage of a clear day to photograph and sketch from our high vantage point some of the heretofore-undiscovered lakes in the eastern part of Dutch New Guinea and in Western Papua.

One new lake we found and named Lake Herbert Hoover. We so placed it on record at Port Moresby; this not because of any occult hints about political developments in the country we had left nearly five months before, but because of Mr Hoover's sympathetic promotion of commercial aviation while heading the Department of Commerce, and his popularity in Australia, where he formerly engaged in mining enterprises. This pretty New Guinea lake lies partly in Dutch and partly in British territory.

E.W. Brandes, on first seeing Bosset (Wam) Lagoon in July 1929, from 'Into primeval Papua by seaplane', *National Geographic* 56(3):314 (September 1929).

... as you enter its mouth from the glaring, sunlit waters of the Fly, a coolness suddenly descends upon you, for you pass into the gloom and shade of the forest, where the tops of the trees meet overhead and only a few stray beams of sunlight penetrate through to the damp, leaf-covered ground. For mile upon mile you ascend the stream's winding course at a slow pace. It would be a pleasant journey but for the millions of mosquitoes.

Suddenly, after having travelled seven or eight miles in a westerly direction, you break out from the forest, as from a railway tunnel, into the glaring sunlight again. Before you is a vast stretch of marsh and lagoon with deep laneways of water running in all directions. This is Suki Lake, or Suki Lagoon.

J.G. Hides *Savages in Serge*, p. 161-162.

Do not smoke pregnant women.

Sign at Health SubCentre, Gigwa Station, Suki, August 1994.

CHAPTER 1

CULTURAL BACKGROUND OF THE STUDY AREA

This report examines social development issues among the lagoon people of the Fly River—the Boazi, Zimakani, and Suki people—in that section of the river marked approximately by Cassowary Island and the Binge River. The lagoon people are closely related in culture, social organisation and the form of their ecological adaptation both to the ‘canoe people’, or *Marind Anim*, of the southern border area of Papua New Guinea and Irian Jaya, and east to the Gogodala people of the Aramia River (Crawford 1981). In the west, there are enclaves of speakers of the Kaeti and Yonggom languages and, in the east, a small group of Aekyom (Awin) people. Each of these is a refugee group with a history of warfare-induced migration during the earlier part of the twentieth century; they will be mentioned from time to time, but only the Kaeti speakers at Kuem village in the Middle Fly have a presence in main part of the study area.

The purpose of this and the next two chapters is to delve into the culture, society and history of the study area to set the scene for the challenges of development that face the lagoon peoples today. My material here is largely drawn from the ethnographic literature and from historical sources and it may be asked ‘what relevance is this to the present day?’ My answer is that *culture shapes development* and, while the societies of the area have discarded surface aspects of their culture since contact, I shall show how in other respects history and culture continue to dominate and regulate daily life for them.

Busse’s ‘cultural divide’

The starting point is that the lagoon people live to the south and west of what Busse describes a ‘major cultural divide’. It is no doubt true that Busse was not the first to describe this, but as he does so in detail (1987:63-71) and from the vantage point of a group on the immediate border, it is reasonable to attach his name to it. In physical terms the divide can be seen in contrasting geography, and in the buffer zone deliberately left empty of population between the two regions:

To some extent, this cultural divide follows the line of ecological transition from the open forests, savannahs, and swamps of the south to the low ridges covered with rainforest to the north. Prior to pacification in the 1940s, this cultural divide was also a broad no man’s land as groups to the north of the divide tried to stay out of the reach of the head hunting raids of the peoples who live to the south of the divide (Busse 1987:63-64).

The divide separates people with radically different cultural orientations. To the north and west live a congeries of peoples who formerly made financial transactions with shell money, paid brideprices for their wives, lived scattered among their forest gardens, and feasted at major pig killing festivals. Busse gives a summary of the main distinctions between these two cultural regions, reproduced with some commentary in Table 2.

To the south and east of the cultural divide, two distinctive environments are found: the lagoons that follow both sides of the Fly from the Binge River downwards, and the

savanna country of the Morehead/Bensbach/Trans-Fly area. Both are home to people with a similar culture and social organisation; there are many points of agreement between the accounts of Williams (1936) for the Keraki of the Trans-Fly, Nieuwenhuijsen-Riedeman (1979) for the Suki, and Busse (1987) for the Wamek of Bosset.

The key characteristics of these societies are:

- a) tribal endogamy and the division of local groups into two intermarrying moieties: ‘dual organisation’ (Sun and Moon moieties in the Middle Fly; Pig and Cassowary among the Suki; veiled among the Keraki, but Sun and Moon have the clearest associations).
- b) sister exchange, not brideprice as the means of obtaining a wife: ‘restricted exchange’
- c) leaders fall among the following types:
 - i men who traditionally achieved prominence in warfare, by hunting skill, through possession of special ritual knowledge, or by some other non-economic means: ‘great men’
 - ii men who are the eldest sons in a lineage: ‘headmen’
 - iii no marked leadership positions

	Boazi, Zimakani, Keraki, Bian Marind, Marind-Anim, Suki <i>et al</i>	Mandobo, Yonggom, Muyu, Aekyom (Awin), Pare
Subsistence and adaptation	Hunting, fishing, sago-making most important. Gardening less important (except near coast). Few or no domestic pigs. Riverine people.	Gardening very important. Hunting, fishing and sago-making less important. Domesticated pigs important. Forest people.
Material Artefacts	Simple houses without raised floors. Bamboo bows. Woven baskets. No net bags. No shell ‘money’	Elaborate, well-built houses (traditionally built in trees). Black palm bows. No woven baskets. Net bags. Shell ‘money’ very important. ¹
Social organization	Dual organization. Sister exchange.	No dual organisation. Bridewealth payments. ²
Other cultural features	Similar origin myths involving wandering heroes. Head-hunting. Ritualised male homosexuality.	Different myths of origin. ³ No head-hunting (except as victims).

Table 2. Differences between Boazi speakers and others, and peoples to the north and west (from Busse 1987: Figure 2).

Notes: ¹Not among the Aekyom. ²Again, the Aekyom prefer cross-cousin marriage, brideprice is not so important. ³The Aekyom hero myth of Wiwe may be an instance of a culture trait crossing the divide (Burton 1993:10, Appendix E).

What kinds of leaders?

None of the lagoon people placed emphasis on the exchange of wealth items, on pig production or on the achievements of ‘economic’ big-men, whose leadership is typically achieved through traditionally sanctioned competitive feasting and exchange. The outcome of this is a style of big-man politics (e.g. Strathern 1971) that, while it is still

very much sustained by the support of clan members, emerges as a social feature distinct from the actual structure of the clan system itself.

In a deliberate contrast with big-men, the French ethnographer Godelier (1986:166) notes that in a few Melanesian societies there exists a type of man 'who can attain the highest prestige and greatest influence ... over others without demonstrating his ability to accumulate and make the proper use of wealth'. Godelier termed this kind of leader a 'great man'. The lagoon people fit the 'great man' model.

Leadership roles were traditionally assumed by senior men of the clan, men possessing important ritual knowledge, and men who led raiding parties. These functions do not naturally lend themselves to open competition or election. Ritual knowledge, for instance is likely to be inherited; it is not something that one man can be intrinsically 'better at' than another in Melanesia. The outcome is that political power, even if it makes sense to speak of it as an independent concept, is woven directly into the clan and lineage structure of the society.

What is 'dual organisation'?

The Boazi, Zimakani and Suki, the peoples to the south and east of them in Morehead District and Trans-Fly, and the Gogodala, conform to what is known as 'dual organisation'. That is to say, that is, they are divided into exogamous moieties (from French *moitié*, 'half'); marriages must be contracted between men and women in opposing moieties (see Rubel and Rosman 1978:14-22; Williams 1936; Busse 1987)

Further, the societies in question conform to a special type of dual organisation, namely they practise 'pure' sister exchange.¹ The type has a very distinctive and forceful internal logic. A man wishing to marry must (a) marry into the opposite moiety, and (b) be able to give a sister to the other moiety in return. No brideprice can be paid because, in this system, money or items of wealth cannot be substituted for human lives.

The ethnography of dual organised societies

The system of dual organisation leads to a web of cross-cutting marriage links among the clans in each tribal group that is different in nature to what is seen in non-moiety societies. Firstly, every man's mother originates with the opposite moiety, and all his sisters and daughters will marry into it. While there are many societies in Papua New Guinea where 'you-marry-the-people-you-fight' and challenge them politically, there are none where you can adopt a position of confrontation with your mother's people. In the present context, this leads to the impossibility for the largest divisions, the moieties, to take on any other than trivial political functions, that is they cannot become 'tribes'.

¹ There are plenty of examples of moiety societies where sister exchange is not the rule (or not allowed), for example on Wogeo Island, East Sepik (Hogbin 1978) and among the Siwai of Southern Bougainville (Oliver 1949). In a great many more societies sister exchange is an option; for example, in brideprice societies where an exchange of a sisters just cancels out the need to give full brideprices.

I mention this because of earlier mistakes made in naming groups at Suki and in the Trans-Fly. For example, Williams (1936:57) complains that MacGregor wrote of the 'tribe named Bangu' in the 1895-96 *Annual Report*: Bangu was just one of Keraki moieties, the equivalent of the Suki Kwainu, or 'pig', moiety (Williams 1936:60). Equally, 'Gigwa' is the government's name for Suki Station; it is actually the other Suki moiety, Gikwa, or 'cassowary'.

In seeking further implications stemming from the dual organisation of these societies, I am hampered by the limited amount of relevant ethnography available and also by the fact that much of the past interest in them has been for aspects of their culture which have since disappeared or for forms of analysis which have not been seen as relevant to modern development.

It is undoubtedly true, for example, that the earliest administrative interest in them was directly due to their aggressive head hunting raids on the 'pacified' villages of the Daru coast, by the so-called 'Tugeri' from Dutch-administered territory, and the Fly Delta, from the Suki/Lake Murray area (e.g. Commonwealth of Australia 1932:16-17). The first phase of ethnography, that done by F.E. Williams, the government anthropologist, unsurprisingly gives lengthy treatment to a complex of activities encompassing male initiation, bull-roarer cults, and head-hunting. None of these things exist today.

The limited amount of ethnography of this region produced since the war, likewise, has focussed on narrow anthropological concerns, and has only limited application to problems of general development. Nieuwenhuijsen-Riedeman (1979) and Busse (1987) concentrate on the systems of sister exchange and dual organisation in the societies they studied. The secondary literature tends to focus on the logic of 'restricted exchange' (see below).

I can contrast this with the limited attention given to leadership in these societies or matters of local group solidarity, other than in the context of the abandoned customs of warfare and village raiding. These things are perfectly understandable, but in seeking to grasp the present-day problems of development, there is little enough to go on.

Of course, the people of all these societies find themselves in much the same predicament. With many of their key social institutions rendered obsolete by the coming of the modern world, they may not even know they are confronting and often foundering on concepts that others in Papua New Guinea have effortlessly inherited from *their* ancestors, notably a style of 'political skills' leadership, enhanced concepts of territoriality (including those of land parcellisation), traditional concepts of exchange and compensation, and other aspects of culture that are much more compatible with success in modern development.

Sister exchange in more detail

The universal occurrence of sister exchange in the area is part of a wider logic of restricted exchange—giving 'like for like'—in this case sisters for wives. In full exchange systems, pigs, shell money or cash are able to *substitute* for the woman who leaves her parents' family and goes across to her husband's. This kind of substitution is not possible in the study area. A man with no eligible sister must 'borrow' one from another part of the same moiety (from his own lineage or clan, and even from another clan), but will have to repay this later either with a newly-eligible sister or a daughter,

and a careful reckoning is kept. Among the Suki (and probably elsewhere), a ‘first cab off the rank’ principle applies, with the elder of two brothers always having priority in receiving a wife before the younger. In none of the areas was it traditionally normal for men to marry more than one wife; the logic of marriage lay in the act of placing a sister as much as of gaining a wife.

Strictly, a man without a sister, and unable to borrow one, could not marry at all within the home area. Formerly, he (or his father) could capture a small girl in a raid and raise her to an eligible age, *then use her to exchange for a wife of the opposite moiety*. Another method discussed at length by Williams was the ‘purchase’ of a sister with axes and knives (in the 1920s) to give in exchange for a wife. In all his cases, the girls were very small so this resembled adoption more than anything else (Williams 1936:139-140). Suki informants told me a man *can* marry without giving a sister, but that it is a ‘one-sided’² marriage and the wife will taunt her husband with this in domestic arguments. A fairly drastic remedy is said to be to give back the first son to the wife’s people (among the Suki), but a Boazi man’s case shows that a debt may have to be carried for another generation:

X, of Barramundi clan in Sun moiety, was the last born in his family and had 4 sisters and 4 brothers, all of whom married in the customary way. X married Y of Saltwater Crocodile clan in Moon moiety and owes Saltwater Crocodile a ‘sister’. X and Y have four children: 3 sons and 1 daughter. X can hardly give back his daughter, because that would leave his sons with no sister. He will have to wait until one of the sons has a ‘spare’ daughter to offer back to Saltwater Crocodile (from field notes).

Busse’s figures show that 83% of the Bosset men for whom he had details had married properly by exchanging a sister (or borrowing one), 5% had paid brideprice and 12% had not given anything, i.e. were in ‘one-sided’ marriages (1987: Table 8). Nieuwenhuijsen-Riedeman made a similar finding among the Suki; 85% of 201 marriages conformed to true or ‘borrowed’ sister exchange (1979:308).

Sister exchange and social development

As I have briefly noted already, none of the ethnographers have paid special attention to what possible effects sister exchange may have on a group’s ability to ‘act as one’ in pursuit of some objective or how the logic of restricted exchange may impinge on social and economic development, where incentives to act constructively and co-operatively are essential.

However, some of their cases show that sister exchange can lead to ‘considerable conflict’ within the group (Busse 1987:350) because the paths of debt and credit are seldom straight:

In one case (Busse 1987:351), a man, A, had no sister to exchange and he borrowed one from a man in another lineage, B. It was agreed to hand over a sago swamp to compensate B’s line (‘sister purchase’). Later, a suitable exchange was found in the marriage of A’s lineage brother’s daughter to B’s brother after all and the debt was cancelled out. But the swamp was not returned; it did not get included in the equation of debt.

² I am sure they were reflecting Suki terminology in using the English word ‘side’; Williams says among the Keraki ‘the moiety is called *widama* (lit. ‘side’ or ‘half’)’ (1936:64).

In another case (Busse 1987:353), a man, A, got married correctly promising his younger sister, B, in due course. However, the man earmarked as the future husband got involved in killing C, the mentally ill younger brother of both A and B, and was convicted for the killing. The sister, B, was fairly obviously no longer willing to marry the murderer (A said he will have to give his first-born daughter instead).

Evidently, the equations of debt and credit are by no means easy to reckon—I have simplified the cases somewhat—and it would seem there is ample scope for interference from private disputes. Men who inherit ‘borrowed sister’ debts from their elders (as X’s sons and grandsons will, above) may argue these were things decided without their consent and refuse to forfeit their own sisters to repay someone else’s error. The case where a swamp was given up to ‘purchase’ a sister for use in exchange would be extremely worrying to people in many Papua New Guinea societies. If the land had an economic use, it would be expressed in a developmentally dysfunctional way; though one party would probably make sago there, it is likely neither A nor B would be able to hunt crocodiles for commercial sale without causing a major conflict. It is not an isolated case:

The Gumakan man Asubai of Turtle clan had no sister. He married the daughter of Kuvi of the Komak Saltwater Crocodile clan, near whom they lived at that time, and gave up a piece of land³ at Aiambak where the patrol post is now to her father, Kuvi. Asubai and his new wife went to Bupul (in Irian Jaya) where they were invited for a pig feast. However it was a trick and in the night the bowstrings of the men were magically cut and the house surrounded. The wife went out of the house at dawn to urinate, but the whole party was then attacked and eaten by their hosts. The descendant of Kuvi, A, still owns the land that was given, but he has no son. The question will arise when he dies of who should inherit the land. His Saltwater Crocodile clansmen will want to resume it, but the Gumakan Turtle clansman, B, whose ancestor gave it will try to assert his residual rights over it, or else his sons will (informants A and B at Komovai village 23/3/94).

Here again, there is a direct implication for the contemporary use of the land in question. Even if the government’s title to the land at Aiambak that is in use for the school, border post, airstrip and so on is not contested, there may be sufficient residual areas where others want to open stores, carry on trading activities through the landing place, etc that there remains plenty of scope for a land dispute to paralyse new developments. I hasten to say that the living elders A and B who have inherited this situation have no dispute (or apparently not), as they are secure in their relationship to one another.

The ‘encumbrance’ of kinship

While the Middle Fly people have no monopoly on disputes, there is a considerable contrast with those societies in Papua New Guinea where (a) brideprices are the norm, (b) land ownership is individualised, and (c) leadership positions are marked and acquired through success in traditional exchange, or nowadays modern business. In relation to economic development, the former can be described as ‘encumbered’ by their kinship system, the latter much less ‘encumbered’ by theirs.

Indeed, if leadership positions are open to competition, as they are in classic ‘big-man societies’, there are great incentives to intensify the agricultural system (so as to produce

³ I was not at the time aware of Williams’ discussion of ‘sister purchase’. Swapping land for wife (as opposed to a ‘sister’ for exchange purposes) would seem to run against the standard logic.

more pigs to invest in systems of exchange), and nowadays to work hard at business success. The 'discovery' of this system of production, and perhaps perfected in the central valleys of Enga and Western Highlands some centuries before contact is discussed at length by Modjeska (1982), Feil (1987) and others; in these places it has led to population densities as high as 200 persons/km², and a thriving modern business and cash cropping sector.

Compare, then, the societies of the study area. We find a pattern of extremely scattered settlements and an extremely low population density, resources in abundance (subject to seasonal factors), yet a desultory level of economic activity. New initiatives seem to founder constantly and the net result is a level of community development in villages scarcely above that seen fifty years ago. The area has stood still since the time of Independence.

The set of questions I pose at this point are as follows:

1. Is the lack of development seen in the study area attributable to a difficult environment and the geography of remoteness?
2. Is it due to neglect on the part of government or other agencies involved in development work?
3. Are there cultural factors that need to be sorted out before development can proceed?

I now turn to a systematic examination of these issues.

CHAPTER 2

SOCIETY, LAND AND ACCESS TO RESOURCES

The lagoon people

The people of the study area have a special ecological adaptation to a distinctive environment: that of the lagoons. The key resources here are sago swamps, the fish, reptile and avifauna in the lagoons and the lagoonal inlets, and the macropods, cassowaries and other game animals of the bush tracts behind the lagoons. The Boazi and Zimakani, in particular, are occasionally described as following a hunter-gatherer way of life, but in reality all peoples of the area are gatherer-hunter-horticulturalists: 'gathering' consists mainly of processing sago at distantly located sago swamps; 'hunting' includes a range of hunting methods and fishing with nets, traps and (nowadays) line; and 'horticulture' is anything from opportunistic planting of bananas in small patches in settlement areas and along riverbanks to a more systematic lagoon-fringe gardening and tree-cropping among the Suki.

The canoe and Liebig's Law of the Minimum

Most importantly, it not for nothing that the Boazi and Zimakani are self-described as 'canoe' people, as it is essentially the canoe, *not* the ecology of the lagoons that they travel on, rich in useful resources as it may be, that holds the key to the human occupation of this environment. Firstly, the large war canoe formerly permitted organised raids to be made over long distances, forcing other groups to give them a wide berth, and thereby securing the safety of the settlements on the lagoons from external threats. Consequently, the large aggregations of people of the lagoon villages contrasts markedly with the situation in both the Fly flood plain to the north towards Kiunga, partly inhabited by the Yonggom (Kirsch 1992), and the drier scrub-savanna south into Morehead District (Tapari 1988).

Secondly, it might be thought, because of the population differences, that scrub-savanna of Morehead is depauperate in resources compared with the lagoons and thus unable to sustain a larger population. But is this really so? Comparable areas are settled successfully by sago producers and gardeners elsewhere in Papua New Guinea in other circumstances. The key is that difficult environments can be settled if a means can be found of off-setting the risks of the worst years, a principle known as Liebig's Law of the Minimum (e.g. Ellen 1982:34ff).

Traditional societies that do not store food crops overcome Liebig's Law by some means of settlement mobility, by transhumance (moving flocks and herds between seasonally available pastures),⁴ by switching from higher to lower ranked resources, or classically in

⁴ There are limited illustrations of this in the Middle Fly, as elsewhere in PNG. A man at Komovai told me that in the 1993 drought he had packed up all his crocodiles and taken them to a sago camp, where he released them into a new pen. The temporarily better supply of fish at the sago camp made this a better 'pasture' for them through the lean period.

some parts of Melanesia by using traditional exchange to establish 'stores' of credit in areas less subject to shortage. Cultural means of adaptation to a geographic differentiation of resources in Melanesia are also commonly found, typically the embedding of a community into a regional trading network, preferably one which crosses marked ecotones and connects areas with contrasting artefact specialisations.

However, the lagoonal people's way of life is much more self-contained than this. They typically commute, often daily, around a much vaster area than could be exploited on foot from a central base. Without the smaller, 'family' canoe—yet these are still large by Papua New Guinea standards—the subsistence round would be markedly altered; the travel to distant stands of sago or seasonal bush foods and return to a central village location loaded with bulky foodstuffs would be impossible. What, with the help of the canoe, are temporary sago camps would have to be the hamlets of main residence, as is the case among the Yonggom, completely altering the pattern of land use. These principles have been well illustrated in agricultural societies in other parts of the world (e.g. Chisholm 1968).

The El Niño cycle

The Middle Fly is subject to both seasonal and El Niño-type cycles of environmental change, most noticeable in the rising and falling water level in the lagoons and the associated biological effects of this (e.g. Osborne, Kyle and Abramski 1987). The Montfort Catholic Mission has kept rainfall records at Bosset continuously since 1965; their data⁵ are given in Appendix C. Total annual rainfall has varied from lows of 1600-1800mm to highs of up to 4000mm and there are marked fluctuations from year to year. Thus, the annual rainfall given as a monthly average rate graphs as a zigzag line.

On the other hand, a five year moving average of wet season (Jan-May) and dry season (Jul-Nov) rainfall picks out the longer baseline trend very well; peaks of the wet months can be seen in 1974 and 1985 and troughs of the dry months in 1972 and 1980, giving a period of 10-11 years for this. Not only do the wet and dry months in these years exhibit this periodic trend, they also keep in step with one another. That is, the years with heavy wet seasons also had wet dry seasons, and the years of 'perish' dry seasons also had dry wet seasons.

This longer baseline periodicity has a reasonable fit with a rather dubious averaging (average of monthly figures over five years) of the El Niño marker, the Southern Oscillation Index, up to about 1980. The 1973 year of record rain in Bosset (>4000mm) coincides with the high positive reading for the SOI. After 1980 the fit is less convincing; for example, the high rainfall years of 1983 and 1984 at Bosset anticipate the next high of the SOI in 1987. Monthly SOI figures do not correlate with monthly rainfall.

Having said this, it is not the rainfall at Bosset that is relevant to the water level of the lagoons in the Middle Fly, the factor that determines the viability of the lagoonal life. This is because most of the water is supplied from the Fly's mountain catchment, which is both large in area and receives local rainfall totals of two to three times that seen in the floodplain. Unfortunately, the data I have for Fubilan, Rumginae and Tabubil do not

⁵ Thanks are due to Fr. Edward of the Montfort Catholic Mission, Bosset.

extend over the run of years of the Bosset figures, and there are frequent gaps. It is my assumption, then, that the catchment rain totals would run in step with Bosset, and the same effects would be shown.

Beating the El Niño cycle by temporary settlement dispersal

The lagoonal solution to Liebig's Law and the El Niño cycle is simply to stop commuting to distant sago camps from the central village, and to stay dispersed in them until conditions return to normal. Thus, the once-a-decade dry spells which routinely empty the main lagoons like Bosset—the lake levels are dependent on rainfall in the Fly headwaters, not in the lagoonal catchment—appear to be very dramatic at the settlement itself, but it is unlikely that they result in life-threatening shortages of food or the other essentials of subsistence life. In the modern context, it goes without saying, the droughts spell considerable hardship because of the disruption to schooling, business activities, health services, indeed of general community life (cf. Busse 1987:37).

To take health, for example, the leading threats in the area are from malaria, filariasis, untreated accident traumas and snake bites, and the risks associated with childbirth. The dispersal of populations from the villages in dry years do result in a significant worsening of these health risks because of the difficulties of treatment other than at a centrally located health sub-centre or aid post. However, formerly there would have been no health advantage in living at a main settlement; in fact, there may have been added disease risks.

What seems clear is that, above all other factors, the canoe was physically responsible for enabling this rather sophisticated pattern of response to the environment. Indeed, it is the supreme artefact of the lagoonal country. I should add that the constancy with which people travel in canoes among the areas of land and swamp that they own markedly increases the quality and quantity of information about conditions in different parts of the lagoonal country that is received by everybody. This in itself is adaptive; beyond being a physical artefact, it makes the canoe an unwitting element of 'information technology'.

It is an intriguing question as to whether the canoe has also played an important part in the entrenchment of the canoe people's social forms (see p. 11: 'canoe' idioms). If their way of life appears economically self-contained, it is very definitely socially self-contained. This is in strong contrast to the situation among their neighbours, notably to the northwest, the Mandobo, Yonggom and Muyu, who intermarried, paid brideprices, and participated in a cowrie shell economy that extended over a wide area to the west.

Tribal organisation

In the western part of the area, the Boazi, a 'people' or 'linguistic tribe' are organised into 'political tribes' (or subtribes), that is in this instance local groups with a military, territory-holding function that are composed of (a) a system of subgroups in a segmentary structure and the assumption of a common origin, and (b) other subgroups absorbed into the structure on the basis of alliance or grants of land.

Voorhoeve (1970) shows the distribution of languages among groups. One village here, Azunangi (Komovai), lies on the Boazi-Zimakani boundary and the people here, the Gumakan, claimed to speak 'half Boazi, half Zimakani'. I was unclear whether they meant some families speak one or the other exclusively, or the Gumakan form a link in a

dialect chain and thus have a distinct but transitional language/dialect. Busse (1987:62-63, 182-183) implies that the former is the case.

Tribe	Village	Former village	Language
Sangeze	Manda	Manda, old site	North Boazi
Ingas	Mipan	Mipan, old site	North Boazi
Wamek	Bosset	-	South Boazi
Komak	Wangawanga	Tinunga	South Boazi
Gumakan	Komovai	Azunangi, old site	S. Boazi & Zimakani
Zimakani	Kaviananga, Kasa, Levame	?	Zimakani

Table 3. Boazi/Zimakani tribes and their villages.

Moieties and totemic groups

A common idiom throughout the area is to refer to various groups as ‘canoes’. Thus the Boazi can call their groups *zevu tiyat* or *kagwa tivat* (Busse 1987:225) and this can mean lineage, totemic group or moiety; evidently the Gogodola and Asmat also say ‘canoe’ for various levels of group (Asmat: ‘we sit in one canoe’). I found the Suki used ‘canoe’ but could apply it to either moieties or totemic groups. For example a man said ‘Suki has two canoes’, meaning there were two moieties; but at other times the term was used for the totemic groups—who each seem really to have paddled their own canoes for war.

The Gumakan and, apparently, the Zimakani are not subdivided in this way, being smaller.

Sources of spouses

In practice, only a minority of spouses are found outside the home tribe, though this is now augmented by a handful of marriages to complete outsiders. For example, at Bosset, for a total population of over one thousand people and thus perhaps 200 active marriages, perhaps only a tenth of spouses are from outside Bosset itself, from other villages traditionally in contact with the Wamek. Figure 1 shows thirteen marriages at Bosset that a man was able to list without much effort. Also shown are twelve marriages in which Bosset women married out to these places. A former source of marriage links were the Qouzie people of Irian Jaya; a man and a woman from the Ei people were also mentioned as having crossed the border to settle at Bosset.

From these data, the Wamek and Komak people of Bosset and Wangawanga are evidently in closest contact socially. By comparison, the Wamek and Sangizi of Manda, who are neighbours, seem to be almost out of contact, with one woman married in each direction.

Notably, no marriages I heard of were contracted with more distant groups who may have been in intermittent contact with the Boazi and Zimakani during this century, such as the Awin,⁶ Yonggom, or even the people on Lake Murray.

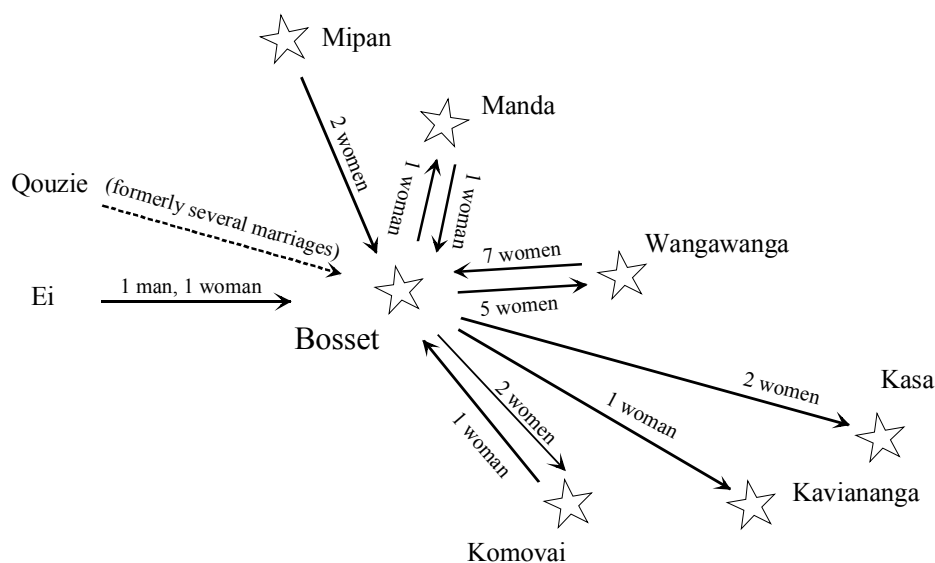


Figure 1. Local area marriages in and out of Bosset: a rough count.

Local organisation and access to land

At the time of contact, all the lagoon peoples were described foremost as head-hunters and were aggressively raiding neighbouring groups well into the colonial period. By comparison, Williams says of the Keraki to the south, similar in many organisational respects, that they were ‘more inclined to peace’ and that they did not treat head-hunting as ‘the absorbing aim which it seems to have been among the Marind or the virile population to the north of the Morehead District’ (1936:262).

The Boazi were a large enough group to be divided into tribes, as just discussed. Each tribe is still associated with a central village (Table 3); separate wards within the village which represent different sections of the tribe are formed if the population is great enough, but the distribution of sections of the tribe among several villages, usual enough elsewhere in Papua New Guinea, is not really feasible: they are unilocally settled. This is because the top level groups, the moieties, cannot function separately. It is true that if a community activity takes place, the moieties can be represented separately—if a village has two councillors, one will be from each—but this cannot extend to the moieties being opposed politically, or going their own ways to live in different settlements.

Whether or not the Middle Fly tribes were attempting territorial gains by means of ‘military aggression’ is less certain. From Martin’s inquiries, we know that the Zimakani and Suki made a peace treaty around 1910 in which they agreed to refrain from attacking

⁶ A group of Awin refugees escaped downriver from tribal fighting at Holpanai, first settling with the Zimakani at Teraruma. Later they moved to Kawatagwa (Cassowary Island), where they had close relations with the Suki. Most returned to Holpanai in the 1970s.

each other so they could concentrate on raiding elsewhere (Martin 1980). It seems likely that the purpose of this aggression was to establish an unchallenged, dominant position in the district for a whole variety of reasons. That it resulted in people being ‘chased away’ or even annihilated, in some documented instances, means that the control of territory *was* an outcome (see below, p. 23).

While, the villages are more or less compelled to stay together for the structural reasons I have just given, groups of individuals may establish ‘camps’ closer to their sago stands on distant parts of their own land but they do not call these villages or consider them as permanent settlements. In practice, some of these camps have a long-term existence; Kaviananga, a village with surely one of the largest regularly used land areas in Papua New Guinea, is notable for having out-lying camps some tens of kilometres from the main settlement in the direction of the border zone with the Suki. The central villages can themselves be moved from one site to another, and this has occurred in most cases during the last thirty years (Table 3). There is no noticeable trend towards the fragmentation of villages.

Clans and the ownership of land

The section above discussing totemic clans is brought into focus with (a) the social mapping of land tracts around each village and (b) the superimposition of the Indonesian border across tribal territories. The primary means of access to land is through the clan. This means that sections of each community differ in their ability to exploit the resources that physically surround them. (Further up the Fly/Ok Tedi system it also means that the degree of mine impact is more or less severe for different people in a village.) In relation to the border, it means that some clans living in Papua New Guinea have title to considerable amounts of land ‘lost’ to them in Irian Jaya. I will return to topic below (p. 21).

Disputes over boundaries

Busse indicates that at the present day the Boazi are highly territorially minded and that ‘the borders between tribes are under almost constant dispute’ (1987:184). That this should be so in an area of Papua New Guinea where the amounts of country claimed by individual groups is so vast, and the population density so low, is a theoretical ‘surprise’. Busse discusses several disputes (1987:185ff.) and it is notable that of the three cases involving the Wamek, two were brought up by informants in discussion with me, even though I was only at Bosset for a few nights. They would have been discussed at great length if I had not intervened to say that I wanted to stay off this topic.⁷ I suggest two reasons why these disputes remain unsettled.

⁷ In the case of the disputed oxbows between Bosset and Manda I had a dramatic demonstration of the seriousness with which these disputes are treated. On river trips, I habitually marked points on the topographic map after each stage of 30 minute travel, using a Magellan GPS. Coincidentally, the 60 and 90 minutes points between Bosset and Manda proved to coincide with the extents of the disputed zone. Informants seized on the marks as evidence that their tribal neighbours were liars and ordered me to erase them. I had to explain it was I who had annotated the map, and for another purpose than they suspected.

Differences in the acculturation of land tracts

The first reason is technical. In land theory, regions can vary in the degree to which landscape tracts are *acculturated*, or demonstrably brought into use, say by being hunted over, or burnt off, or having sago planted on them. In the case of the Middle Fly, the low population and large areas mean that the landscape as a whole is only fully acculturated in the river corridor, around the lagoons and up the feeder creeks. Further away, for example more than 20km to the southwest of the Komovai-Labiumbu-Kinda-Ambuvai lagoonal systems, or in the Mamboi River and Lower Strickland areas, land is scarcely acculturated at all.

This is a much more accurate way of saying the land is ‘owned’ or ‘not owned’. In the first area mentioned, the drainage area of what is probably the Kwali River (lower down this is marked as the ‘Karau River’) villagers flippantly said that ‘perhaps the OPM own it’. In reality, it is too definitive to say nobody owns a tract of land, thus the question ‘who *owns* it?’ is inappropriate. We should look at the range of factors that make up acculturation; namely, history, local cultural practices, current land use, and so on.

Once land is brought into use for specific purposes, then it may also vary in its degree of *parcellisation*, that is, to what extent it is deemed to be subdivided by owners. In the study area land is nowhere very parcellised—compared, say, with Chimbu (e.g. Brookfield and Brown 1963), where the definitive forms of acculturation—principally intensive gardening, the planting of tree crops, and the maintenance of clan cemeteries—are supplemented by varieties of physical *demarkation*, such as ditching and the planting of boundary trees. Many of these practices are rare to insignificant in the study area where, in contrast, demonstrations of acculturation are dominantly non-physical. Particular tracts are named in legends, or were crossed or camped on by ancestors, or were given to them to be ‘looked after’ by other known historical figures.

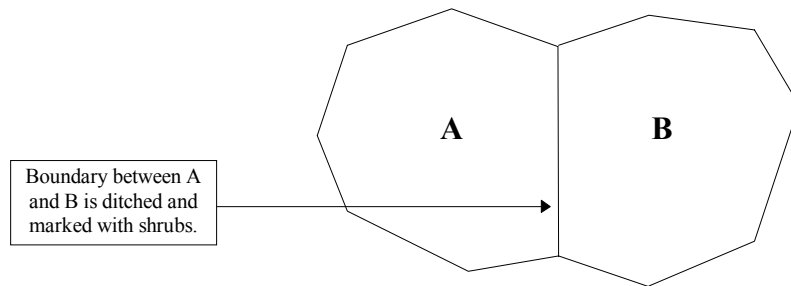
The upshot of this is a prediction that where land is weakly acculturated, or parcellised by non-physical means there is greater scope for disputation than where it is strongly acculturated, *given a constant level of parcellisation*.

To explain this, in Figure 2(a) and 2(b) areas of land are shown where each is divided into two parcels. In (a) the owners are gardeners and have managed to ditch and mark their mutual boundary over the years; in (b) there are no artificial marks on the land and the boundary runs through the centre of a swamp. In the first instance, then, the difference in acculturation is revealed in the quality of *title documentation*. This is to do with the quality and clarity of the boundary marks.

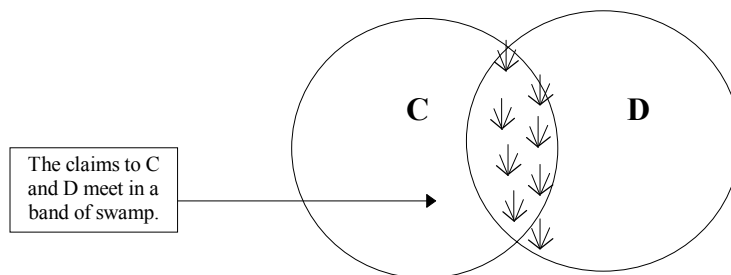
In the second place, the owners of the parcels in (a) visit their land daily (or live right on it), whereas the owners of (b) visit it intermittently and use it much less intensively. This means the difference in acculturation is revealed in the frequency and strength of the *demonstration of title*. This is to do with the public proof of the attachment of people to the land tract.

The prediction is that in (a), since the technical matter of title documentation has been solved, the owners can only argue about such matters as inheritance, the price of transferring title, or the share of profits due if someone with use-rights grows cash crops.

But the likelihood in (b) is that either owner may easily say ‘the boundary is not that



(a) Two parcels, demarcated and title well demonstrated.



(b) Two parcels, no artificial marks, title poorly demonstrated.

Figure 2. Strong and weakly acculturated tracts of land.

swamp, it's another one' or 'it's true your ancestor visited that place with our ancestor, but it did not mean that our ancestor gave the land away to you'. There is special scope for overlapping claims because it is not even agreed where one title ends and another begins.

The situation described in (b) is a frequent one in dispute areas in the Middle Fly. The significance is that the insecurity so created is a major factor in the extremely poor performance of economic ventures in the region.

'Land tract logic' vs. 'cultivation logic'

While disputes to do with title documentation are most people's understanding of land problems, a subtler cause of anxiety about rights stems from the particular type of logic used to confer ownership.

Independently of the above considerations, some Papua New Guinea societies follow a ‘cultivation logic’ when thinking about ownership, while others follow a slightly contrasting ‘land tract logic’. For example, tree crops are everywhere considered as individually owned in Papua New Guinea; under cultivation logic, a person, with a right to the planting place, plants them, and planting confers a permanent and exclusive right of ownership. Relevant examples of tree crops are planted sago, cocoa, rubber, and so on.

But under land tract logic, the important fact is that a particular land tract is owned, and that the consequence is ownership carries with it possession of the contents. These are likely to be natural resources such as fish, crocodiles, deer, wildfowl, various bush plant products, and wild sago. The practical difference in the behaviour of the owners is that under cultivation logic, they will enclose gardens, put up *tambu* signs, and find other ways to exclude trespassers from the actual areas that are in use or have been in use (using title documentation as discussed above). Under land tract logic, though, they will strenuously defend against incursions or assertions of claim anywhere across the land tract independently of any past history of cultivation or any future likelihood of cultivation (see Figure 3 and Figure 4). This because if the integrity of ownership becomes compromised anywhere, the ownership of *all* resources is thrown into doubt.

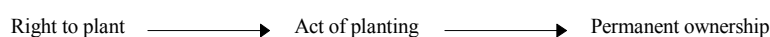


Figure 3. ‘Cultivation logic’: ownership through planting

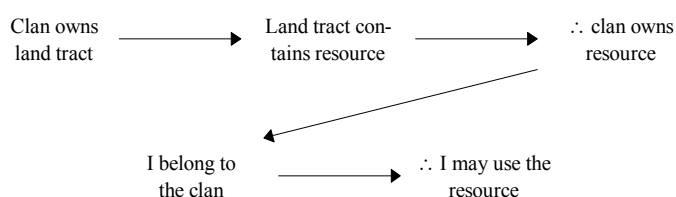


Figure 4. ‘Land tract logic’: ownership of the contents of the land

I would distinguish ‘land tract logic’ from classic territorialism, reserving the latter for areas of much denser population with tribally organised groups prepared to fight to defend their personal safety within their borders, as in the highlands. In the Middle Fly, what I am seeking to explain is the presence of disputes in an area of *extremely low* population density.

Land for project use

Classic development projects build in the opportunity for each investor/participant to be able to establish an individual plot or do the harvesting on his or her own land. This gives those who have expended their personal effort the greatest security of ownership over the saleable output. This situation is exemplified by the tremendous success of coffee and cocoa blocks seen in parts of Papua New Guinea where individual title to land parcels is the norm (e.g. Finney 1987).

Unfortunately, the pattern of land ownership in the study area does not allow for this. Individuals do have a say over ‘their own’ land; that is, for various tracts a ‘landowner’ can be found. However, it is uncertain to what extent individuals, even when they say

they own particular tracts, must defer to the rights of other clanspeople. If the 'landowner' is actually the lead spokesman for a group of communal owners, he should say *mi lukautim dispela graun*; if he is the sole owner (or joint owner with a brother, say), he can say *mi papa graun*. In reality, the distinction may not be so easy to make in the field and in any case this is often an academic question, as the far-flung nature of land holdings means that an unencumbered tract can be so far away from the main village, it is not really practical for the owner/caretaker to start some business venture on it.

One solution historically tried in several parts of Papua New Guinea has for the government to purchase a large portion of suitable, unused land and to subdivide it into blocks for individual use. This is seen in the study area in the Nakaku rubber scheme (Tapari 1995:10). Where individual ownership was the case anyway, and the blocks are seen as permanently disposed of to the block-holders, there has been a good degree of success. Predictably, though, where it was not the case, both the former owners and block-holders will act *as if* the latter are guests subject to the customary forms of control of the former. This means rights to make permanent settlements are curtailed, access to the land is not automatic, and decisions on subsequent developments have continually to be referred back to the former customary owners, rather than the government as may have been intended (see Tapari 1995 for further comments).

CHAPTER 3

HISTORICAL MATTERS

In addition to the need to understand how cultural forms shape, indeed dominate, every aspect of life in the study area, it is essential to grasp the basic historical-political events of the region and their contemporary legacy. These are dominated by two ‘frontier’ problems: (i) the dissection of the cultural landscape by the formerly Australian-Netherlands New Guinea, and now Papua New Guinea-Indonesia, border, and (ii) the distortions to settlement process caused by a fifty year halt in the position of the British/Australian colonial frontier after the 1870s.

The crossing of the Mandobo

The case of the Mandobo may be unique in Papua New Guinea.⁸ They are a linguistic tribe whose homeland is in Irian Jaya, along the Mandobo River to the north and west of the Yonggom or Muyu. A small group today lives at Kuem in Papua New Guinea and are unified by their shared historical experience of being migrants.

Although in practice sago is a sufficient staple where they are living today, the Mandobo are more horticulturally orientated than their Boazi neighbours and customarily planted taro and yam gardens. A range of ‘new’ and ‘old’ crops and livestock animals is distinguished. Among the ‘new’ are peanuts, Singapore taro (*Xanthosoma sp.*) and chickens. (From inquiries elsewhere in the region, chickens date to the period after WWII when the missions had entered the area.) Coconut palms are now common in and around settlements though are nowhere grown for copra; in pre-contact times they were not common at all. The Mandobo say they do not use betelnut ‘unlike the Boazi’ (though the Boazi grow little betelnut either).

Unlike the sister-exchanging societies of the Middle Fly and Morehead District, the Mandobo pay brideprice and formerly used shell money. By their own estimation and also according to Schoorl’s scanty knowledge of them in 1956, the culture of the Mandobo is similar to that of the Yonggom or Muyu; their type of pig feasting was, for example, described as essentially the same as in the Muyu area (Schoorl 1993:7).

The land grant at Kuem

The key concern of the Kuem people today is their security of tenure at Kuem. At this village, I saw an underdeveloped village with considerable problems of distance from markets and services, but in other respects one that was more cohesive and seemingly better organised⁹ than the Boazi villages closer to the Fly River. I had lengthy talks with

⁸ Perhaps the case of the Arawa town people, whose oral history sources them in the Solomon Islands, is similar; their ‘foreign’ origin has been brought up in an ethnicist way during the restoration of services in Bougainville (Nawhio Ahai, ANU Seminar June 1995).

⁹ An impression only—but one corroborated (equally impressionistically) by local MCM missionaries.

the councillor, Dick Kumbange, all of which led to the same two related topics: that of the Kuem people's concern about their physical security as a border group and their worries about their rights to remain on the land they settled on some 70 years ago.

Their troubles centre round a *tok promis*, a traditional contract, made between their forebears, led by Dohot, and an Ingas leader called Qayu which granted them the use of land and sago stands in Papua New Guinea (see Appendix F). The key features of the story are (a) the identification of the parties involved, namely Qayu and Dohot, (b) the content of the contract, namely the grant by Qayu of the land 'to freely use from generation to generation', and (c) the customary importance of the way the contract was witnessed, namely by means of traditional wife-swapping and feasting at the time, and by the personal residence of Qayu's son Amenap with the Mandobo into perhaps the 1940s.

The contemporary relevance of the story—why it was very much on the minds of the Kuem villagers—is that certain parties at Mipan have recently told them they should pack up and return to their land in Irian Jaya. In the Kuem people's eyes they want to break the *tok promis* given by Qayu and sealed at the peace-making feast at the place Mutimangi.

Many groups in Papua New Guinea find themselves in a similar situation; many land disputes have their roots in the freezing of boundaries that took place when Australian patrol officers first contacted remote groups. At the same time, the imposition of colonial borders is well known for its propensity to split tribal land between two or more jurisdictions. But what makes the Mandobo case quite different is that *all* of their 'real' land lies outside Papua New Guinea. The possibility of assisting the group to relocate to their home area—not that this is generally the most appropriate remedy—can be dismissed outright. The Mandobo might even have a legal case against those allegedly calling for their return since Papua New Guinea is a signatory to various international treaties safeguarding refugees and ethnic minorities against persecution.

The Mipans' side of things

I judged it inappropriate to pursue this matter at Mipan, so I cannot give their side of the story. As I note below, the Mipans want help from the National Government to move *recent* border crossers (not the Kuem people) from their swamps to the Iowara UN camp to the east of Kiunga. The reason for this is that the mainly Yonggom- and Kaeti-speaking refugees have strong OPM links and draw Indonesian patrols into their sago-making areas. However, it not clear how many of these 'squatter' camps are within Papua New Guinea.

The principal problem today would seem to be that natural resources in this very sparsely populated area are being revalued in the minds of would-be village entrepreneurs. The value of production from the land is currently restricted to the household economy of each village family together with very small cash incomes, possibly no more than a few thousand kina a year for a village like Kuem, chiefly in the form of crocodile skin sales. This means that vast tracts of swampland and low-lying forest are, in terms of income generating ability, virtually 'worthless'. But with their eyes now turning to the imagined value of timber, those who feel history is on their side will attempt to press claims to exclusive access more aggressively.

What is the status of a tok promis?

To take legal view of the situation, it comes down to the strength of rights conferred by a *tok promis* or traditional contract as against rights acquired basically through inheritance. Elsewhere I have mentioned the problem of businesses started in North Fly at corner settlements on the Kiunga Highway where rights to use the sites were granted a generation ago, as at 'new' Pampenai and Wanginai (Burton 1993:10-11). The *tok promis* is never in question during the grantor's lifetime, but after his death his descendants assert that their rights to the land are exclusive and they want the grantees off it. This is often complicated by the fact that the two groups may have acquired ties of marriage since the time of the land grant, strengthening the grantees right to stay, but they may have also come into dispute over unrelated matters. In this situation, it is a predictable customary ploy for the root landowners to restate history and to say that those-who-have-come have no rights of their own whatsoever.

The grantees would seem to have strong basic rights to use the land, as I cannot see that a *tok promis* is anything other than a very strong contract, assuming (a) the identification of the parties and (b) the content of the contract are clear, and (c) the way the contract was witnessed can be shown to have been customarily significant.

These are what might be termed the *documentary* aspects of the contract; modern contracts do not seem markedly different as the law in the modern state also relies heavily on custom (e.g. wigs, archaic wording etc) to augment the strength of a contract, piece of legislation, or court ruling.

However, there are two principal uncertainties. The first is the question of whether the grantor had the right to confer use rights over the land on others. It might be argued, for example, that, as the land was the property of the clan as a whole, no one person could make decisions over it. But this avoids the obvious point that there were plenty of witnesses and no-one complained at the time (since presumably the whole group was involved in the part of the contract that involved wife-swapping!).

The other uncertainty is if the grantees were granted the land for a specific use, i.e. a subsistence way of life, and they change or want to change this use, such as by making business or selling timber, that this should be disallowed as it lies outside the 'terms' of the contract. Of course, these concepts were not in existence in this area before contact, but they might be thought to have been implied if other 'uses' like, say, giving the land to a third party would also have been beyond the rights of the grantees.

The Mandobo do not expressly want to cut timber for sale. They do want an end to worries about their future. This would also seem to include the right to veto a land use change by the original landowners, i.e. to veto timber cutting on land that they need for subsistence use.

Ingas movements

In addition to the Mandobo, the settlement pattern of several of the other groups situated close to the border has been affected by the international division created by the Papua New Guinea-Indonesia border, notably the Sangizi and Ingas villages of Mipan and Manda. These 'trans-border' villages face the problem of not having secure access to

their land. At Bosset, and possibly at Kaviananga, some landowners have sago swamps and more distant hunting lands across the border, but as the principal area of settlement has always been Papua New Guinea and their resources are mainly inside Papua New Guinea, they are not so inconvenienced.

Difficulties of the trans-border villages

The Mandobo and Ingas people of Kuem and Mipan villages both originated on the Irian Jaya side of the international border. Each has traditional lands on the far side. Most of the Ingas lagoonal areas (notably Wonam) and sago swamps are in Irian Jaya and their Papua New Guinea country was mainly used for hunting. Informants say that little sago was made by them on the Papua New Guinea side until recently. Over the last half century, the Ingas have relocated as shown in Figure 5.

These relocations do not reflect a change in land holdings and simply concern the principal place of settlement. In practice, during the period of Dutch administration in Irian Jaya, the international border was not the clean line seen on maps. Border area villages were simply administered by one side or the other following a mixture of precedents and inaccurate surveys. As I noted in relation to the western Ningerum villages (Burton 1991), the Dutch were quite commonly the first to patrol ‘Australian’ villages and, in the Middle Fly, Bosset was firmly considered to be Dutch until the late 1950s (see short history of Bosset, p. 63).

The Ingas clan structure (see Appendix A) throws some light on the problem. The Ingas comprise nine clans; three, Cassowary, Diver and Sago, probably have most of their land over the border while two others, Dog and Pig, have a lesser amount there. I do not know

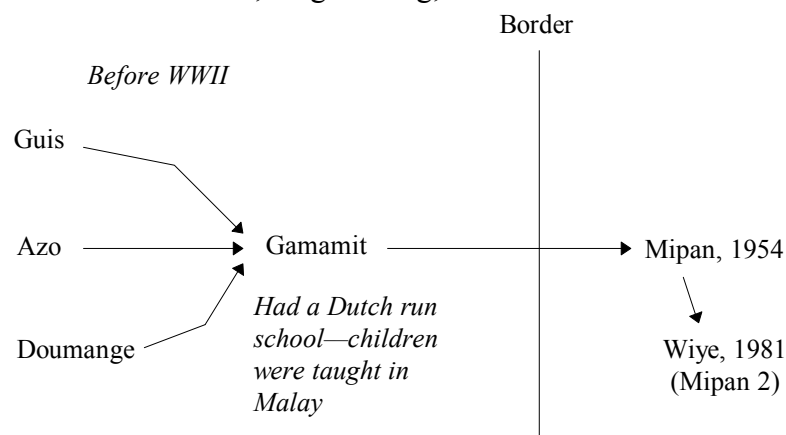


Figure 5. Surmised movements of Ingas villages, *ve miav* or ‘kampong’, from the 1940s.

(Note: Voorhoeve has Gamamit as Gambamit; 1970:17)

whether this relates just to land in current use or to all land historically used—four clans were said not to have land in Irian Jaya, but this is inconsistent with the Ingas originating there.

International agreements

The most recent border agreements show that little has changed since ruler and compasses were used in the map rooms of nineteenth century Europe to divide up distant lands. Papua New Guinea and Indonesia have a 1987 'Treaty of Mutual Respect, Friendship and Co-operation' backed up by a series of Border Agreements, a major revision of which was negotiated in October 1984 (Prescott 1986; UPNG/USP 1988:162ff.). However, the two countries have made no attempt to avoid placing a *superimposed boundary* (Burton 1992, and refs. therein) across traditional lands and, in dealing with their rights in a brief and ambiguous way, leave the border people in a considerable state of uncertainty.

Rights of trans-border villagers

The relevant parts of the Border Agreement are Articles 4 and 5, *Border Crossings for Traditional and Customary Purposes* and *Exercise of Traditional Rights to Land and Waters in the Border Area*. Article 4 should allow border villagers to visit their neighbours on the other side. Prior to the arrival of refugees in the early 1980s, the Ingas used to get passes from the Lake Murray District Office to visit the Qouzi people in Irian Jaya, a group with whom they had traditional contacts. As I understand it, these were temporary visitor passes and had to be surrendered on return. However, the issuing of passes has been suspended since the refugees began to arrive in large numbers, according to informants (and I have never seen one).

Article 5 permits people from who 'enjoy traditional rights of access to and usage of land or waters in the Border Area of the other country' to cross to the other side to make use of them (a) without this constituting 'proprietary rights' to the cross-border land and waters (b) without them settling permanently across the border, except in a way allowed by the immigration laws of the other country. This means the Kuem people are permitted to make sago camps on lagoons that they have traditionally used on the other side of the border as long as they do not move their village to Irian Jaya. On the denial of 'proprietary rights', it is unclear what consequences this has for people in this position. It would seem that they have no means of preventing any people from the other country from trespassing on their land and exploiting its resources. There is obvious inconsistency here, as the inability to do this might result in the construction of infrastructure (e.g. fences, labour camps, etc) that would physically prevent the trans-border people from exercising their rights under the Agreement.

This said, in 1993 a party of seventeen went to the Kuak swamp on the Irian Jaya side (near a border marker—MM11 is the only candidate, if an official monument is meant) and were detained for some hours by Indonesian soldiers. I cannot tell exactly what happened, but it does seem as the incident was reported officially; the Papua New Guinea police later came to interview members of the party. The villagers were obviously very frightened of any contact with the Indonesian military and were justifiably worried about being mistaken for members of the OPM, who also have camps in this area of the border. I should say that OPM membership here is evidently made up of Irian Jayan Yonggom and Mandobo, so that the Kuem people would be well in touch with actions between the OPM and the military. Informants said the OPM did them a service by 'looking after the boundary of Papua New Guinea and Indonesia' and gave advance warning of troop movements on the Irian Jaya side, telling them when it was safe to go and make sago.

This in itself makes the Kuem people a hazard in the eyes of their neighbours, the Ingas at Mipan village, who have their own tales of aggravation from both the Indonesian military and the OPM. These Boazi say they have little contact with the Irian Jaya groups from whom the OPM draws most of its recruits, and desire none. They specifically mentioned 'illegal refugees' drawn from among the Irian Jaya Yonggom and 'the same tribe as Kuem' (i.e. Irian Jaya Mandobo) crossing after 1983 and 'squatting' between Kuem and the Fly River. The Mipan informants continued:

They should be at Iowara camp. We don't want them here because they just provoke the Indonesians to make more patrols. We do go over the border to collect sago. We listen carefully and hide. The soldiers are quite friendly if we meet them and we simply tell them we are PNG citizens and they let us go.

Taken together, the ability of the Kuem and Mipan people to cross the border as permitted under Articles 4 and 5 is considerably diminished. Pressure to stay inside Papua New Guinea comes from both sets of authorities, not simply from the other side. To what extent this causes actual hardship is unknown, but as the Ingas' statement that most of their main sago-making areas are on the other side of the border is consistent with the fact that they used to live permanently on the other side, their discomfort is, I am sure, quite real.

The British/Australian colonial frontier in relation to settlement process

In the early colonial period, the range of contact situations was very great. On some famous occasions, the meeting of colonial power and indigenous population was sudden, unexpected and to all intents and purposes completed in the course of a single patrol (e.g. Leahy and Crain 1937). In others, as among the Binandere of Oro Province, according to John Waiko (e.g. 1989), accidents of history, such as who was killed when and which police were recruited from which area, unwittingly led to the establishment of the military dominance of certain clans over others that they were unable to achieve prior to contact. But in the case of the Fly River, once a vague frontier was established at mouth of the Fly around 1875—ignoring the temporary nature of the voyages of D'Albertis—it stood still for half a century afterwards, and even then took a further twenty-five years to be moved up-river to Kiunga.

This had profound effects in the vicinity of the frontier zone and upstream from it. The villages under colonial influence were classed as pacified and then, in some cases, turned into 'model villages' with neatly lined rows of houses both for the purposes of social control and for reasons of hygiene. Unfortunately, beyond the frontier traditional warfare still raged. In 1926 and 1931, 'peaceful' Lower Fly people were massacred by war parties from as-yet uncontacted Middle Fly villages; in the 1940s, Upper Fly people from several places escaped to safety in the now-contacted Middle Fly and Lake Murray area. What happened between 1975 and the 1920s is frankly unknown—I am sure further dislocations will be revealed if closer inquiries are made.

The Weridai raids

The Suki became internationally famous after two raids on a village, now abandoned but once located west of the Bituri River, known as Weridai.¹⁰ Details are given in *Annual*

¹⁰ Murray, Hides and Williams all give different spellings. This is Williams'.

Reports and at some length by Jack Hides (Hides 1938:149-227) and by Hides' biographer Sinclair (1969: Chapter 9). F.E. Williams, the Government Anthropologist, arrived at the scene shortly after the first raid in late 1926 and found a survivor with a coconut frond tallying the 39 victims. Hides names the man as Village Constable Maruam and says he made his way to Daru with a sago rib into which were stuck 57 match-sized sticks (1938:157); however, 39 seems the correct figure. Hides gives the site of Weridai as 'Jauni Creek'; Lawrence found the present-day descendants at Aduru and was given the placename as 'Suame Creek' (Lawrence 1995:55). Williams says the Weridai called themselves Aram. Lawrence's name for the language spoken at Aduru is Makayam and gives one of the Aduru clans as 'Warida'; he says Weridai is Warida/Werida + *dai* (it would be *dairubi* in the Kiwai language), 'people'.

The 1926 raid was investigated by Zimmer, the Resident Magistrate at Daru, but only six arrests were made, Maruam and his brother Daumi being unable to identify any attackers. I have not seen Zimmer's own patrol reports; his work is mentioned in the *Annual Report* (Commonwealth of Australia 1927:9). The Suki were implicated, but there was some suggestion that 'Lake Murray' people, i.e. probably Zimakani, were also involved.

In 1931, the Weridai people were still living near the original village and were attacked again, this time losing 17 of their number. Hides and B.W. Faithorn were sent to arrest the attackers who were this time definitely identified as Suki. They succeeded in this, Faithorn coming overland from Morehead, and Hides by river from the Fly, both men planning a simultaneous arrival. Hides then says (1938:195) that Faithorn's party was attacked 'two to three miles south of Gumak' at a new settlement where the 17 Weridai heads were being smoked.

According to Suki informants, the 'first patrol officer' made a camp at a place called Ikiyaduka ('short wild mango') at the junction of Mabilia and Gwaku Creeks, WG 655113. The Gwaku people attacked and wounded the patrol officer and they say the patrol turned back in the direction of Morehead. The candidates for this are Zimmer, Faithorn and possibly Malay bird of paradise hunters such as are known to have clashed with the Wamek and Sangizi of the Middle Fly (Busse 1987:140-142). Hides' account and Gumaka Lagoon itself—it is marked 'Suki Lagoon' on the topo sheet—place Faithorn's attack to south and possibly the east of Suki Station, some 15 km from Ikiyaduka. Hides and Faithorn continued to comb the Suki area on foot for several weeks (1938:205), and Faithorn ultimately returned overland to Morehead (1938:227) so it could well have been during one of these trips that the Ikiyaduka incident took place.¹¹ On the other hand, Hides only mentions two of Faithorn's police as having being wounded on the first day.

The significance of these events lies in the widening of the buffer zone between the Suki and the Aduru people and therefore the *cultural* creation of an uninhabited zone on either

¹¹ After arresting the leader of the head-hunting party, a famous warrior called Ganga, Hides says: 'What would be the future of these men? They would all get reasonable sentences, I thought. Then they would be brought back to their homes, bringing with them a new line of thought for their uncivilised men and women of the lagoon country. I guessed correctly. To-day Ganga is possibly the village constable of Suki' (Hides 1938:227). He might be intrigued to see that Ganga's present-day namesake, Mr Naio Ganga, is the councillor for Gwibaku village in the Morehead Local Government Council.)

side of the Fly in the stretch containing Sturt Island and the D'Albertis Fairfax group of islands (see above, p. 12).

Nago and Buseki

Two Yonggom villages were established in the 1940s on the shores of Lake Murray. Kayemen Bokawa gives the following account of the settlement of Buseki:

The Buseki Yonggom are originally from the headwaters of Ok Yep creek [at the place Yepbit Kondaun] in the Lower Ok Tedi, some 3km from the Iran Jaya border. They migrated to Lake Murray where they established Buseki village (*buti seki* means kunai grassland in the Kuni language) in the far northern end of the lake, near the government station at Mava, which they helped establish in 1947. This part of the lake was at the time a fighting zone for the Kuni and Eiwa tribes ... [the area] was in effect a 'no man's land'.

The clans involved were Bamko Dawedawe, Ambaka, Buburam and Aidan ... [Around 1946], Mr Baron Nakuk, the leader of Bamko Dawedawe clan, decided to travel to Daru upon hearing that a government station had been established there. With the help of his clansmen, he built two dugout canoes and built houses on top of the canoes. He used his status as a leader to forcefully take Worot Anbam, a widow, as his second wife, selected some of his clansmen and secretly departed from Yepbit Kondaun. They headed down the Ok Tedi with the hope of getting to the government station at Daru.

At Komovai village [in the Middle Fly], a man named Papua stopped them and invited them to stay at his village. However Baron Nakuk refused the offer in favour of continuing downstream.

Papua repeated his offer [several times], but every time Baron Nakuk refused. Papua then ordered his men to pull down the houses on the canoes and carry the belongings ashore. So Baron Nakuk's party had no choice but to abandon the down river cruise and stay at Komovai.

Papua informed a government patrol that his new found friends were heading for Daru when he stopped them. The patrol was on its way to Lake Murray to set up a permanent station at Mava. The patrol officer decided to take two strong young men, Towam Winem [living in 1994 at Alice Corner, Kiunga] and Muram Yanon, from Baron Nakuk's party, to help set up the station. He told Baron Nakuk to follow with his people later.

Fighting broke out over a woman between Papua and others at Komovai, so for the safety of his group, Baron Nakuk built a new canoe (*ambot kono*) and he and his people paddled to Lake Murray following the directions given by the patrol officer.

Entering the lake, they paddled to the northern end but went straight to Mav village, mistaking it for the government station. This was their first stop in Lake Murray and they met friendly and welcoming people. At that time the Kuni all lived at Payawut, which is in the middle part of the lake and the mouth of the Kaim River. The Eiwa lived at Mav at the extreme north-western end along the Ei (June) River, a short distance to the west of Mava station.

However, absent from this account is the sequence of events leading up to the decision by Baron and his party to leave the Ok Yep area. The only clue is that he 'secretly departed', that is, he left in opposition to some other person or group—at least, the migration was not for reasons of natural disaster such as drought or crop failure. Further inquiries would be needed at Ambaga (or Kiunga) as well as at Lake Murray. I do not have information on the establishment of Nago.

The Aekyom at Kawatagwa

Mr Wayri Wobi, a Panai clan member of Kawatagwa and Kiunga, gave me this account at Pukaduka 1 on 30 August 1994:

In the 1940s people at Holpanai, near Dande in the West Awin Census Division, were fighting with Miamrae, Kwiape and Grehorsore villages. A group escaped down the Alice and Fly Rivers and met

Zimakani people at Teraruma. They stayed here for some years, but then had a dispute with the Zimakani. From here they went to Kawatagwa at Cassowary Island. The people (?all) returned to Holpanai after about 1970.

Legacy of the migrations

It is clear, without knowing all the causes of these population movements, that the dislocation of the Weridai, Yunggoms and Awins, as well as in a different way the Mandobo discussed earlier (p. 18), was strongly influenced by the inability of the colonial authorities to extend their influence swiftly and evenly to all the areas under their jurisdictions. Later, the Australian and Dutch administrations were so slow to reach agreement on the position of the border villages that the Indonesians took over before any policy changes that might have been required could have implemented.

One such change, both in relation to the border and as a general matter with Papua New Guinea, might have been the proper recognition of the problems facing the dislocated villages in relation to economic development. As I discussed in an earlier report (Burton 1993:11), it is hard to make a success of business on borrowed land. The problem is aggravated manyfold when a proposed venture requires secure rights to large areas of land and the resources within that land, like rubber, crocodiles, other saleable game, and timber. Tapari (e.g. 1995:2) also raises the problem of security over land in relation to the crocodile industry.

No government since Independence has signalled that it is aware of the problems of either traditional migrants or hunters and sago people who must range over wide areas. While there has been a substantial amount written on land ownership, it has centred on securing modern forms of tenure for 'true' landowners and cultivators who want to turn to cash cropping, a stance encouraged by the fervent micro-patriotism, and hence extreme conservatism, of tribesmen-politicians. No academic document I know of addresses the problem of security of tenure for traditional migrants or people living in 'wilderness' areas.

CHAPTER 4

DEVELOPMENT AT MIDDLE FLY VILLAGES

By any reckoning, the Middle Fly villages are surrounded by bountiful natural resources. Opportunities would seem to exist, therefore, for a dramatic improvement in living standards. Yet no-one who visits this area can fail to be struck by the absolute lack of progress in achieving the most modest of social development goals.

I cannot say I have a ready-made set of answers, but I am confident that the basic causes of the under-development of this area lie with the kinds of structural difficulties in village organisation I have discussed in earlier chapters, and with other cultural manifestations.

Linkages with the external economy

The most obvious link with the external economy, the trade store, is conspicuous in this area by its rarity and limited range of stock. One store at Bosset was quite well stocked (Table 4), another at Manda ('Dawati Business Group') had none, and another at Wangawanga had a sparse collection of items (Table 5). Obviously, distance is a considerable problem for people in the Middle Fly and other factors are set against them taking an initiative. For example, the need to pay K50 per year to the provincial government (Dept. of Commerce?) to obtain a licence to sell second-hand clothes would seem an unusually cruel punishment for people so genuinely poor (a general store licence is ?K15).

Power rice	Sunlong rice (K1.70)	Sunshine milk, tin, K2.40
Small Nescafé Niugini, K2.30	200g Omo K1.60	200g Cold Power
Torch & globes	Tin plates	Kerosene
Snowite bleach	Sugar, 1kg K2.30	Salt, 2 vars
Bar soap	Milo	Chicken biscuit
Cheese pops	Coconut cookies	Meadow Lea oil
Globe dripping	Flour	Red/orange cordial
Can drinks (Coke & Fanta K1.20)	Tinned fish	Big sister cake rolls K1.70
Plastic bucket	Curry powder	Palmolive soap
Maggi noodles	Lamp wick	Coleman glass
Matches	Bush knives	Batts (AA, C)
Metal file		

Table 4. Goods on sale at Valentine Vitalis' store, Bosset village, on 21/3/94.

Trukai rice	Soap Klina	Milo
Twisties	Ox & Palm corned beef	Beef crackers
Cream biscuits	Sugar 1 kg	Small 777 fish, 90t
Sunshine milk powder, K2.50		

Table 5. Goods on sale at Kamea Trading, Wangawanga village, on 22/3/94.

The only successful means of obtaining cash for individuals is crocodile farming. However, the only buyer in the whole of the Middle Fly appears to be Mr Lai Adiwauna, originally of Milne Bay, who lives at Aiambak. He says he would turn over about 500 skins a year from his buying area between Sapuka and Kiunga (note that Suki buyers also operate in the lower area and in Morehead).

As can be seen from Table 6, the total number of farms in the seven river villages in Middle Fly CD was around twenty. The farms I saw fell into two types: probably three

out of four had 15-20 quite small crocodiles, while perhaps one out of four were constructed on a bigger scale where the farmer was intent on raising the animals to maximum permissible size. The large farms typically contained 10-15 nearly saleable large crocodiles, and up to hundred smaller ones.

Village	No. of crocodile farms
Kuem	2 small farms
Mipan	3 small, 1 large farm
Manda	6 farms altogether
Bosset	? (none in parts of village seen)
Wangawanga/Aiambak	1 farm
Komovai	1 small farm
Kaviananga/Obo	5 farms
Total	?20

Table 6. Crocodile farms in Middle Fly villages (from Appendix A).

I think this difference comes about because the majority of ‘farmers’ are content to catch very small crocodiles in the wild, feed them for a time and sell them for what they can get. In the table of buyer’s prices (see Table 10, p. 44), this means selling at K35-40 each. This is not difficult. To raise these small crocodiles to the point where their value jumps to the K100-K150 mark is much more troublesome—a much bigger pen is needed and the feeding requirements become extremely onerous. What I do not know is whether the ‘small’ farmers habitually sell skins to the licenced buyers or live animals to the more serious farmers in the same village. At any rate, the annual output of skins for the whole area cannot be great.

Guessing at an average price in the range of K60 a skin the 500 skins quoted by Lai (for a bigger area) might translate to production of around K30,000 a year. This is hardly a handy income for the 2500 people of these villages.

Other sources of income

Patches of rubber trees were seen in many villages in the Middle Fly, but no rubber has ever been tapped here and in some cases (e.g. Mipan) the village has been re-located, leaving the overgrown ‘nursery’ behind at the old site. As discussed in Case 5, below, rubber faces many problems in these villages, not least a conflict between the need to devote steady labour to tapping and weeding and the ecologically and culturally driven imperatives of the sago/hunting camp adaptation of this area. Given that estate rubber production by Suki growers at Nakaku has not been a total failure, and will probably restart successfully given the establishment of the Kiunga factory, could this model be copied in the Middle Fly? I do not think so as Nakaku depended on one village selling land to the scheme and growers from other villages commuting between home and a settlement adjacent to it. The distances between villages are much greater in the Middle Fly and I cannot imagine who would surrender land to such estate anyway. A limited amount of production might be possible at bigger villages like Bosset and Kaviananga, where it would be feasible to offer rubber extension. However, Bosset’s track record with other productive ventures is so poor that success is vanishingly unlikely in the near future. People at Kaviananga claimed to have rubber plantations, but they were so far from the main settlement—the criterion of site selection was probably to minimise the risk of land disputes, not to facilitate good husbandry—that the chances of productive activity on them are also nil.

Mis-identifying the keys to development

A constant source of frustration is the despondency people feel when their own ventures fail to bear fruit again and again, yet those of non-village groups like the Montfort Catholic Mission run steadily and successfully (if modestly in the case of the MCM) year after year. Members of village societies can easily conclude that the latter possess some key to success which they do not. This may then take the community on a protracted search to uncover that key. In the context of post-colonialism, as has been exhaustively documented, answers may be found in a huge variety of forms, such as in the nature of political power and self-determination, the re-affirmation of Melanesian solidarity, and so on.

Unfortunately, it is rare that such a search yields an appropriate answer at village level, which is that:

- proposed enterprises (e.g. infrastructure projects, businesses) should be selected by matching clearly identified needs against resources that can be released for them, unencumbered by the demands of other activities;
- for an enterprise to succeed, its specific goals must take precedence over the numerous other goals that people have, at least enough of the time for it to remain in existence.

To explain this, if the enterprise is rubber growing, then the various tasks of husbandry must be carried out in sequence and they must be scheduled appropriately. The goals of the enterprise are to complete each task on time, without interference, and to produce and sell good quality cup lump latex. The chief resources to consider are land for rubber growing, the adaptability of existing husbandry skills, and also the diversion of the owners' time from subsistence tasks and other village activities.

However, as will be seen from each of my cases, it is seldom indeed in the study area that all of a project's specific sub-tasks are carried out and its goals fulfilled. In several of the cases, the activity ceases to be recognisable under its original description.

The cases

A common tendency is to mistakenly identify the key to development in a specific item of 'if-only-we-had-it' hardware. Case 1 brings this home bluntly.

Case 1. The appropriation of the outboard motor.

The Montfort-run Health Sub-Centre at Bosset mounts regular MCH and health patrols by canoe to its outposts at Mipan and Kuem. One such patrol was carried out from 14/3/94 to 17/3/94. The patrol party consisted of two nurses from Bosset, a canoe operator, two passengers and myself. The canoe was powered by an outboard motor given to the Health Sub-Centre by the provincial member, a resident of Mipan, specifically for health patrolling.

The patrol returned at 7pm on 17/3/93, in darkness and in driving rain. In the confusion and probably in the guise of lending assistance to the party, some young men removed the outboard into the village. The next day the village leaders refused to surrender the motor, on the grounds that the member had given it to 'the village as a whole' and not the Montforts. The priest, Fr Edward, petitioned for its return, saying he was not interested in who kept it, and asking rhetorically whoever felt fit to look after it on behalf of the Health Sub-Centre to step forward and prove it. No answer was given back, and neither was the outboard.

At this time, a brand new diesel outboard, a gift of the Lower Ok Tedi-Fly River Development Trust, lay unused in its packing case in the store of the Bosset fish processing group, Wam Fishing.

This case was not about the Montforts blocking the villagers' access to a desired, but unreachable commodity—essentially the same people did have outboards, and the fishing group had the (unused) diesel motor. The case may have had embellishments, but mainly it came of identifying a piece of hardware as a key to development: thus, if only we had the outboard, we could travel about whenever we wanted and village affairs would run better. It is obvious that experience should have already shown the appropriators that the scope for *bagarap* in village affairs exists quite independently of whether even one single outboard is owned, and that immediate problems like who will find fuel and do maintenance are real headaches for communally owned mechanical equipment. As the priest said, whoever felt fit to look after it was welcome to step forward at any time and prove it—but here he was vainly arguing 'enterprise' criteria against some other culturally embedded ones, and there was no answer.

Case 2. Bosset's new airport.

Between 1988 and 1991, it is said, a provincial business leader told the Bosset people that if they had a bigger airstrip than the Montfort Catholic Mission's present one, his company (with a name similar to 'Western Air') would offer a daily air service to Bosset by Beechcraft Baron.

A business group was formed with the name Bomawami, made up from the first two letters of the villages Bosset, Manda, Wangawanga and Mipan, with aim of securing construction contracts for the area. (In reality the four directors of the group, with seemingly relevant experience, i.e. in the provincial Works Dept., were from Bosset.)

A Bomawami spokesman listed the defects of the mission strip: it is too short for suitable aircraft, people and dogs walk across it, it is only a one-way strip. The spokesman wanted a new, longer two-way strip and a vehicle to move cargo between the village and the strip.

Bomawami succeeded in getting an allocation of K100,000 to build a new strip about 2km away from the village on a low promontory jutting into Lake Wam. Inquiries were made about getting machinery to Bosset to level the area, but in the end village labour was hired at K60/fortnight to construct the strip by hand. Subsequently, K20,000 was obtained to cut a road through dense forest from Bosset to the promontory. Neither was completed. J. Ransley visited Bosset on an earlier occasion; he said that he paced out 150m of cleared, but not levelled, ground at the airstrip site. In March 1994, the access road was open for about 400m, from that point dense regrowth choked the path and barred another inspection.

The mission strip at Bosset, while not perfect, does take the twin-engined aircraft currently used by third level carriers. During 1994, South West Air did a round trip through the Middle Fly via Bosset on Mondays, Wednesdays and Saturdays using a Britten-Norman Islander. The Montfort's maintenance budget for the mission strip was K2583.22 in 1993.

This also fits the tendency is to mistakenly identify the key to development in a specific piece of hardware. In this case, it was a new airstrip: thus, if only we had a new airstrip, we would have a much cheaper and more frequent cheap air service. In reality, the equation is not like this at all. If there was greater economic activity in the area, more flights could be put on without altering anything. Costs are high because of the distances involved; they could come down if the volume of traffic increased. Not insignificant technical points are (a) if an airstrip is unfit for use or requires modification, then the initiative lies with pilots and the DCA, not with villagers, except with minor maintenance matters, and (b) the Beechcraft Baron is not an aircraft type suitable for general use by third level carriers for mixed passenger/cargo operations.

Proximate causes underlying the move to build a new airstrip lie among the following:

- a) a faction of village leaders has a continuing grievance against the Montfort Mission, who operate the existing airstrip;
- b) Bomawami's mode of operation is viewed as a model for 'business' activity, and thus as a harbinger of progress;
- c) it was possible to secure the allocation of money from the Provincial Government.

In respect of (a), which I think is likely to be true, a certain faction considers, as it were, that it is, and has a right to be, an 'encumbrance' on the Montfort Mission's right to operate where it is. That is, it believes it should be in control of the mission's activities and in charge of its infrastructure. A major factor in this grievance is the culturally felt hopelessness of always failing at village ventures, whereas the mission, even though frugally funded, goes on doing its work rain or shine. As I have already mentioned (p. 29), the problem generally relates to a faulty appreciation of the purpose or goals of an enterprise.

A discussion of (b) is more difficult. Do the Bomawami group see their mode of operation as that of orthodox business? I am sure that they do, and I am sure the directors believe they have modelled it correctly on workplaces of their experience. Unfortunately, the execution leaves much to be desired and the model, in any case, is flawed.

In the case of the airstrip, it is an instructive exercise to make some calculations. I will make the assumption that the land for the airstrip, which belonged to the Koula clan, was freely given and does not enter the equation. I have the figure of K60 per fortnight and assume this was paid for ten working days. As none of the Bosset labourers were expected to have their own digging tools, an amount would have to be set aside for picks, shovels, wheelbarrows and so on. Around K15,000 would equip a workforce of 100 labourers, including freight by barge to the Wam Creek-Fly River junction; spending more would not be justified.¹² A deduction must be made for management; if this was K1000/fortnight for ten fortnights, it would cost K10,000; again, more would not be justified. I make no deduction for gravelling the airstrip because Bomawami made no provision for this as there are no gravel sources in this part of the province (and in reality a properly gravelled surface is the key to a safe and serviceable airstrip). Thus about K75,000 would be available for labour, a sum sufficient for 12,500 working days. If the work was spread over 100 days, or 20 weeks, 125 labourers could be employed and each would receive K600 by the end of the project.

The figures can be adjusted here and there, but I do not believe the outcome would vary greatly. For example, more labourers could be employed, but from where? The population of Bosset was 701 in 1991, according to OTML's census (King 1993: Table A), though informants at Bosset said it was 1064 according to a Village Services count in February 1994.¹³ Usually around 20% of a village population consists

¹² I have to say I did not see any of these tools during my short stay at Bosset.

¹³ If this is what it was. I do not believe Village Services had done any training at this stage, so the recorders can be guaranteed to fall into many of the 'amateur enumerator' errors I have described at considerable length elsewhere (e.g. Burton 1993d). At Wangawanga/Aiambak the Village Services

of able-bodied adult males; here this would be 140. If only men were employed—hypothetically, of course—the labour requirement would be almost 90% of the supply. This could be sustained for a few weeks, but for a third of the year only in a harsh emergency.¹⁴

What should the hypothetical workforce of 125 achieve in 100 days? The PNG record for this kind of thing may have been set in June 1943 when 650 Chimbus, organised by a handful of US engineers and men from the Australian 2/7th Independent Company, cleared by hand 2400 feet (725m) of the present Goroka airstrip, levelling two-thirds of the length with spades, in a 24 hour period (AWM file #1/5/42). The Chimbu are intensive gardeners, though perhaps not a match on the score of constructing large earthworks for the Huli, who take excessive cultural pride in surrounding their land with high banks and 3-4 m deep ditches. Men from either area would finish the airstrip in a small part of the time allowed.

But since Boazi men do not even make gardens, and only women do the monotonous work of sago processing, a similar expectation of them is fantastic. The actual result, 150 m by about 80 m of flattened land, is predictable.

The airstrip project presents a catalogue of faults:

- a) the project was not based on a rational assessment of needs made by a competent authority, namely DCA;
- b) it was cost effective to build strips by hand in colonial times, this is no longer true;
- c) the labour demands of this project, given that attempts were not made to hire machinery, could not realistically be supplied from the village;
- d) the managers had experience in survey and Works' projects, but only at a low level and they possessed no construction or surveying equipment;
- e) no project design was undertaken, such that a schedule could be constructed showing what targets should be reached each week;
- f) with no provision for gravelling the surface, even if the strip were completed, it might be more dangerous than the mission strip, which is gravelled;

A sister at the mission said that villagers had so often been ignored over the years, and waste being endemic in government, at least on this occasion the project was of benefit to the Bosset people, whether the new strip was built or not. I understand this point of view, am happy for those who had some change in their pockets, but I do not agree with it.

It is hard to investigate the performance of the small contractors like Bomawami from official records. Nothing recognisable as project documentation is kept at either the provincial headquarters or the Department of Finance in Port Moresby. A log of progress payments is the only trace of the contractor's activity during the financial year; this does not say whether the work was actually performed or whether it was inspected.

recorder showed me an exercise book with names in it; a brief examination showed that it needed a good deal of work to bring it up to standard.

¹⁴ The figure exceeds the percentage of men recruited from Morobe villages during 1944, according to a contemporary report (Hogbin 1951:15) when the people were described as 'crippled' by the heavy demands placed upon them, and unable to devote enough time to food production to stay alive.

Against this, the contractors themselves sometimes inadvertently prepare useful paperwork. Bomawami quoted for a new aid post orderly's house at Kuem and this makes a valid comparison with the airstrip project.

Case 3. The Kuem aid post house tender.

The 1993 Revised Budget (FRPG 1993:42) notes an allocation of K30,000 from the North Fly SSG for an 'APO's house - Kuem'. The Bomawami group tendered for this job, making up a quote to fit into the K30,000 allocation, and was lobbying to have the tender accepted in March 1994 (see Table 7).

The details of the SSG budget allocations were far from confidential at this time and were openly discussed by business aspirants in the villages. In this case, the suspended provincial member, Barnabas Uako of Mipan village, claimed he had evidence that all the Middle Fly SSG allocations had been transferred to another account this year and were being spent on the Kiunga-Membok road.

On another occasion, I interviewed the sister responsible for health at St Gerard's parish, Kiunga; she had also been told an allocation for the Bosset Sub-Centre had gone on this road. Kuem does not have an APO; the Montfort Mission has a lesser trained 'Aide' posted there.

Items	Cost
1. 'Contract officers' 60 days @K10/hr x 10 hr days	K 6,000
2. Leading hands 60 days @K0.70/hr x 10 hr days x 4	K 1,680
3. Labourers 60 days @K0.60/hr x 10 hr days x 10	K 3,600
4. Transport	K 2,160
5. Materials	K 8,000
6. Fuel, 6 x 44 gal. @ K295	K 1,870
7. Airfares, Bosset-Kiunga-Bosset, 6 x K138	K 828
8. Accommodation, K36 x 5 days	K 960
9. Dinghy hire, K96 x 14 days	K 1344
10. Canoe hire, K35 x 10 days	K 350
11. Administration 'at 10%'	K 2,000
12. Contingency	K 1,208
Total	K 30,000

Table 7. Bomawami quote for an aid post orderly's house. ¹⁵

It is timely to examine a quotation like this, in the light of the IMF oft-repeated insistence that PNG should turn from recurrent spending to capital spending. This is an instance of capital spending, but it is padded with lurks for the Bomawami hierarchy, and says very little about the nature of the proposed building. I believe no plan or design of the structure existed. I have re-arranged the items in Table 8.

¹⁵ I read and memorised the contents as it was shown to me, and wrote down the items in privacy afterwards. There are mathematical oddities about the quote. I am sure four 'contract officers' were stipulated, when Bomawami's calculation allows for only one at the given rate. However, I am fairly certain this was there in the original document. Also, 'administration' is charged at 10%, but 10% of K30,000 is not K2,000.

Components	Cost
Workmen, materials, transport (2, 3, 4, 5)	K 15,440
Dinghy, canoe, fuel (6, 9, 10)	K 3,564
'Contract officers', airfares, accomm., admin. (1, 7, 8, 11)	K 9,788
Contingency (12)	K 1,208
Total	K 30,000

Table 8. Bomawami quote with items aggregated.

Evidently, the stripped down cost of the proposed house will be a little over K15,000. Transport is expensive to and from the Middle Fly and it might be questioned whether K2,000 is the lowest cost way of moving the building materials from Kiunga or, more probably, Cassowary Island, to the site, some 3¾ hours canoe travel up the Agu River from the Fly. Nevertheless, allowing this to pass and adding a profit margin for the business group of 10%, K17,000 ought to allow the house to be built.

Instead, we see the mysterious inclusion of 'contract officers' as well as a proportion of the contract cost for administration, the duplication of canoe and dinghy hire plus fuel, and a round trip to Kiunga for a party of six. With the rounding of the quote to K30,000, these extras add K13,000 or over 40% to the cost.

Assuming my investigations and arithmetic do point in the right direction, is it possible to conclude the Bomawami group is 'bad' or 'corrupt?' There are two reasons not to give an answer to this. The first is there is a world of difference between doing a casual investigation as I have, and getting the conclusive documentation and proof to be able to give an objective answer. The second is that almost every informant I spoke to in Western Province was only to willing to make slanderous accusations against someone else: evidently apportioning blame for the province's lacklustre performance is the socially acceptable thing. The trap is for me to fall into the same habit, which would fail to yield any pointers to reform.

In point of fact, blameworthy parties—of which there is no shortage—are only symptomatic of deeper problems. The operations of Provincial Works provides further illustration of this.

Case 4. The status of Provincial Works (interview with Works Manager, Kiunga, 8 Apr 94).

Very little work is given out by the provincial government to the Works Department, a national government department with branches in the provinces. Works has a depot in Kiunga and the machinery, plant operators and tradesmen to undertake the maintenance of provincial and national government assets in the province, and to carry out small and large construction projects.

At the time of the interview, work in progress was the construction of five aid posts in Morehead District, at Gwaku, Serki, Wando, Mari and Gubam, and L40 houses for the health department at Serki, Morehead Station, Wandoi and Weam. Prior to this, Works had not built a house for three years. The last road building was the sealing of the Kiunga town roads in 1992; none had been done since.

The principal problems faced by the department are (a) lack of work and (b) delays in payment of work contracted by the provincial government. In 1994, the department had been K500,000 short on the Kiunga road sealing, outstanding since 1992, and had an unpaid invoice for the renovation of the Deputy Administrator's Kiunga house, outstanding since 1993.

That Works is underemployed is extraordinary. With the province receiving windfall income from the Ok Tedi mine, on the contrary, it should have been overwhelmed with work, and in partnership with the provincial government. In fact, there are serious problems in the way Works operates. First, it is a standard criticism that Works is too expensive because a fixed amount—an outsider said 25%, one in the industry said 33%—of a contract value, is charged for administration and operational overheads. This is regardless of the fact that (a) normal overheads should be factored into quotations, (b) it has its own government budget line, and (c) is allocated other money to buy plant from time to time.

Secondly, it is a plain observation that when government has public money to dispose of, much political mileage is obtained if contracts are let out to the private sector, but little if it is retained by a public sector organisation, especially a national one. Related complaints from a medium sized contracting company were of irregularities in the Tenders Board. Here it was alleged that tenders were advertised with a closing date so soon after the day of publication, a genuine quotation could not be prepared in time by a bidder not privy to inside information. Another practice alleged to occur was the leaking by public officials of tenders belonging to competitors, so that a lower bid could be put in by an otherwise incompetent contractor, which would go on to win the work.

Again, it is unnecessary for me to judge whether if Works is given a job to do it will carry it out properly and in a manner that gives good value for public money. It is sufficient to say resources are being wasted if Works is simply idle. What I have said above suggests that Works is bypassed (a) because it is uncompetitive and (b) because political patronage sees that work goes elsewhere.

Linkage between the arms of government is appalling. Non-performing contractors could have their contracts cancelled if Works inspectors went out to check their jobs were up to standard. It was astonishing to me in 1992 that the contractor on the Dande-Bige road in West Awin CD was allowed to get away with carrying out cosmetic improvements at a cost of K30,000 because the work was not checked (see OFSMP Report 6, Case No. 10, Burton 1993c: 51-52). I finally chanced across this man at Pukaduka 1 in March 1994; he was born into the Awin Panai clan that had fled in fighting in the 1940s to Kawatagwa, near Suki. Many of these people have found their way back to the Holpanai area since 1970 and this is how he, with better education from Suki in the 1960s than he would have obtained in West Awin, came to prominence in his home area. My original point was:

The negative side [of giving work to them] 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' (Burton 1993c:52).

This contractor said that he had left the business after the Dande job. I was not at all surprised. But in 1992, I had not realised the extent to which Works is powerless to intervene in provincial expenditures of money on 'works' projects. If the money is allocated for works by the Projects Office or Provincial Secretary directly, Works is unlikely to be involved at all unless relevant parts of the provincial/national governments legislation are clear that they must be (notably in the case of national trunk roads, which Western does not possess).

Case 5. The Bosset rubber nursery.

In the 1960s, rubber seedlings were distributed throughout the Middle Fly but, unlike among the Awin, Yonggom and Gogodala, scarcely any rubber has ever been harvested from rubber blocks under customary title. (A man called Paulus Joseph was tapping about 200 trees up to 1980 and there were said to be five farmers at Kasa village.) To the present day, overgrown nurseries can be seen at, for example, the back of Manda village and at Bosset and people say ‘the kiap came and gave the seedlings but he did not tell us what to do with them.’

In 1993, it was decided by the provincial DPI to re-establish rubber in the area, using a small plot of ground at Bosset as the nursery. In February 1993, a rubber extension officer was posted to Bosset, a graduate of Popondetta Agricultural College happening to come from Bosset himself. In the 1993 revised provincial budget (FRPG 1993:42), dated 23 June 1993 there is an allocation of K66,000 for ‘Rubber ground nursery, Bosset’. But by March 1994, the only sign of activity was that two rows of ten seedling beds had been prepared by labourers, roughly a week’s effective work in thirteen months. No seedlings had been obtained from DPI or planted in the beds.

I do not have early accounts of the rubber industry that would throw light on the earlier failure to do anything with rubber, but I suspect the same causes are at work today. On the face of it, the nursery project had some good excuses for failing which lay out of the hands of the Bosset people. The main excuse was that a drought began in April 1993 and Bosset lagoon (Lake Wam) dried out completely by mid-year, bringing village activities to a standstill. Bosset is a long distance from Kiunga and Lake Murray and the superiors in DPI failed to supervise the project, did not ensure the timely arrival of the high yield ‘bud-grafted’ stumps for the nursery, and allowed long delays to mount up in the payment of labourers.

Nonetheless, economic advancement is not expected to be only on the initiative of government. In truth, the nursery plot was adjacent to the ‘airport access road’, already the subject of a dispute involving the Qamekwin clan. As far as I know the plot itself was only borrowed from the named owner, and thus was not insulated from the process of disputation over the access road.

Case 6. The Manda, Bosset and Obo barramundi fisheries.

In 1971, after a change in wildlife regulations affected the trade in crocodile skins, the Montfort Mission helped the Bosset people start a commercial fishery, netting and freezing barramundi and black bass for sale through Daru. According to Busse (1987:163), the mission helped obtain a loan of \$7000 to buy a fish freezer, generator and outboard; Busse’s reading of patrol reports showed that the business started so well the loan was repaid in the first year of operations.

At this time, the priest at Bosset was Fr. Jean-Claud Béland, who has was at Matkomnai (near Kiunga) when I talked to him in 1992. He also said that the business operated quite well for a time with the mission’s help. One problem encountered, possibly in the early 1970s, was that an export market raised concerns over mercury levels in the barramundi and were reluctant to (or did not) take Bosset fish. The authors of a 1980 UPNG study mention barramundi as having a particularly high uptake of mercury in the waters of Lake Murray but do not mention the earlier problem (Kyle and Ghani 1982).

Wam Fishing, so named after the local name of Bosset Lagoon, received further support from the provincial Department of Commerce in the late 1980s, at least in the form of a freezer container which was lifted into Bosset by the Australian Army under a Chinook helicopter in 1986. What other forms of support or grants of equipment were also provided is unknown.

The Obo Fishing Group also received help from the provincial government, receiving, according to documentation kept by OTML’s Business Development, a building and freezer

room and equipment to the value of K14,000. The difference here was that the installation was not completed and no fishing was done. The last fishery, the Komaizi Fishing Project at Manda, was started with the Trust's help from 1991.

I have partial details of operations at both Obo and Bosset, but little information on Manda, which was not operating at the time of my visit in March 1994.

At Bosset, Wam Fishing had the following assets in 1994:

1. original corrugated iron building, freezer room, refrigeration equipment, genset (1970s);
2. defunct freezer container provided by the FRPG Department of Commerce;
3. new freezer room given by the Trust (K2183);
4. new diesel genset (K7275) and refrigeration parts given by the Trust (K3210);
5. well, piping and water pump given by the Trust (K10,000);
6. solar-powered radio for joint use by the Trust and Wam Fishing (K2500);
7. new diesel outboard given by the Trust, plus parts (K6045);
8. filleting equipment and eight barramundi nets given by the Trust (K182 ea.)
9. privately owned nets (unknown number).

The first items date to the period of mission involvement with the fishery, as outlined by J-C. Béland, and were given a residual value by OTML Business Development of ca. K17,000. Item 2 has no residual value other than as a rusty store for equipment; it cannot be used as a fish preparation room, for example. Items 3-9 are Wam Fishing's share of the Trust's 'Stage 1' grants to the fishery projects.

In addition to giving capital assistance, OTML Business Development provides (a) an accounting service, (b) free fuel and generator maintenance, (c) free refrigeration maintenance, (d) guaranteed sales in Tabubil (the catch is taken by Poon, the mess caterer) and (e) free transport in the form of airlifting of frozen fish to Tabubil. Jeff Ransley was able to give data on fish sales from 1992; I found a little more information at Bosset (see Appendix B).

At Bosset, no fishing had been done in the last year. Informants gave the drought (Bosset lagoon was dry from June to November 1993) as the chief reason for this, and pointed out some minor mechanical problems on the generator set which, they said, was the responsibility of the Lower Ok Tedi-Fly River Development Trust to repair. I did not hear this myself, but the priest at Bosset added that the Manda and Obo fishing groups were also blamed for exhausting the barramundi in the Fly River.

The fish catch data show that Obo is operating steadily for a catch of about nine tonnes a year, or about 200 kg a week, that Manda has been an intermittent performer with a likely catch of 2-3 tonnes a year, and that Wam Fishing at Bosset has done nothing whatsoever (Figure 6). Viewed selfishly from for OTML's point of view and given the initial investments of K25,000-K34,000 in the three businesses, Obo represents excellent value—apart from the purchase price of the fish, the 27 tonnes of output have cost an acceptable K1/kg in subsidy. But Bosset's 397 kg have been very expensive at over K70/kg. What are the differences?

A key problem at Manda has been that the freezer has never worked properly. Some freezer problems have also been experienced at the other two sites, though the Obo Fishing Group seem to have managed to operate continuously. Wam Fishing seems incapable of working around extremely minor problems.

The real problems at Bosset are, of course, quite other than what the informants said. On the practical side, Jeff Ransley, who has had the most contact with Wam Fishing, says that maintenance fitters can be at any of the sites within a few days of being notified of

problems; Manda and Bosset are equipped with radios for keeping in touch with the Trust/Environment base at Obo. In any case, it should not be beyond the capabilities of villagers with moderate skills to be able to undertake temporary repairs so as to keep the generators running.

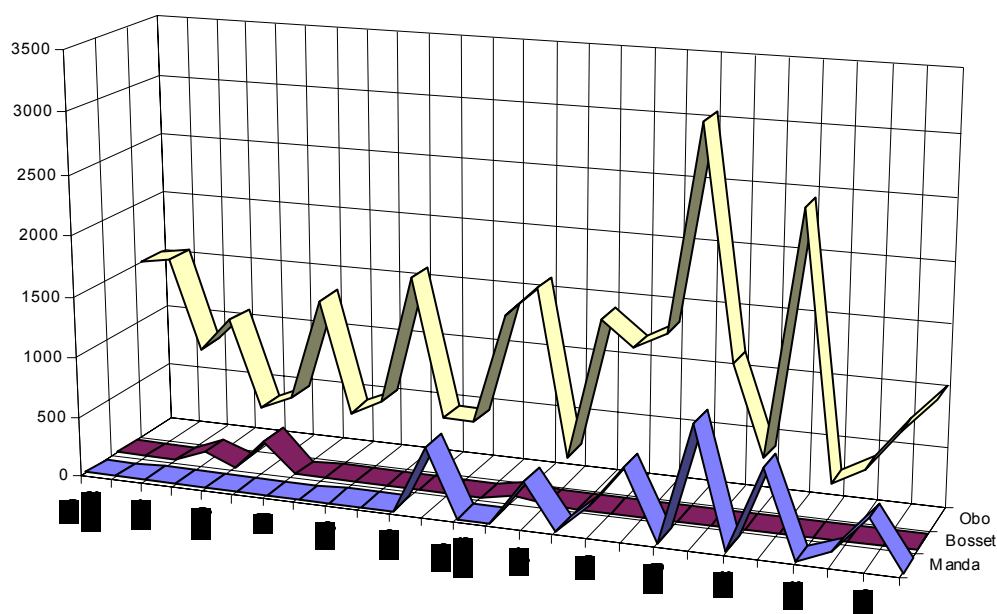


Figure 6. Fish sales from the Middle Fly fisheries, 1992-1994.

Note: bi-monthly peaks and troughs may reflect sales of frozen inventory, not fishing effort.

Also, while the drought was certainly a cause of great hardship to the Bosset community in general, the link between a drought and the cessation of fishing is only indirect. The chief problem is how to set nets out in the Fly and return the catch to Bosset for freezing, and at the same time to carry on a reasonably normal daily round of subsistence activities. At Obo/Kaviananga this is simple. The villagers live very near the river and can clear their nets at dawn and dusk without hardship.¹⁶ But at Bosset it is not simply a question of organising a canoe run twice a day, and perhaps paying employees of the business group to do it.

The single most intractable problem faced at Bosset appears to centre on the ‘ownership’ of any activity or enterprise. This ownership can be quite conventional, as occurred in the case of the discovery, after the Trust had sunk quite a lot of money into Wam Fishing, of (a) a group of original shareholders, and (b) a dormant savings account belonging to the company with K4700 in it. The shareholders, who had lost their register, wanted to be paid out this money as a dividend, because they legitimately ‘owned’ it. What is unconventional about this is that the business was insolvent and the Trust was granting it over K25,000 in new capital assets. Any spare cash ought to have been deployed, as was still needed in March 1994, to purchase a banana boat to do the Bosset-Fly run for clearing nets.

¹⁶ On 24 March 1993 at Obo I saw 96 kg of mixed barramundi and black bass brought in the evening. These would have been filleted and frozen the next day.

In initial ignorance of the existence of shareholders, the Trust made the mistake of not forcing all prior assets to be written off and a clean transfer made to a new company. As a result the old shareholders believed (probably still believe) they ‘own’ Wam Fishing,

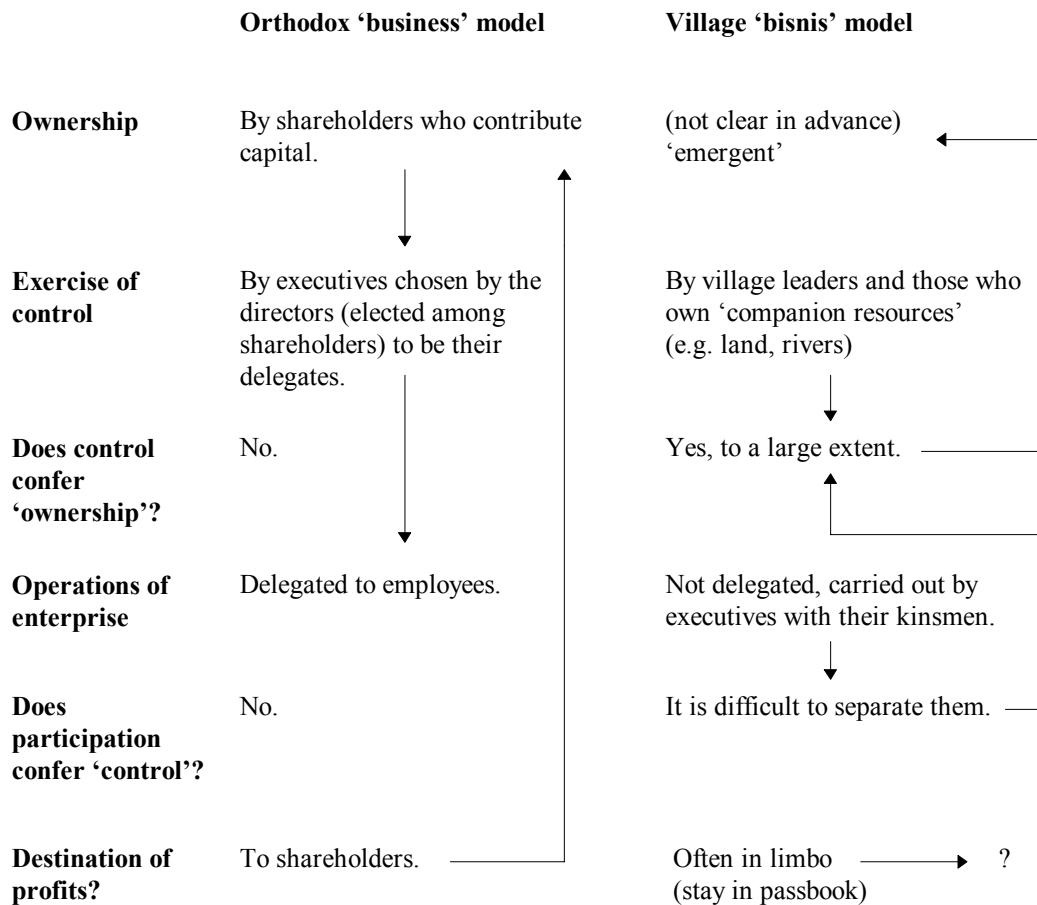


Figure 7. Source of ownership in business/bisnis models.

whereas the Trust gave its grants of new equipment to be ‘owned’ by the community as a whole.¹⁷

However, the concept of ‘ownership’ at Bosset, and many other places besides, extends far beyond the normal meaning of the word. Wam Fishing appears to be a community enterprise that is ‘owned’ equally by everyone, when really control and decision-making is utterly compromised. I did not meet the present manager on my two trips to Bosset and it seems very likely that the familiar pattern of business failure in rural Papua New Guinea was being followed with intermittently absent managers unable to delegate simple daily work to others. Some relevant concepts are summarised in shown in Figure 7.

The contrast is made here between ‘business’ in the Western sense, where land and labour have been commoditised and their importance diluted, and a village ‘bisnis’

¹⁷ The Board of Management met and eventually agreed to pay out the money. However, as Wam Fishing has not provided annual reports etc, its original (1970s?) registration as a business has lapsed.

model, where this has not occurred. In practical terms, the village business structure, even if the shareholders are made up very fairly of all members of a community, will not necessarily be in full control of its operations. We can simply say the fishing group has 'organisational difficulties', but this might suggest something easily fixed. In practice, the logic of village life, as I have suggested in Figure 7, is likely to permanently act to interfere with the running of the group and rob control from those supposed to be in charge of it.

The directors may lose their way, blaming small obstacles which do not seem to make sense and appear very easily fixed, such as I have mentioned. The absenteeism of the manager (if this was a regular event, which it may not have been) may have only been a symptom, not the cause, of the paralysis of Wam Fishing. The issue of the old shareholders is much better explained in terms of their belief in the rights of ownership conferred by their past involvement, not by the value of their shares, which were worthless. Support for this comes from the fact that they had been careless to allow the register to be lost (probably at Lake Murray station), because it was not the register they were interested in.

As to a solution, a more detailed diagnosis is needed. I do not know the personalities involved or their histories. What is certain is the amazing ability of the Bosset community to thwart efforts at development by the mission, by the Commerce Department, and now by the Trust.

CHAPTER 5

DEVELOPMENT AT SUKI

There are subtle differences in environment and culture, and substantial differences in development between Suki and the Middle Fly Census Division. On the one hand, Suki's lagoonal location appears very similar to Bosset or Wangawanga. But in fact, Suki is significantly closer to the mouth of the Fly so that many indicators to show a much greater degree of economic development and connectedness to the outside world.

The presence of government

Nakaku Government Station, simple by its presence, contrasts with the virtual invisibility of the state in the Middle Fly. The station is at least accessible to all the majority of villages of the Saru Census Division and it does have staff who represent the government in the area.

Unfortunately, this is the limit of positive comment that can be passed. The ADO and his 2IC had only just been posted to Nakaku (in August and July 1994 respectively) at the time of my visit, so that the station had been unattended for two years previously. They were assisted by no typist, labourer, ferryman or office cleaner. The Division of Commerce had a staff position, but it was vacant. The Division of Primary Industry had a staff position ('OIC Nakaku', a CC6), but the officer was away for a year at the Highlands Agricultural College, Mt Hagen. When present, he should have been aided by two assistants ('RDT' - Rural Development Technician); both of these positions were vacant.

The nearby Aid Post was a large one with three staff, but two were on the point of transfer elsewhere. The six teaching positions at Nakaku Community School were filled, but only bush materials housing was provided. The two police did have houses, but the condition of the houses was, frankly, appalling. No basic maintenance appeared to have been done for a decade or so and the water tanks had long since rusted away. Surprisingly, a working solar system provided lighting to the station houses; it had been installed by Border Administration in Provincial Affairs.

Other than this tenuous toe-hold at Nakaku, the state is notable by its absence throughout the Suki area. Even at Nakaku, it is by no means clear what the function of the station is, or what duties the officers who are present should carry out. The most obvious need is for agricultural extension; the focus of this should be technical assistance for the rubber growers on the Nakaku rubber estate and methods of improving productivity on the numerous crocodile farms in Suki villages. The fact that no DPI staff are present at all simply complements the attitude of contempt for rural problems that provincial authorities evidently found hard to disguise when I visited them in Daru.

The Nakaku rubber resettlement scheme

The rubber scheme at Nakaku was started in the 1970s with a land purchase of 2656 ha. for the project being completed in 1976 (Tapari 1988:27). The rubber growers were (not

many are active today) simply villagers from Suki villages who had an interest in the venture. Village business groups were formed to ship and sell the production: for example, the Nakaku Rubber Growers Association and Kiru Business Group. Small amounts of capital were borrowed through a rural credit scheme for the purposes of buying tapping equipment. In the beginning, the DPI handled purchasing and deducted loan repayments directly.

Naipu of Gwibaku village borrowed K300 in this first phase of growing and began tapping began in 1976 or 1977. He paid back his loan after several years, together with interest payments, but gave up going to his block around 1986 mainly because it was increasingly difficult to stay at Pukaduka, the village closest to the scheme, as his clan, Bukawa, has no land there. He had started a store with another man but this drew complaints from the Pukaduka people; he gave up at this point. Gwibaku is about 12 km from Nakaku.

About ten Gwaku villagers once had rubber blocks at Nakaku, but the distance made it extremely difficult for them to keep up any kind of consistent tapping effort, Gwaku being about 30 km from Nakaku. Two men took out loans for tapping equipment, but they failed to complete the repayments. What used to happen was they would make sago at Gwaku, work at Nakaku until their supplies were exhausted, then return again to make more sago. While tapping, they lived with Aewa people in a joint settlement at Kiru, within the land purchase. They are not cleaning their rubber now and both groups abandoned the Kiru settlement some years ago.

Current status of Nakaku

Rubber tapping ceased completely after about 1990, low prices putting an end to failing grower interest in rubber. However, with the opening of the Kiunga factory and the promise of a guaranteed purchase price, transport included, interest in rubber had revived a little in 1994 with 15 growers starting work again. By August, a stockpile of 3½ tonnes was ready for transport, though how much as this was from recent production I am unsure. Apart from no interest shown by the Provincial DPI, an immediate difficulty being reported was a (presumably temporary) lack of tapping cups.

The long-term status of Nakaku as an estate scheme is an uncertain one. Periods of high price will undoubtedly bring growers back to the scheme, but the incompatibilities of re-settlement life and the village subsistence round cannot easily be removed. Also unresolved are at least two kinds of land disputes.

Tapari (1988:28) reports that the owners of the land purchased for the re-settlement scheme had begun to complain about what they now viewed as the undervaluation of their land when the scheme started. Land valuation in rural areas is fraught with problems; in this case the main two are (a) the prevailing low economic use-value of the land, and (b) a questionable assumption that the owners will willingly discount the value of land for community use. On the first matter, since land purchases are always for some change of usage, it is not unreasonable for landowners to seek to apply the *future* use-value to the equation. As the K15,100 paid by the government represents only K5.70/ha, they may have a point at Nakaku. On the question of a discounted value, the assumption would only hold if the beneficiaries were really all of the same community; at Nakaku, many different villages stood to benefit from the surrender of land by only one.

The second kind of dispute concerns the use land for others purposes near the re-settlement scheme. The land purchase extends well beyond the rubber blocks to include the new village of Kiru and several hundred hectares of land around it, but Tapari indicates that the landowners were complaining that the purchase price was only for the actual area used for rubber (1988:28). I interpret this as primarily an attack on changes of usage by settlers, rather than on the government's valuation, though obviously the two are interrelated. The new settlers may well have made gardens near their houses without attracting comment, but the moment the landowners will have received reports of the slightest hint of hunting or harvesting sago within the land purchase, a dispute will have arisen automatically, even though compensation for improvements—that is, for economic trees such as sago and breadfruit—was included in the purchase price. In Naipu's case, above, the opening of a store evidently did cause a 'change of usage' dispute, and he was compelled to abandon it.

As I noted in an earlier report (1993:11), and as Tapari had previously discussed in his honours thesis (Tapari 1977:25), the establishment of business activities along the Kiunga-Ningerum highway by settlers from villages 5-10 km inland is giving rise to land disputes between the 'migrants' and the original owners—in reality between people who were traditionally close neighbours, and who were and are intermarried, but who formerly observed their mutual boundaries.

Nakaku has fallen foul of the same difficulties. These are permanent and structural problems which will not go away with an improvement in the rubber price. In fact, the better the rubber price, the more likely disputes will be (see also Tapari 1995:10).

Commerce

A good number of trade stores exist, and are extremely well stocked, whereas stores are few and far between in Boazi villages and, even where present, do match Suki stores for sheer range and variety of stock (e.g. Table 4, p. 27).

Biscuits, 7 vars	Soap bars, 8 vars	Rice mix, 2 vars
Twisties, 2 flavours	Cooking oil, 4 vars	(Meadowlea 500ml K2.50)
Mortein spray	Dishwashing liquid, 2 vars	(Palmolive liquid K3.30)
Canned drinks, 4 vars	Salt, 2 vars	Cordial
Tinned meat, 4 vars	Tinned fish, 4 vars	(large 777 Mackerel K2.55)
Tea, 2 vars	Sugar	Balloons
Maggi sauce	Trukai rice, 1 kg K1.20	Trukai rice, 5 kg K6.50
Bedsheets	Towels, 2 vars	Snowite bleach
Aspro Clear	Skirt elastic	Cotton thread
Combs	Umbrella	Tin mugs
Pants	Epoxy glue	Mutrus
Eveready batts (AA, C, D)	Kerosene funnels	Fishing line
Rakes	Bushknives	Nails 2", 3", 4", 5", 6"
Hitide o/b motor oil	Torch, globes	Razors
Spark plugs	Mosquito coils	Spades
Hammers	Meri blouse	Meri pants
Chuba chups	Nusoft toilet roll	Plates, china & tin
Enamel bowls	Spoon, forks	Kettle, medium size K11

Table 9. Goods on sale at SITA Trading Pty Ltd, Riti village, Suki (Box 4973 Boroko) on 29/8/94

At SITA Trading, Riti village, there was a full range of goods in stock, and in many cases customers could choose from several varieties of each line. This store was exceptional,

but then the owner (or leading member of the group of owners), Kayama Sinba, was also the most prominent crocodile skin buyer of the district. The crocodile industry has a three-tiered licensing structure. Hunters obtain a licence to take crocodiles from the wild and feed them in village pens; licenced buyers may purchase the skins from the hunters/farmers. Finally, licenced exporters can sell to an overseas buyer. Two other licensed buyers are located at Sapuka and Gwaku villages, but evidently all exports pass through SITA, which holds the only export licence. Licences are issued by the Department of Environment and Conservation's Wildlife Division.

Breast measurement	Freshwater			Saltwater		
	1st Grade	2nd Grade	3rd Grade	1st Grade	2nd Grade	3rd Grade
51 cm	K152	K114	K76	K190	K143	K95
40 cm	K80	K60	K40	K84	K63	K42
30 cm	K39	K26	K20	K41	K28	K21
20 cm	K5	K4	K2	K5	K4	K2

Table 10. Crocodile buying prices at SITA store, Riti village.

SITA sells directly to Inoue & Co of Tokyo, graphically illustrating the connectedness of the Suki economy to the world economy. Kayama Sinba travels quite frequently to Port Moresby for his business, which by-passes Daru entirely.

Health

Suki health services are run by the Evangelical Church of Papua, based at Balimo. Funding is from the provincial budget, but day-to-day operations are run by the church agency. The ECP runs a Health Sub-Centre at Gigwa Station, built around 1987. At the time of my visit in August 1994, two nursing sisters had been at Suki since January. Prior to their arrival, the positions had been vacant for six months with a nurse aide left in charge of deliveries and drug dispensing. In August, appropriate drugs were available, but antibiotics had been out of stock for a twelve month period up to May 1994.

In other words, the Health Sub-Centre is almost an adequate facility if staffed and properly supplied, but this appears to be beyond the capacity of the provincial health system about 50% of the time. I say 'almost' because the buildings are incomplete in the usual, tiresome way. It has been beyond the capability of the contractor(s) to connect the plumbing so that the sinks, taps, shower wells, and toilets were supplied at some time in the distant past, but never joined to any piping. In any case, what guttering as has been attached to the roof is now broken, and there seems no likelihood of maintenance in the near future. The wards have no beds or bed nets, and while the sisters said their staff houses were adequate, they again have tanks but no plumbing and, in this case, header tanks but no sinks or pumps.

Exactly what it is like to delivery a baby onto the concrete floor of a dirty maternity ward, without the facilities for washing before or afterwards, can scarcely be imagined. I would be extremely surprised if infant mortality was anything less than 100 per 1000 and maternal deaths less than 1 in 100 births.

CHAPTER 6

FIELDS METHODS AND INTERVIEW METHODOLOGY

The goal of this report is to communicate the worries of villagers to a second group who want to know what they are thinking, namely decision-makers in the client's organisation, a mining company.

The easy part is to provide transcripts of meetings (Appendix G-Appendix J). The difficult part is to 'read' the statements made by the informants and make sense of them.

Experience in the past has shown that informants' verbatim statements are indeed hard to 'read' when reported in the full back at company headquarters. Some statements are regarded as preposterous¹⁸, others as realistic but dependent on a shift in the company's policy, such as a request for assistance to build a bridge, while others are perhaps seen as simply the product of a gullible interviewer.

Unfortunately, cutting across all these things is the practice of village complainants—just like everyone else in *their* culture—to wrap up the content of their message in a complex package of sub- and companion messages. How is the receiver then to know what is the 'real' message, and what the wrapping? There is no shortcut to this, but to make an effort to learn how to do the translations that are needed.

My intention in this chapter, therefore, is to walk the reader through some of the methods of village visiting, the use of language, and the 'architecture' of village meetings in order help place in context the complaints themselves and render them comprehensible.

Interview methodology: general comments

As has been my approach throughout the social monitoring project, I did *not* raise the subject of environmental damage with villagers directly. Because of the effect of observer interference, this would have methodologically incorrect.¹⁹ I was, of course, interested to receive and record all available views and did so by allowing villagers to run through a series of topics following an agenda principally set by themselves. (In the extreme, one villager leader actually came prepared with a written agenda; see p. 88.)

A full statement of method may be required at some stage, given that several experiences highlight the fact that it is intrinsically difficult for a large company to digest strategic information coming from an area of expertise that it is unused to. The main expressions of doubt arose in 1994 in relation to my (and presumably that of my colleagues also) approach to and handling of village meetings (e.g. Appendix G). It would not be

¹⁸ Such as the K1 billion *per fortnight* demanded by a councillor in 1984 (DO Tabubil file 35-2-5, 26 Jan 1984).

¹⁹ In PNG, the simple courtesies of conversation lean informants towards agreeing with an interviewer. Thus, to raise points (on any topic) is always to receive a more 'favourable' response than might be expected.

exaggerating things to say that without some defence on my part the effect of this doubt is to weaken considerably our entire body of work.

Although I replied at the time to particular written comments (Appendix G), a more formal statement from me is required now.²⁰

The representation of who I was

Having invented the term ‘social mapping’ myself in 1988 or thereabouts (Burton 1992) and observing from a distance that the position of lecturing position in social mapping is now offered at my old university (*The Australian*, 18 Oct 1995), I can lay modest claim to bringing it into the world as a packaged set of field methods, specific objectives and techniques of analysis.

Foremost in this package is a set of understood protocols for making contact with village communities, dealing with informants and for handling the information such as they may provide. The emphasis is on (a) clearly establishing who you are and what you want, and (b) entering the community, doing your work and leaving it with the least discord possible.

In the matter of (a), I was always clear to phrase my introduction like this:

- OTML knows that it does not know everything about all the villages along the Ok Tedi and Fly Rivers;
- OTML is not able to find out what it ought to know by itself;
- so the company has asked us (me/Kirsch/King/Lawrence/Tapari) to do this work—we do the same thing at other mines and for other development issues;
- what we want to look at is, *sindaun bilong ol man long ples*, and ...[list tailored to local situation].

The fact that the project was also based at the University of Papua New Guinea was helpful at times; it enabled us to place a respectful distance between what agenda we might be thought to have with the agenda a company official might be thought to have. In other words, it gave us a shortcut to establishing our neutrality.²¹

On the question of (b), considerable skills are learned by research students starting out in the field of ethnography. My colleagues and I have each experienced doing this in our different doctoral fieldwork areas,²² I myself taught the course known as Research

²⁰ In doing this I emphasize that I am not interested in making a printed attack on anyone; the purpose of this is to highlight the real difficulties of communication experienced by a large company in dealing with indigenous communities with whom they share virtually no common culture whatever. Frank discussion of issues within the company is the first step forwards.

²¹ Was this unfair to villagers? Some asked ‘Is the company paying you?’, which is of course the case in all consultancy. I, however, was defending against a different question: ‘Are you in the company’s pay?’ This has quite a different meaning in English. Unfortunately, to be paid *by anyone* in a Papua New Guinean village carries a raft of preconceptions. We did not have time to deal with all of these.

²² Burton, South Wahgi, Western Highlands; Filer, Nuku, East Sepik; King, West Africa; Kirsch, Yonggom language area, North Fly; Lawrence, South Fly and Torres Strait; Tapari, Vanuatu.

Methods for five years at UPNG, and a vast literature has grown over the years to cover this subject (see Agar 1980; Stocking 1983). Without a very lengthy digression to demonstrate what we mean by ‘entering the community’, it must be taken for granted that months, probably years, of anguish go into learning how to do it properly, and that those who have not been through this cannot always follow where those who have are able to go.

The presentation of topics and questions

In the case of the Middle Fly, I personally took as great care as possible to behave in as uncontroversial a way as possible. ‘Hot topics’ were raised by villagers in many more places than I have so far reported—accusations of environmental damage, accusations of bias in the companies hiring policies, what villagers talked about when they met ‘German scientists’, their perceptions of the Star Mountains people ‘taking all the money’, for example—but I found I was always able to be non-committal in such a manner as to be able to take note of opinions, yet lend no extra weight to any particular one.

A technique I used was to try to contribute constructively to all conversations, *especially* if matters of some sensitivity were being discussed, rather than very pointedly going silent on ‘difficult’ topics. I was easily able to accomplish this by asking villagers questions to further clarify and add detail to what they meant or by providing some additional information that they in turn may not have been aware of, but would find interesting. The outcome I always hoped for was an exchange; a flow of village perceptions and observations from informants to me, and a flow of discussion points, hopefully a broader picture, and just simply ‘news’, from me to my informants.

While I have labelled this a ‘technique’, I find doing this a matter of such obvious good manners in Melanesia it hardly needs discussing. Yet it was blindingly evident to me, and to my colleagues Kirsch and Lawrence in their own areas, that serious breakdowns in communication had occurred between OTML and villagers. Indeed, that my reporting of one meeting where villagers expressed opinions that diverged enormously from the company’s should cause consternation, is itself evidence that there is plenty of room for improvement in the relationship.

In context, I was taken aback to be asked in Tabubil why I needed to know about the environmental programme and other matters to do with mine operations: why couldn’t I simply go to the villages and get on with my own work? The answer to this is that whatever villagers are interested in, I must be interested in, and so well briefed I do not fail in my part of the exchange, that is I must never go to the village empty-handed, and be unable to *bekim tok* on any topic that villagers want an exchange to take place on.

I contrast this with a ‘neither confirm nor deny’ style which, though perhaps appropriate to the preservation of State secrets, so obviously creates suspicion and resentment in whatever context it is used.

Use of language

It goes without saying that it was necessary for me to introduce myself, and my companion or companions, and the purpose of my visit to a village. All meetings were to some extent held in four languages. The most technical aspects were discussed in English and relayed by a ‘chairman/translator’ to other villagers in *tok ples*: Kaeti, Boazi,

Zimakani or Suki language. Some minor pleasantries were exchanged in Motu—*adorahi namona* etc—which neither I nor many younger villagers are competent in; the use of Motu, though, is an acknowledgment to older men of the validity of their experiences in a world beyond the village, and one that existed long before the Papua New Guinean state and the mine were even thought of. This was appreciated as a friendly gesture.

Tok pisin was used for some parts of meetings. It is said that pidgin is not used at all in this area, but in reality people understand it and speak it perfectly well. What is resented is the assumption by an outsider (a foreigner or a Papua New Guinean from outside Papua) that it is all right to greet and ‘talk down’ to villagers in pidgin without checking to see whether they prefer to speak in English. If a conversational opening in pidgin is applauded in, say, Rabaul or Mt Hagen, it is presumptive in the formerly ‘Motu’ parts of Western Province.

Pidgin, though, was useful to put across some concepts where the explanation in English is unnecessarily long-winded. For example, it is by no means easy to present succinctly the aims, method and scope of social monitoring—even if we were all in agreement on the concept in the first place. But the pidgin phrase *sindaun bilong ol man* does convey exactly what English places under many headings: level of development, economic activity, cultural matters, law and order, security of land tenure, and so on.

Social mapping: indigenous classification of landscape features

The methods of social mapping were frequently used to draw informants out on a whole range of issues, including environmental ones, without using a direct approach.

It is a standard technique of social mapping to draw out the local terminology used to classify parts of the social system, like clans and subclans, and parts of the landscape, like boundaries, deep bush, domestic spaces and so on, in order to understand the system of ownership and usage of land and resources. Just as medical students learn the names for parts of the body, and dissect them, to understand how the whole body works, in social mapping you must also name and dissect the parts of the landscape in order to understand how it works as a whole.

Term	Description	Examples
<i>gazi</i>	Dry land	Obo Gazi, ‘land at Obo’
<i>kuzu</i>	Headwaters of creek, lagoon	Kai Kusu, Neyav Kusu
<i>lavoia</i>	Passage, shortcut	Obo Lavoia, ‘Passage from Obo to Lake (D/L)abiumbu’
<i>qa</i>	River, tributary	Waima Qa, ‘Fly River’
<i>tambav</i>	Mouth, confluence of river	Kombes Tambav, ‘Everill Junction’
<i>ve miap</i>	Village (lit. ‘house always’)	(Bosset, Wangawanga etc)

Table 11. Boazi/Zimakani landscape features.

In all areas, particular terms of interest are those relating to waterways and the landforms bounding them. Among the Boazi and Zimakani I found the main division of waterways was into the confluences of the feeder creeks with the Fly River, *tambav*, the main bodies of the lagoons (given the place name), and the headwaters areas, *kuzu* (Table 11). Use of these terms made it easy to discuss usage of the landscape, the range of environmental resources available to each clan, and so on.

Among the Suki, distinctions were made among ‘lagoons’, *apu*, and ‘swamps’, *ragari* (Table 12).²³ With more time, I would have gone into more detail; for example, the Suki *apu/ragari* lexical boundary may not be in the same position as for our ‘lagoon’/‘swamp’. *Apu* are all bigger than *ragari*; however, some areas designated as *ragari* were lagoons, i.e. open water bodies, in August 1994, while others were definitely swamps, i.e. non-navigable marshy wetlands. (Perhaps river channels can be seen winding across *ragari*, but not *apu*, which are bigger.)

Term	Description	Examples
<i>apu</i>	Open water lagoon	Gumaka Apu, ‘Suki lagoon’
<i>ari</i>	Broad water river	Pamina Ari, ‘Suki Creek’; Burei Ari, ‘Burei River’
<i>giyu</i>	Point, peninsula	Rarba Giyu, ‘Rarba Point’
<i>ku</i>	Island, elevated dry land	Diwari Ku, Givazamu Ku
<i>ragari</i>	Closed lagoon, swamp	Kata Ragari, Gwibaku Ragari, ‘Gwibaku lagoon’
<i>riari</i>	(Dry) land (in general)	<i>argu riari</i> , ‘clan land’

Table 12. Suki landscape features.

But in ownership terms, there is a distinction. All Suki *ragari* are considered private land. Only the inlets, points and islands of *apu* are privately owned; the centre of an *apu* is a public space, as is the Fly River, Uga Ari. Other rules apply to other features. In deep bush you can travel across private land as long as you do not remove anything of value. You may still be able to take economically valuable things like crocodiles if you are accompanied by the landowner. Less valuable resources, like house timbers, can be taken from the land of others by asking permission; these will not be denied you if you are on good terms with the owner.

Among the Boazi and Zimakani, the Fly itself, Waima Qa, and the central parts of the main lagoons like Wam (Bosset Lagoon) and Kongun, are considered publicly owned. The arms of lagoons and oxbows are in private, clan ownership, e.g. Kofaev (where FLO14 is located), Kavakavai and Ugan (two oxbows upstream of Kofaev).

Meetings held in the study area

Quite formal meetings were held at the Middle Fly villages, due in large part to the infrequency of visitors to them and the consequent ‘event’ that took place when visitors did arrive. The manner of my announcement at each village also had a bearing on the type of meeting that was held. I visited Kuem, Mipan and Manda with an MCM health patrol and Wangawanga/Aiambak at the same time as a pastoral visit from Bosset by Fr. Edward, making use of the MCM radio sked give advance warning in each case. At Obo, the Trust has its own radio operator and I was able to order a pick-up at Aiambak from Obo and send messages to Komovai and Kaviananga. Budai Tapari and I spent a week together at Suki, also sending radio messages in advance of our arrival to alert the relevant village councillors.

²³ Mr Tau Tangura of Riti village clarified the terms *uga*, *ari* and *apu*, as in Uga Ari (lit: broad river, the Fly River) and Uga Apu (lit: broad lagoon, the ocean). Sturt Island and Somogi village are on the Uga Ari (river) while Samari village and Daru are on the Uga Apu (ocean).

In the event, few villages received advance notification of any of the visits; either the transmissions were not clear, or the message that was received was not the same one that was sent, or no message was passed on at all. This meant that *very* formal meetings were held where the received message was that ‘an Ok Tedi scientist’ was arriving (Mipan, Wangawanga), but that much more informal meetings and interviews were possible when either no notification was received at all (Kuem, Komovai, Pukaduka, Gwibaku) or the message did not indicate anything of major importance (Bosset, Suki).

While I always strive to give advance warning of village visits, I was not unhappy that radio communications were so poor, because it was possible to pick up different things at the different kinds of visits (Table 13). The formal meetings do give everyone a change to be present and to participate but, as speakers invariably slip into a stylised form of rhetoric and tend to stick on only one or two issues, as a vehicle for communication they are more or less useless. (This is no different from any other meeting where a substantial audience is present.)

Village	Date	Type of meeting	Principal topics	Advance warning?
Bosset	13 Mar 1994	With Councillor and at single men's house, informally	Boazi social organisation	Yes
Kuem	14-15 Mar 1994	With councillor, on verandah	Border problems	No
Mipan	16 Mar 1994 17 Mar 1994	Single men's house, 50 men present / with Councillor, on verandah	Environment Border problems	Yes
Manda	17 Mar 1994	Single men's houses, ?20 present	Trust projects, environment	Yes
Wangawanga	22 Mar 1994	Public meeting, 40 present	Environment	Yes
Komovai	23 Mar 1994	In village meeting hall, 17 men present	Environment, development, history	No
Kaviananga	25 Mar 1994	In village plaza, 65 men & 30 women present	Environment, government	Yes
Aewa	29 Aug 1994	Informal, with Cllr. & villagers	Suki social org., crocodile sales	No
Pukaduka	30 Aug 1994	Informal on <i>haus win</i> , with ?20 villagers.	Social mapping, history	No
Eniyawa	31 Aug 1994	In Eniyawa long-house, ?30 boys and men present	Social mapping	Yes
Gwibaku	31 Aug 1994	Informal, at Mr Naipu's house	Traditional culture, rubber growing	No
Gwaku	1 Sep 1994	Formal, between houses with Cllr., ?15men and ?6 women present	Rubber growing, social mapping	(Cllr. from Aewa)

Table 13. Formal meetings held in Middle Fly villages.

The most productive visits were where the village councillor was on hand to provide a conducted tour of the village and its facilities, where a short public meeting was held, but where further discussion of key issues could be made in an informal setting such as on a verandah.

Meeting venues: public space, 'welcome visitor' space, intimate space.

The setting of village meetings is always an important factor in shaping the treatment given to a discussion topic. Some parts of any village are designated as public thoroughfares and, while there are occasions where they must be used to stage public gatherings, meeting people in them for more than a few minutes is extremely ill-advised. The effect of this kind of space is to quarantine visitors off from admission to the village proper and neutralise any need to extend hospitality and therefore genuineness in dealing with them. Examples are standing up in the centre of a swept-earth village plaza (public

no-man's-land, hostile stance), meeting anyone in a town market-place (place of commerce, unbound to a recognised social context), or on a government road (ditto, not of the village).

On the other hand, holding a meeting inside someone's domestic house is equally incorrect, unless (a) that person has some public capacity and (b) you have checked to see that other members of the village can freely attend if they want to. This space is so intimate, the visitor will be accused of collusion with the narrow interests of the house owner.

Somewhere between these two extremes lies the correct choice of setting in some architectural feature recognised as a 'welcome visitor' space. Some villages in Papua New Guinea already have such a feature built in, such as the modern version of the 'single men's house' throughout the study area, the so-called *haus boi* in New Britain and New Ireland, highlands men's houses, and various kinds of official 'rest house'. None of these are perfect, because local rules can preclude the admittance of female visitors (e.g. nurses and female community health workers) not to mention participation by women who live in in the village. Also while some meeting houses/rest houses are very small and intimate, holding 10-15 people at the most, others are very large and impersonal, with room for a hundred or more.

Fortunately, the great variety of modern house styles allows for quite a wide choice of unofficial venues as well, like *haus win*, open cook houses and verandahs. Many of these are perfectly suited to the kind of meeting where the visitor is made welcome in a culturally correct manner, yet need not—should not unnecessarily—invade any one person's private space. Two further advantages should be mentioned. The house verandah or similar space in front of a house is close to, or actually is, a space used by women; this is a great help in enabling women to remain close to the interview site, even if the circumstances preclude them saying very much. Secondly, by remaining close to the outside part of a domestic space, you have not excluded other villagers, who can also participate quite freely.

An excellent illustration of the awkwardness of the wrong kind of place is given by the so-called 'Women's Clubs' built in many villages in the Middle Fly. These buildings satisfy a particular need during the construction period, namely to avoid favouring one group or another by building something 'everyone can use'. Unfortunately, unlike men, women do not normally gather each day as a group and no-one really knows what the buildings should be used for. As a hospitality space, there was a blunt contrast with the warm nods of welcome in a single men's house at Bosset and the rapid arrival and departure of the key-holder for the Women's Club at Mipan or the hurried sweeping out of the almost derelict Women's Club at Wangawanga.²⁴

²⁴ At Nauti village in Morobe, CRA has built a village meeting hall but the village is strictly divided into lineage sections, so the best thing to do is to deal with each section separately in its own hamlet. One man had a running dispute with other villagers and a grievance with the company. He yelled that we should hold a meeting in the village hall and not in people's houses—the hall was clearly a no-man's-land where hostile dealings could be undertaken 'safely'.

I have assumed here that, given the option, you would rarely choose to hold meetings with more than about fifteen people at once, hence my favouritism of the smaller spaces. Free choice may not always be available, though, and the ‘best of the worst’ alternative places will have to be accepted. A watchword at public meetings in villages is that effective communication of ideas and information drops off abruptly with any increase in the number of people in attendance beyond the number with whom a semblance of person-to-person contact can be maintained.

On the ‘maxims’ of social issues research

Under development (and awaiting feedback from disciplinary colleagues) are a set of guidelines or ‘maxims’ of social issues research in Papua New Guinea. These also are intended to assist in the validation of social issues discussions in such a way as to give outsiders a better means of judging where information is coming from. The present headings cover the following topics:

- Protocol of Village Contact. (Discussed above to a large extent.)
- Criterion of Public Domain. (Avoidance of secret or privileged—and therefore undiscussable—information.)
- Criterion of Consensus. (Information is negotiated with/from informants allowing them a large extent of control.)
- Criterion of accord. (The long-term value of information is proportionate to the accord with which it is given.)
- Fair dealing with informants and guides. (Essentially for the protection of informants against the misuse of information they have helped to obtain.)
- Depth vs. breadth of coverage. (Methodological matters to do with coverage and representation.)

In due course it is expected that a fuller working through of these topics will give social issues discussions a much more satisfactory grounding that is at present the case.

Fuller detail is given in Appendix L on these matters.

Translating what people say

I have chosen not to present verbatim complaints from villagers in the body of this report, but have placed records of key meetings in Appendix G-Appendix J. This is because villagers deliver a ‘rich cultural text’ when speaking and the verbatim quote cannot be immediately understood—it may look like English, but as the words rarely mean the same things, there is great scope for this ‘text’ to be mis-read (see Table 14).

Let me use the metaphor of culture as a prism through which the ‘light of development’ (= ‘illumination’ from new ideas) is refracted. If the prism scatters the ‘light’, the objectives can no longer be seen clearly, and efforts to bring about sustainable development will founder. If, however, culture can be made to bring that ‘light’ into focus, the road ahead is clear and unobstructed, and development can proceed.

Statement	Key words	Interpretation
Company officials <i>never</i> come here to <i>see</i> us.	<i>Never</i> = infrequently. <i>‘See’</i> = visit socially.	We feel neglected. We see a lot of activity around Kiunga and Tabubil. Why doesn’t anyone come and sit

	(<i>Sorry</i> = moved to generosity)	down with us? (Because if they did they would surely feel <i>sorry</i> for us.)
There was <i>never</i> any grass in our lagoon	<i>Never</i> = unusual event.	Our situation is deteriorating. The grass is an unusual event. Unusual events are a sign of deterioration.
Our resources are spoiled		Our resources are spoiled + our situation is deteriorating.
If they come for National Census, I don't think I'll give my name again. I'll be in the bush	<i>Give one's name (putim nem long buk)</i> = co-operate with the State of Papua New Guinea	I will no longer feel bound by my civil obligations because the government does not honour its duty of care.
We don't have enough tanks.	<i>Enough (inap)</i> = enough + appropriate, 'fit'.	We would like more tanks + the ones we have cannot be used effectively and get broken because they do not 'fit' with our village society.
Environment Department takes samples, but we never get the results	<i>We never get the results</i> = we are denied them	The technical staff take samples in areas where we see environmental change. We do not see the results of the samples we saw taken but are told something that doesn't match with the changes we observe. Therefore we are being denied the truth.
NGOs say there is pollution. We believe the NGOs.	<i>Pollution</i> = collective term covering deterioration, 'poison'.	Our situation is deteriorating. People trust those who see what they see. The NGOs see pollution. We believe they see what we see. Therefore we agree with them

Table 14. Some interpretations of informants' declarations.

Take a statement made at Wangawanga:

The [named official] takes our projects and throws them away and puts in the [named village's] projects. The [named village] people can get money any time, but we write 300 maybe 400 times for nothing.

Is this true? I don't think so! Even if rather brilliant at cheating, it is hard to see that he could do 300 times better for his own people than for the speaker's people without arousing suspicion at headquarters. Whereas my reflex action is to seek the causes of his alleged non-delivery in (a) his lowly position away from executive decision-making, or (b) his lack of performance according to some management criterion, the speaker interprets it as a deliberate act of hostility stemming from the relationship between the two villages. Another speaker followed up by saying:

We are blocked. We are 'having nothing to do'.

He clearly meant that a human agent is responsible for the blocking because human beings 'with sense' never allow their relationships with others to deteriorate like this, unless on purpose. He says 'We are having nothing to do', meaning he and his fellow villagers are powerless to act until this obstruction is removed. Worse, he may believe that independent action, even if possible, would be quite fruitless in these circumstances. So in this case the informant's culture-bound views are an obstruction to him.

At several places, translators referred, in English, to ‘the government, he is...’ This is more than a peculiarity of translation; it attributes personal thoughts and feelings to the State (see pp. 96, 103, 104). At Komovai a speaker said:

The government is a human being, we too are a human being. We are not like animals that dig for food in the ground.

It could not be clearer that the relationship that this villager has with the state is culturally mediated.

CHAPTER 7

CONCLUSION: WHAT TROUBLES VILLAGERS, AND WHAT SHOULD BE DONE ABOUT IT

I have been at pains to explain our method and, previously in this report series, to present arguments for and against the various approaches to the social issues research we have pursued during the past four years of the monitoring programme.

The reason for this is to attempt to lead the reader towards an understanding of village issues in the Ok Tedi and Fly River systems over the very considerable obstacles of differences in cultural background, and even of personal experience within Papua New Guinea.

I cannot adequately judge whether my arguments are beginning to be understood. In the past, though, briefings to senior management tended to be met, not with questions of clarification of particular issues of content, but with a questioning of the basic premises of the whole enterprise.

For example, in Appendix G, p .98, below I give a response to Chris Brown, the General Manager of OTML for part of the period of our project, who asked me ‘don’t you awaken activism in villagers simply by going and raising contentious issues with them?’

I believed at the time he asked me that he was referring to a belief widespread in the mining industry that consultancy studies could essentially ‘create’ landowner demands for compensation, a viewpoint expressed in print by Corren (1989), a co-recipient of the well-known Ona-Serero letter demanding compensation for damage at Panguna. It was his Corren’s view (1989:22) that ‘the demands appeared to have been bolstered by an environmental study conducted by Applied Geology Associates of New Zealand ... the report was sympathetic in many ways to the Landowners and called for increased compensation’.²⁵ My verbal reply to Brown was addressed to this.

It is a logical development of this view that disputes are tolerable if they remain dormant, and blame should be chiefly apportioned to whoever activates them. This may be acceptable if the dispute is not serious and is easier to tolerate in its dormant state than it is to awaken it and devote resources to sorting it out. If, however, the dispute is very serious, the equation is quite a different one. Then the source of the final spark is essentially irrelevant; blame should fall squarely on those who allowed the situation to slide into a critical state.

Before the onset of a crisis, disagreement is likely to exist over the recognition of warning signs; I take Brown’s line of questioning as a symptom of this kind of disagreement. On the other hand, once a crisis has begun it is essential for an organisation to be in full internal agreement of what has happened, so that it can advance proactively

²⁵ In addition to the points I mention in Appendix G, those tempted to agree with Corren should pause for thought that Ona branded the study a company ‘white-wash’ (Oliver 1991:206)

to deal with the situation. (At the time of writing, it is not clear to me that this has happened.)

To reply specifically to Brown, the short answer is ‘No, definitely not!’ The longer one is ‘We do believe we have spent years learning how to minimise the effects of our observation on the observed; *if there is activism, we can guarantee it is really there.*’

Another insider’s written comment was that:

It could be that one off visits by strangers associated with OTML asking for the village people’s views about the company is serving no useful purpose, except to provide the villagers with another opportunity to try and convince OTML that more projects/and or money should be provided.

One of the dangers...is that reports of this type find their way into print without adequate verification...²⁶

I want to counter this by questioning the expressions ‘one off visits... without adequate verification’ and ‘visits by strangers’.

At the time of the comment in 1994, about fourteen consultant-months had been spent on the project, including more than six months of fieldwork. If this had failed to dispel the idea that the OFSMP team was engaged in ‘one off visits’, I wondered how much *more* time we should have to spend in order to have ‘adequately verified’ our findings. (And how much more budget the company would be willing to devote to our project!)

In point of fact, by this time I had visited 60 villages in the North Fly and my colleagues and I were well on the way to having visited another 50 in the Lower Ok Tedi area, and the Middle and Lower Fly. I certainly think this *does* qualify us to have passed the stage of coming to hasty conclusions.

The question of being ‘strangers’ is more serious. It is true that for most villagers we usually do come as strangers. But consider the following three points. *At every single village we visited*, people complained that OTML Liaison staff did not come to visit them. We are not so naïve we take this at face value, and we know this is contradicted by the existence of Trust projects wherever we went, but the fact is villagers said *it is OTML who is a stranger to them* (see below, p. 60).

The second point is that we took elaborate precautions on this project not to be ‘as strangers’ or, if we could not avoid this, to leave a trail of connections back to our place of origin. Kirsch was not a stranger to the Yonggom, nor Lawrence to his Kadawan friends or at many of villages of the Dudi Coast and Island Kiwais. If I was not previously known myself, I took care to go with an introduction, and if appropriate a ‘connection’, to all the villages I visited, as I discussed in the last chapter.

At Suki, there was every chance I would land by plane at Suki airstrip to be greeted by the Minister for Environment and Conservation, who would have every right to grill me at length about the purpose and worth of my visit. However, once Budai Tapari was involved with the project, he readily agreed that we should jointly do fieldwork at Suki.

²⁶ Source protected.

And when it did happen that the Minister was waiting to catch our plane out of Suki, Budai, as a former schoolmate, was able to place our visit in a much more constructive context in five minutes than I could ever have achieved.

In all cases, the ‘connection’ is probably as useful after the visit has been completed as before and during it. Someone in a village is bound to ask afterwards ‘Who was that and what business did they have coming here?’ By making a suitable choice, I aim to satisfy villagers that they know someone who knows me and/or my team members. At Suki, it was unusual that a national politician, close to the seat of power, might have wanted this satisfaction—but then I was fortunate that my colleague was so suited to fulfil the role himself that we did not need to look further. I feel confident that if the (then) Minister had wanted to follow up on our visit, he could easily have done so (and I hope he did do so on a social basis).

The third point is that the label ‘stranger’ also betrays the relationship between the company and the research team. Under the management structure pertaining at the time of our fieldwork, Community Relations and Business Development, and Environment were under separate departments, and also in physically separate locations in Tabubil. (The two departments have since been merged; see discussion in Appendix K.) The social monitoring project was based at Environment, not Community Relations, and it is fair to say that there was room for improvement in the access our project had to Community Relations. However, communications between Environment and Community Relations were nothing to boast about at this time, the key problems being the physical distance between the two buildings and the quite separate chains of command in the overall company structure. So it is true we were ‘strangers’ from the point of view of Community Relations/Trust Projects staff—and this really did weaken our profile.

Environment

Finally, after many diversions, I can turn to the complaints of informants regarding the environment. I shall deal here only with the complaints that arose in the Middle Fly villages, that is, in villages along the Fly from the border bulge to the Everill Junction. Complaints that arose above this section and in the estuary have been dealt with elsewhere (Burton 1991; Kirsch 1993; Lawrence 1995). In the remaining area, Suki, no complaints were heard at all (see also Tapari 1995).²⁷

The following were the main areas of complaint:

1. the people remain suspicious of the Environment Department’s agenda and want to see the precise results from samples specifically taken on their lagoons (e.g. pp. 88), and believe the government will not consult with them either (e.g. p. 103);
2. fish sampling is alleged to be done by the OTML Environment Department in privately owned parts of lagoons without the permission of the clan owners (e.g. pp. 89, 91) and fish are alleged to be taken

²⁷ The nearest permanent Suki settlements to the Fly River are at Nakaku station, which is located about 12 km up Pamina (Suki) Creek from its junction with the Fly, although Pukaduka people also have sago camps on the northern side of the Fly near Kawatagwa, at Yura Creek and at Kwima Creek. Suki (Gigwa) Station is approximately a further 15 km inland from Nakaku.

in greater quantities than thought necessary for sampling and/or villagers want to be paid for this (e.g. pp. 89, 103);

3. changes in the nature of swampy ground and seasonally flooded areas (e.g. pp. 102, 104) the blockage of canoe passages and short cuts between lagoons and the Fly, via various oxbows, by silt attributed to the mine and the emergence of new sand bars on bends and at the junctions of tributaries of the Fly (e.g. pp. 91, 102, 104);
4. an alleged sharp reduction the diversity of species and the numbers of individuals present in various habitats (see Table 17, Table 18, Table 19, Table 20);

Points 1 is no doubt extremely familiar to Environment Department staff, who are tired of hearing that ‘they never explain what they are doing’ when, in their own eyes, they have discussed the matters any number of times with village spokesmen during field trips. However, the key is that it is *suspicion* of the company’s motives in sampling that is the problem. I am well aware that villagers can be extremely wilful in claiming ignorance of things they have been briefed on, but I refer to my discussion above on this. ‘Nobody has told us’ can generally be translated into ‘we feel ignored’.

On the issue of lack of government consultation, it is quite clear that the Project Co-ordination Section in the Department of Mining and Petroleum should take on a much greater consultative role than it does at the present. However, repeated budget cuts leave this section no better endowed than any other department and the resources to mount (or commission to be done by someone else) the kinds of patrols that are needed are well beyond its means.

The question of where fish samples are taken from is an important one. Extreme care should be taken when venturing into the parts of the lagoon systems owned by individual clans. These are generally the lagoon margins and inlets. I am also told by biology staff that care is taken to offer fish back to villagers and new, less intrusive methods are constantly being sought.

From the village point of view, though, the well-resourced environmental staff, whether arriving by helicopter or on the Western Venturer, appear to know little of the daily difficulties of making use of what looks like natural plenty. For example, the technical means to travel wherever and whenever it is desired appears to people to go with a viewpoint that the landscape is a big, open and socially undifferentiated space. Turning up and asking if it is alright to do fish sampling can scarcely be related to the villager’s problem of constantly negotiating history and social structure to gain access to land and resources.

It is not therefore surprising that some villagers gave notice that they would in future demand to be paid for fish taken for sampling.

The allegations in Points 3 and 4 have not been considered by the company as sustainable in relation to the Middle Fly; the received opinion being that whilst river bed aggradation has obviously occurred in the Lower Ok Tedi, and has occurred to a certain extent in the Fly below the D’Albertis Junction, that the effect is no longer measurable by the time the river exits from the border bulge and enters the Middle Fly. Shortly after this, of course, the Fly meets the muddy Strickland at the Everill Junction and below this junction further speculation of bed aggradation is deemed academic.

This viewpoint may be a little hasty.

Just as earlier modelling did not allow for the deposition of sand above Konkonda in the Lower Ok Tedi (OTML 1988: 34ff.; Burton 1991:23), and therefore delayed the acknowledgment of forest damage in that area, so too the declarations by villagers that their passages are becoming blocked should be treated with a little more circumspection than has been the case so far (at least, up to the time of my last fieldwork in 1994).

These are the basic facts:

1. Markham (1991: Table 3.3) put the expected mine discharge at 25.5 million tonnes of ore residue plus an average of 40.17 million tonnes of waste rock for the period 1991-1995;
2. while a proportion will become permanently trapped in the Ok Tedi and higher up, a very substantial quantity of mine-originated material must pass through the Middle Fly each year, boosting its sediment load by an as-yet-to-be-determined factor;
3. the Middle Fly off-river lagoons, oxbows and shortcuts are (a) principally fed from the Fly, and (b) either slow flowing or static waterbodies highly susceptible to sediment deposition.

Exactly what factor should be applied in (2) is unknown to me. I do not know whether robust calculations have been made to estimate it. I am well aware that seasonal effects and the El Niño cycle induce natural changes of strong amplitude in the region—indeed, I have argued as much in an earlier chapter. Nevertheless, I was troubled that villagers' claims of sedimentation were not being actively pursued in 1994. A course of investigations is not hard to specify; a programme of charting depositional areas would be a first step, with ample scope for establishing a general model of channel change in the off-river waterbodies. I would seek to develop appropriate observational methods for microscale changes and I would certainly employ oral history and village informants' skills in my reporting method. I would give technical attention to sourcing recently deposited materials.

Naturally, these tasks may already be in train.

Conclusions

What do the villagers' troubles boil down to? From the good number of direct statements by villagers that I have quoted, the focus of villagers everywhere is on a deterioration of their situation. In summary, all are troubled by problems arising from three sources:

- **PROBLEMS OF THE GOVERNMENT:** we remember the optimism of the pre-mine days around Independence when government officials led us to believe we would at last see development in our area, but none of this has occurred and all we see of it is big money figures for someone else, somewhere else—in fact we are worse off than we ever were;
- **PROBLEMS OF THE VILLAGE:** we occasionally get opportunities for development, but we never get anywhere because we cannot sort out our village problems, we are 'jumping over one another'—we were better off before Independence when the *mamus* simply laid down the law;
- **PROBLEMS OF THE ENVIRONMENT:** we used to have a pristine environment, but the mine wastes have caused changes clearly observable to us all—it was better before the mine.

Thus I say that, in the areas covered for this study, the environment is one of *three* sources of woe for villagers. I do not doubt that each is important enough on its own to pose a threat to livelihood, and each should be taken seriously.

Previously, I have written at length about the neglect by government (e.g. Burton 1994a) and have endeavoured to explain in earlier chapters of this report why in many parts of the study area villagers really are condemned to ‘jump over one another’ (expression used on p. 100) because the finite resources available for development are misapplied and because no agency other than the two churches that operate here possesses the basic social planning skills that could help villagers design and operate projects in a manner that minimises disruption from socio-cultural sources.

In saying this, I understand that I run the risk of being seen to blame an underdeveloped province for two out of the three sources that I nominate as causing their own backwardness. My case is that critics are welcome to advocate a repeat of the period 1984-94 in Western Province, where substantial windfall monies from the Ok Tedi project flowed to the provincial government, but with no lasting effect for people in the districts.

However, I do not believe I am alone in my analysis as others have made essentially the same points, notably Jackson (1993:60, 145; interview on ABC radio, 28 May 1995), and now Tapari (1995)—with no assistance from me, I should add.

In relation to the mine, in July 1994 I wrote a briefing paper for Murray Eagle entitled *The basis of community relations*, which I reproduce here as Appendix K. This stands as a full clarification of my analysis of the mine-landowner relationship. As I explain there, attention to the relationship is central to all dealings with landowners. A will to improve matters does not mean crossing fingers and saying ‘yes, we’ll do better’; it means having a proper management plan for servicing this relationship.

It is not the job of this report to devise a plan of this type, but a few pointers can be given. A properly worked out and consistent management style is essential for village dealings. The current emphasis on ‘control’ structures in management urgently needs scrapping and replacement with a more modern team approach to problem solving. Recent developments also indicate that in the annual planning round, the order of priorities should not be budget, staffing, then the list of tasks that the first two can accommodate. It is vital that planning should start with ‘What tasks do we need to accomplish?’, and then that budget and staffing be allocated in response to the question ‘What do we need to carry out these tasks?’ Asking the right questions is to embark on the path to reform.

APPENDIX A.

GAZETTEER OF CENSUS UNITS AND COUNCIL WARDS.

Middle Fly CD villages in the Lower Ok Tedi-Fly River Development Trust

Kuem

Councillor 1994:	Dick KOMBANGI.
Map reference/location:	(off map sheets to west of 141° E).
Visited:	14-15/3/94
Group:	Mandobo
Language:	Kaeti
Recent relocations:	Originated in Upper Digul. Came to this area in 1940s, to Kamangi, then 'old Kuem', then Wakamunda near Km 340 on Fly River, then ca. 1961 to present site.
Nearest school:	Kuem Community School (3 teachers, Grades 1, 4, 6; 1 double classroom from Trust)
Nearest health facility:	Kuem Aid Post (1 MCM Health Aide)
Nearest radio:	Manda
Churches:	Montfort Catholic Mission
Employment:	none known
People outside the District:	?
People from outside the Dist.:	?
Stores:	Two small stores
Other non-domestic buildings:	Only teachers', health aide's houses.
Crocodile farming:	2 farms (Cr. Dick, Elijah)
Rubber:	Overgrown
Vehicles/Outboard canoes	3 x 8 HP, 4 x 15 HP, 2 x 25 HP
Water supply:	Tanks, etc installed by Trust.

Mipan

Councillor 1994:	Richard NOSAI
Map reference/location:	WH 148315
Visited:	16-17/3/94
Group:	Ingas
Language:	Boazi
Recent relocations:	Were at Guies, Azo and Doumange before WWII, then went to Gamamit, where there was a Dutch school, then to Mipan in 1954, then to Wiye or Mipan 2 in 1981, the present site.
Nearest school:	Mipan C.S., a Montfort-run school.

Nearest health facility: Mipan Aid Post
 Nearest radio: Manda

Churches: all Montfort Catholic Mission
 Employment: n/s
 People outside the District: n/s
 People from outside the Dist.: n/s
 Stores: n/s
 Other non-domestic buildings: Catholic women's club, used for sewing & as a guest house.
 Crocodile farming: 3 small farms, 1 large farm (Ralph Marinus). Another man said he had a farm with 550 crocodiles but jealous villagers broke his pen and they all escaped.
 Rubber: Was at old village, but left overgrown. None at present village.
 Vehicles/Outboard canoes n/s
 Water supply: Four tanks installed by Trust.

Comments

N.B. another village official is Barnabas Uako, the provincial member (under suspension at the time of visit).

Manda

Councillor 1994: Blasius CASPAR
 Map reference/location: WH 119159
 Visited: 17/3/94

Group: Sangizi
 Language: Boazi
 Recent relocations: Originally the people lived at Zue in Kwi lagoon (up the Kwi River). They were at Putimage, at the junction of Kwi R. and Agu R, and Kwiakandes, 1963-72. They were at Manda Komat, a small creek off Manda Lagoon, 1972-82. They moved to the present village, Esya, in 1982.

Nearest school: Bosset or Mipan.
 Nearest health facility: Aid Post in village.
 Nearest radio: Manda

Churches: Montfort Catholic Mission
 Employment: n/s
 People outside the District: n/s
 People from outside the Dist.: n/s
 Stores: A canteen and second-hand clothes store called Dawati Business Group (no stock at present).
 Other non-domestic buildings: Komaizi Fishing Project store and freezer room; radio house.
 Crocodile farming: 6 projects.
 Rubber: Planted in 1964 at Kwiakandes and Putimage, but never tapped.
 Vehicles/Outboard canoes n/s
 Water supply: Solar pump; 4 tanks, shower block.

Comments

The Komaizi Fishing Project was not working at the time of the visit because of refrigeration problems. Historical fish sales are given in Appendix B and an analysis of all the Middle Fly fisheries is given in Case 6, p. 36.

Bosset

Councillors 1994:	Romanus ANGATI, Valentine VITALIS.
Map reference/location:	WH 095998.
Visited:	13-14/3/94, 21-22/3/94
Group:	Wamek
Language:	Boazi
Recent relocations:	Busse (1987:130-160) gives a history of Bosset. In 1890 MacGregor visited a village on the Fly up-river from Wam Creek. In 1914 Murray met Wamek people at Duand, east of the Fly on the southern shores of Kongun Lagoon. By 1930, the Wamek had moved to Nawe, on the north side of Bosset Lagoon, when this village was the subject of a punitive raid by Dutch police, the Dutch believing Bosset to be in the Onderafdeling of Merauke. The Wamek temporarily took refuge with the Gumakan to the south. Some were also found by Woodward in 1933 at Kongun, when prisoners taken by the Dutch in 1930 were just returning. From 1934, Bosset was unilaterally taken into the Dutch catholic (Sacred Heart) parish of Bupul and it remained so until the late 1950s. Bosset was still claimed by the Dutch in 1956 (van de Veur 1966:188); final agreement was not reached until 1962 (van de Veur 1966:205).
Nearest school:	Bosset C.S. (Montfort Catholic Mission agency school).
Nearest health facility:	Bosset Health Sub-Centre. (Montfort Catholic Mission agency facility)
Nearest radio:	Mission radio shed; solar radio in Wam Fishing shed for Trust use.
Churches:	Montfort Catholic Mission
Employment:	1 South West Air agent, various paid mission helpers (e.g. a highly skilled cook), 1 Trust supervisor, health staff, permanently resident teachers
People outside the District:	1 lawyer + various others in town
People from outside the Dist.:	Several long stay Irianese are married here
Stores:	(a number)
Other non-domestic buildings:	Various station housing and mission facilities
Crocodile farming:	
Rubber:	Old nursery overgrown, new nursery under construction (1 provincial DPI officer for rubber)
Vehicles/Outboard canoes	n/s
Water supply:	Tanks, etc installed by Trust. Wind pump trialled on summit of hill behind Health Sub-Centre.

Comments

Informants say the name Bosset is a corruption of *voset* (or *?vauset*), meaning 'to look down'. Bosset Lagoon was given the now obsolete name 'Lake Herbert Hoover' by the

American botanist E.W. Brandes in 1929 (see p. viii) but its real name is Lake Wam, and the creek joining it to the Fly River is Wam Creek. (A small water body 2 km to the east called Kofaiv is mistakenly labelled 'Wam Lake' on the topographic sheet; this is an error of cartographic transcription.)

Wangawanga/Aiambak

Councillor 1994: Elijah Anato
Map reference/location: WG 285902 (Wangawanga), WG 290873 (Aiambak).
Visited: 22-23/3/94

Group: Komak
Language: Boazi
Recent relocations: Pre-government location on Kamea Lagoon. Were at Tinunga, then Yagiza in the 'Mamus' time, then at Aiambak when the councils started, then all at Wangawanga, then the village split in two with some living at Wangawanga and some at Aiambak.

Nearest school: Aiambak, a Montfort-run school.
Nearest health facility: Aid Post at Aiambak. See comments.
Nearest radio: There used to be a PNGDF border radio at Aiambak.

Churches: Montfort Catholic Mission
Employment: Mr Lai Adiwauna is a licensed crocodile buyer originally from ?Milne Bay Province based at Aiambak. He buys about 500 skins a year between Sapuka, near Suki, and Kiunga. There may be some casual work in connection with the landing place. One or two men are caretakers for the Border Post office, but I do not know whether they are still paid or not.

People outside the District: n/s
People from outside the Dist.: (Lai Adiwauna)
Stores: Kamea Trading, the only store: rice, soap, Milo, Twisties, Ox & Palm, beef crackers, cream biscuits, sugar, 777 fish (small tin 90t), Sunshine milk powder (K2.50/packet).
Other non-domestic buildings: Womens' Club.
Crocodile farming: 1 owned by Nidas family.
Rubber: None.
Vehicles/Outboard canoes n/s
Water supply: Solar pump, 3+ tanks.

Comments

Aiambak theoretically has a full Border Post staffed by PNGDF personnel as part of the border radio network. A probable K100,000 or so may have been spent on a border strip here, but the strip has not been completed. No one at Aiambak seemed to know why the post had been abandoned, even the caretaker(s) who may or may not have been being paid. One of two station houses said to be owned by Foreign Affairs had been partially renovated in 1993, but was still quite deficient, with none of the plumbing connected up. In the deserted office I found a complete set of 1977-83 census books for Middle Fly CD and removed them to the National Archives in Port Moresby for safe-keeping. I suggested to my guides that the Bougainville crisis had exhausted the finances of the Defence Force; this met with understanding, if not acceptance.

Aiambak had a small fibro Aid Post built with sheets left over from a double classroom built by the Trust and it was staffed for a time. Subsequently, the Trust has built a new Aid Post at Aiambak but it has never been staffed or fitted out.

Aiambak has a good ship landing place.

Komovai

Councillor 1994:	Fidelis Fili, the then Lake Murray Council President.
Komitis 1994:	Rodney Kapi, Max Kapi; Village Services Co-ordinator, Richard Kapi.
Map reference/location:	WG 285655
Visited:	23-24/3/94
Group:	Gumakan
Language:	Gumakan
Recent relocations:	When Mr Dennis, a UFM pioneer (Twyman and he re-established the UFM at Suki in 1944, Nieuwenhuijsen-Riedeman 1979:11), came the Gumakan lived at Kaviananga. They moved to Komavai after that, to Koparaba Point, a headland 1km to the southwest of Azunangi, the present village, in the middle 1960s, then to Azunangi in 1973.
Nearest school:	Kaviananga, an ECP-run school.
Nearest health facility:	Health Sub-Centre at Obo.
Nearest radio:	OTML Trust radio at Obo.
Churches:	Evangelical Church of Papua (Pastor Kabelai Agame), CRC (Pastor Sonoma Ekawa).
Employment:	nil
People outside the District:	n/s
People from outside the Dist.:	n/s
Stores:	
Other non-domestic buildings:	Community hall (Trust), Women's Club (ECP).
Crocodile farming:	Small farm with 15 crocodiles owned by Joel Paimeri.
Rubber:	None
Vehicles/Outboard canoes	Village used VDF allocation to buy total of 14 motors over three years, at about K1600 each (note: also managed to buy 25 nets, but not in use because don't have the floats, weights, etc).
Water supply:	Solar pump + 4 tanks.

Comments

Komovai is one of the most underdeveloped villages in the area largely due to its closeness to the facilities at Kaviananga/Obo. However, its councillor is easily the best organised in the area with a well-defined structure of sub-committees in place, each with office holders.

Kaviananga (+ Obo)

Councillor 1994:	Matthew KILAI
Komitis 1994:	Timon, Tom, Ulisini.

Map reference/location: WG 342605 (N.B. Obo is a river landing place at WH 353610)
 Visited: 24-25/3/94

Group: Zimakani
 Language: Zimakani
 Recent relocations: .

Nearest school: Level 4 school in the village, 9 teachers, run by ECP
 Nearest health facility: Health Sub-Centre at Obo (1km)
 Nearest radio: Obo OTML radio with radio operator

Churches: Evangelical Church of Papua
 Employment: In the commercial fishery, possibly some employment at Obo in connection with shipping. Mr Peter Gelau has a trading establishment at Obo and may also offer some employment from time to time.

People outside the District: Several of the elders had been policemen, one had been a member of the Area Authority in the 1970s, two had been members in the Fly River Provincial Government in the 1980s. Thus, there is a good deal more outside experience here than in other villages. Present absentees: unknown.

People from outside the Dist.: A handful of residents were born in West Irian and either grew up there or at Bosset, before settling here.

Stores: There are several stores here.

Other non-domestic buildings: Obo landing place: the fish freezer shed, a generator shed, radio houses, an OTML house (dilapidated), a petrol lockup (illegally close to the OTML dwelling), various outbuildings. Obo Health SubCentre: housing for health workers, etc. Kaviananga School: 4 double classrooms (1 wooden, 1 fibro, 1 bush materials, 1 built by Trust), only one L40 teacher's house (rest: bush materials).

Crocodile farming: 5 projects.
 Rubber: First planted 1976, last sales 1986—1 plantation at Kasa village, 1 at Above, 1 at Bongoma Ck. ca. 25 km down the Fly.

Vehicles/Outboard canoes: A comparatively large number, mostly kept at a canoe place in the village.
 Water supply: Trust tanks, pumps etc.

Comments

This is an extremely large village complex, somewhat like Bosset, but with a good deal more economic activity and therefore resembling Suki more than another place in the Middle Fly.

Kasa and Levame

Councillor 1994: Yako BAMARU
 Map reference/location: WG 455698 (Levame)
 Visited: no

Group: Zimakani
 Language: Zimakani
 Recent relocations: Owners of Rasake Lagoon (in error, 'Aesake Lagoon' on the topo sheet), have moved towards Fly/Strickland in recent years to enjoy better access to services.

Comments

The two villages were not in the Trust in 1994, but were being considered for membership. They form the remaining council ward in Middle Fly CD and as Zimakani speakers have close ties with Kaviananga. I was told the Zimakani clan structure heard at Kaviananga will also apply at these villages (see Figure 13 in Appendix D).

I did not visit Kasa and Levame, but did speak with Cr. Yako at Kaviananga.

Suki villages in the Lower Ok Tedi-Fly River Development Trust

Aewa, Riti, Kautru (+ Gwaku, see below)

Councillors 1994:	Makina SINBA, Sadura TANGORA
Map reference/location:	WG 772110 (Aewa), WG 776113 (Riti), WF 753905 (Kautru)
Visited:	Aewa on 29/8/94
Group:	Suki
Language:	Suki
Recent relocations:	.
Nearest school:	Suki Station (ECP)
Nearest health facility:	Health SubCentre, Suki Station (ECP)
Nearest radio:	Health SubCentre, Suki Station (ECP)
Churches:	ECP
Employment:	Small business only—Mr Kayama Sinba is notable as a licensed crocodile skin buyer. Sita Trading Pty Ltd operates a large, well-stocked trade store supplied from Cassowary Island and handles the exports of skins to Inoue & Co. of Tokyo. Also the export of skins from two other buyers from Sapuka and Gwaku.
People outside the District:	n/s
People from outside the Dist.:	n/s
Stores:	Sita Trading
Other non-domestic buildings:	Community hall and ECP church, Sita petrol lockup.
Crocodile farming:	A large farm
Rubber:	None
Vehicles/Outboard canoes	At least 4
Water supply:	Solar pump + tanks (Trust)

Comments

Wayaku, an Aewa man, is known for having brought the extremely tall (ca. 5m) *deiwaka* banana variety from Irian Jaya to the Morehead District where it is now widespread. The variety is also called 'Wayaku'.

Pukaduka 1, Kiru, Nakaku Station

Councillor 1994:	Ganga NAIIO
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Map reference/location: WG 840197 (Pukaduka 1), WG 833205 (Kiru), WG 844202 (Nakaku Station)

Visited: 30/8/94

Group: Suki

Language: Suki

Recent relocations: A series of abandoned village sites are located near here, notably Ivebi at WG 815200. The major settlement change of the last 20 years in the establishment of Nakaku rubber scheme in which villagers from other parts of Suki have taken up rubber blocks but at the same time needing at least temporary homes nearby. For example, Kiru.

Nearest school: Nakaku, 6 teachers (all in bush houses)

Nearest health facility: Aid Post, 3 staff

Nearest radio: At Nakaku, Trust has area supervisor and radio hut; police radio at Nakaku with Communications Officer.

Churches: Evangelical Church of Papua

Employment: n/s

People outside the District: n/s

People from outside the Dist.: n/s

Stores: Several well stocked stores, notably that of Mr Lawrence Manu

Other non-domestic buildings: Sub-District Office at Nakaku with DPI officers; police detachment of 3 with housing (in poor condition); school infrastructure (all 6 teachers in bush materials houses); some station facilities, e.g. lighting, from Border Administration.

Crocodile farming: n/s

Rubber: The Nakaku scheme—production ceased ca. 1988-89 and restarted June 1994 with 3½ tonnes stockpiled awaiting transport to the Progress Company factory at Kiunga.

Vehicles/Outboard canoes (Not counted—a large number)

Water supply: Trust installed pumps/tanks.

Comments

Nakaku Station was just as run down as all other government facilities inspected with many vital, e.g. rubber extension, positions vacant and all station housing in dilapidated condition. An airstrip site has been cleared as an alternate for Suki (Gigwa) Station and a means of building up the infrastructure at Nakaku but the strip has not been completed and brought into use. The station and rubber scheme are discussed in the text.

Eniyawa

Councillor 1994: Cr. Swai

Komitis: Masai KWAMAI and Gigimi DENU at Suki; Mitri DUSU and Isaac AGUDI at bush village.

Map reference/location: WG 892030 (approx.), but many have houses at Suki (Gigwa) Station

Visited: bush village not visited, interview held at Suki 31/8/94

Group: Suki

Language: Suki

Recent relocations: People were at Subaka (WG 947032 approx.), then at Duru (WG 935005), then at Eniyawa.

Nearest school: Suki Station (ECP)

Nearest health facility: Health SubCentre, Suki Station (ECP)

Nearest radio: Health SubCentre, Suki Station (ECP)

Churches: Evangelical Church of Papua

Employment: n/s

People outside the District: Notably Perry Zeipi, MP, of Kwainu Zamna clan; he has a house at Suki Station.

People from outside the Dist.: n/s

Stores: n/s

Other non-domestic buildings: P. Zeipi was building four village longhouses at the station as community halls, 1 for Sapuka, 1 for Pukaduka, 1 for Eniyawa Gigwa clan, 1 for Eniyawa Kwainu clan. These would be used as sleeping and meeting houses for these village groups when they came in from their bush villages to Suki station.

Crocodile farming: n/s

Rubber: Not here, at Nakaku.

Vehicles/Outboard canoes (Not counted—many)

Water supply: Village not visited, Suki Station has solar pumps, tanks from Trust.

Comments

Probably due to the leadership of P. Zeipi, Eniyawa villagers conduct their public village life at Suki, while maintaining their bush village for subsistence purposes.

Gwibaku

Councillor 1994: Naio GANGA

Map reference/location: WG 806102

Visited: 31/8/94

Group: Suki, mainly Bukaru clan

Language: Suki

Recent relocations: Gwibaku is the old village, people shifted to Pukaduka 1 from 1969 to take up rubber blocks at Nakaku.

Nearest school: Suki Station (ECP), but it's likely that any children from here would live at Pukaduka and go to Nakaku.

Nearest health facility: Health SubCentre, Suki Station (ECP)

Nearest radio: Health SubCentre, Suki Station (ECP)

Churches: Evangelical Church of Papua

Employment: None here

People outside the District: (Refer Pukaduka if any)

People from outside the Dist.: (Refer Pukaduka if any)

Stores: None

Other non-domestic buildings: None

Crocodile farming: n/s

Rubber: (Refer Pukaduka, Nakaku)
Vehicles/Outboard canoes n/s
Water supply: Trust tank/haus win.

Comments

The situation of Gwibaku illustrates the difficulty of 'schemes' like Nakaku. The village elder, Naipu, borrowed money for a block and grew rubber, repaying his loan, or most of it. But he eventually moved back to Gwibaku because his clan, Bukaru, a cassowary (sub)clan, had no land near Pukaduka where he could settle securely. He also returned to 'look after his own land'.

Gwaku (same ward as Aewa, Riti, Kautru)

Councillor 1994: Cr Sinba (Makina SINBA)
Map reference/location: WF 629061
Visited: 1/9/94

Group: Gikwa: Fursa, Karigar, Basuber
Kwainu: Bukiwa, Berkwok

Language: Suki

Recent relocations: Were on western side of Gwaku Ck. (at several sites, see topo sheet), present site only fully established in 1994. New school + aid post proposed at Gigrarugi (WF 639068).

Nearest school: Suki or Nakaku.

Nearest health facility: Health SubCentre, Suki Station (ECP)

Nearest radio: Health SubCentre, Suki Station (ECP)

Churches: Evangelical Church of Papua, Bahai with three members.

Employment: Not here, cf. Suki, Nakaku.

People outside the District: n/s

People from outside the Dist.: n/s

Stores: 6 stores, notably Kim Trading

Other non-domestic buildings: 2 fuel stores

Crocodile farming: n/s

Rubber: At Nakaku: people make sago, go to Nakaku and come back when they run out.

Vehicles/Outboard canoes 5 motors, all working

Water supply: Trust tank, haus win converted into Kim Trading store.

Comments

See p. 24 for a mention of Gwaku in connection with the Weridai raids of 1926 and 1931. Murray noted in the 1935 *Annual Report* that he hoped soon to establish friendly relations with 'the vaguely known Gwagu tribe living on the fringe of the swamp country north of Kiaru in the vicinity of Suki Creek.' (Commonwealth of Australia 1935:7); this is the first written mention of Gwaku village.

APPENDIX B

FISH CATCH DATA FOR THE MIDDLE FLY BARRAMUNDI FISHERIES

(courtesy of J. Ransley, OTML Business Development + own observations)

The current records start in 1992 and of the three fisheries, only Bosset (Wam Fishing) was in operation earlier. Data for Bosset during the period of involvement by the Montfort Mission may exist, but I did not find any.

Years	Month	Manda		Bosset		Obo	
		Fillets	Whole fish	Fillets	Whole fish	Fillets	Whole fish
1992	Jan	0 kg	0 kg	0 kg	0 kg	1500 kg	0 kg
	Feb	0 kg	0 kg	0 kg	0 kg	1550 kg	0 kg
	Mar	0 kg	0 kg	0 kg	0 kg	796 kg	0 kg
	Apr	0 kg	0 kg	100 kg	0 kg	680 kg	396 kg
	May	0 kg	0 kg	0 kg	0 kg	340 kg	0 kg
	Jun	0 kg	0 kg	250 kg	0 kg	470 kg	0 kg
	Jul	0 kg	0 kg	0 kg	0 kg	1320 kg	0 kg
	Aug	0 kg	0 kg	0 kg	0 kg	390 kg	0 kg
	Sep	0 kg	0 kg	0 kg	0 kg	400 kg	115 kg
	Oct	0 kg	0 kg	0 kg	0 kg	1590 kg	0 kg
	Nov	0 kg	0 kg	0 kg	0 kg	430 kg	0 kg
	Dec	550 kg	0 kg	0 kg	0 kg	350 kg	83 kg
1993	Feb	0 kg	0 kg	0 kg	0 kg	1350 kg	0 kg
	Mar	0 kg	0 kg	36 kg*	0 kg	1600 kg	0 kg
	Apr	360 kg	0 kg	11 kg*	0 kg	180 kg	40 kg
	May	0 kg	0 kg	0 kg	0 kg	1350 kg	50 kg
	Jun	240 kg	0 kg	0 kg	0 kg	700 kg	500 kg
	Jul	580 kg	0 kg	(lake dry)		1230 kg	105 kg
	Aug	0 kg	0 kg	(lake dry)		2900 kg	150 kg
	Sep	980 kg	0 kg	(lake dry)		1020 kg	123 kg
	Oct	0 kg	0 kg	(lake dry)		400 kg	0 kg
	Nov	700 kg	0 kg	(lake dry)		2440 kg	0 kg
	Dec	0 kg	0 kg	422.9 kg of deer*		260 kg	0 kg
	1994	Jan	100 kg	0 kg	183.7 kg of deer*		400 kg
Feb		400 kg	0 kg	nil		680 kg	60 kg
Mar		0 kg	0 kg	nil		1030 kg	0 kg
Grand Total		3910 kg	0 kg	397 kg	0 kg	25356 kg	1622 kg

* data from notice board in fishing shed at Bosset.

Note: deer were caught for sale by Wam Fishing as a substitute for barramundi.

APPENDIX C

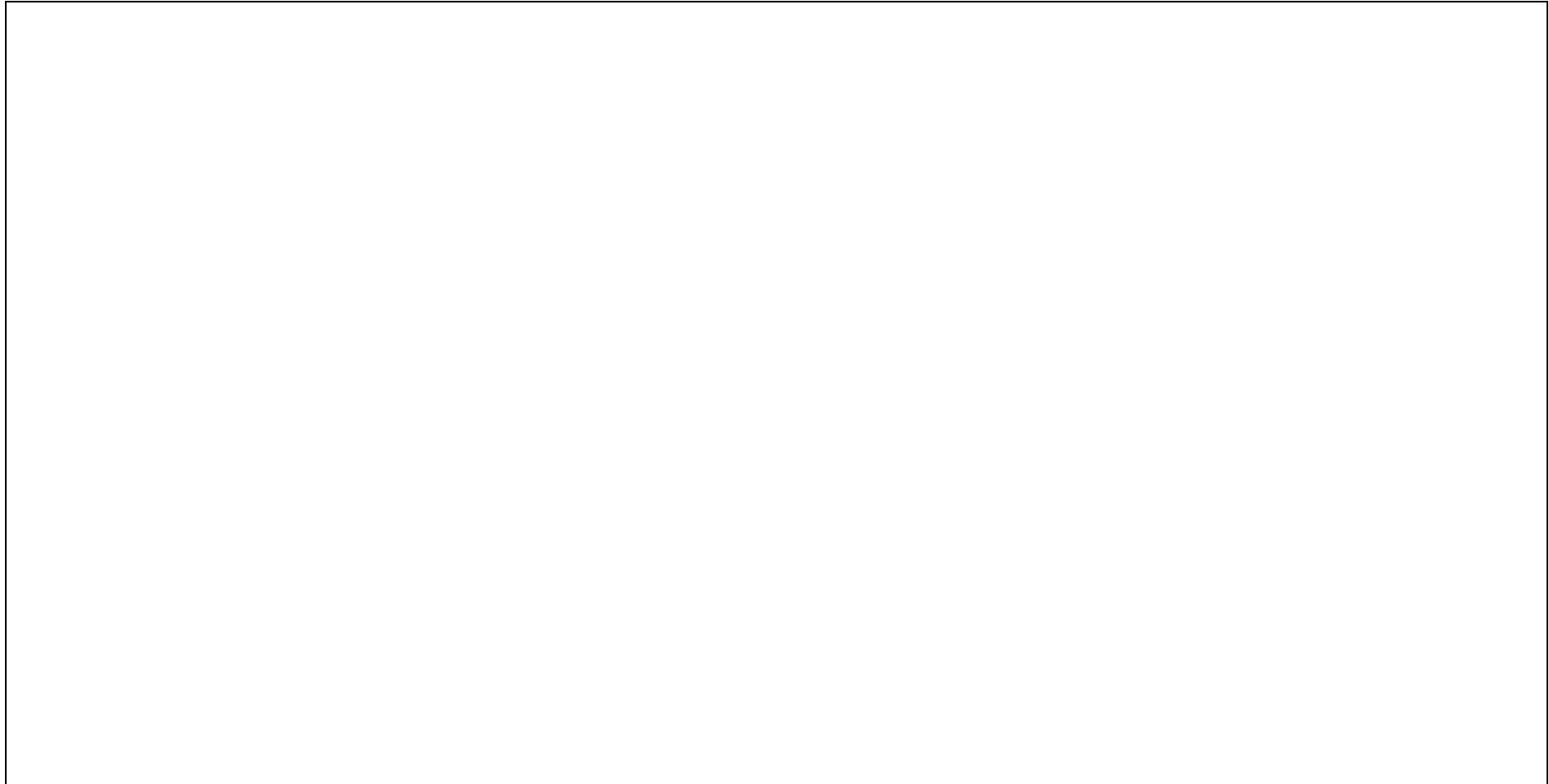
RAINFALL DATA FOR BOSSET AND CORRELATION WITH THE SOUTHERN OSCILLATION INDEX.



Appendix C (CONTD.)

COMPARISON OF BOSSET SEASONAL RAINFALL WITH SOUTHERN OSCILLATION INDEX

(additional data courtesy of B.J. Allen)



APPENDIX D

CLAN STRUCTURES OF MIDDLE FLY GROUPS.

The Boazi and Zimakani have closely related systems of dual organisation, with Sun and Moon moieties. Busse makes the same associations, but does not translate the names so directly. He says most informants said that Mugav and Kaukwin were ‘just names’:

Some people suggested that Kaukwin was formed from *auk*, which means ‘water’, and *kwin*, the suffix which is part of the names of many totemic groups. No one could provide me with a comparable derivation of Mugav. The suggested derivation of Kaukwin makes sense since the totemic groups which constitute the Kaukwin moiety are those which have as their totems animals which live in or around the water (1987:234).

However,

... Boazi moieties have certain limited symbolic associations. The moon, stars and night are said to belong to the Mugav moiety, while the sun and day are said to belong to the Kaukwin moiety (1987:235)

I have no knowledge of the Boazi language but, while ‘Kaukwin’ appears to have been the main pronunciation, I was first given it as ‘Koukwin’ or ‘Koua kwin’ (at Bosset) and told the derivation was from *koua*, ‘sun’, and *kwin*, the clan marker. Among the Ingas I recorded ‘Kau(o)kwin’ with *kauo* being given as ‘sun’, and the comparison was made with *gauo*, ‘dog’, becoming Gakwin, ‘dog clan’. As with Busse, no meaning was advanced for Mugav in contemporary language at any place.

Busse continues in a footnote to say the Zimakani say Kaukwi, (I found Kauakwi; see Figure 13), but that Voorhoeve (1970:16) recorded ‘Kaguakwi’, and Williams (1936:61n) ‘Kanekwi’ at the Everill Junction. Busse splits ‘Kaguakwi’ into *kagwa*, ‘canoe’ and *kwi*, the clan suffix, wondering whether ‘canoe’ is in fact the original derivation among both the Zimakani and Boazi.

For Williams’ ‘Kanekwi’, I suggest that ‘n’ and ‘u’ were very similar in Williams’ handwriting and that he committed the not unusual ethnographer’s blue of reading back his notes incorrectly. In other words he heard and wrote down ‘Kauekwi’ and read it back as ‘Kanekwi’, this variant being spurious.

Along with van Baal (1966), Busse goes on to discuss the additional associations of Mugav and Kaukwin with west and east.

Further classification of Boazi, Gumakan and Zimakani moieties and totemic groups

Among the Boazi, Gumakan and Zimakani the moieties are each made up of between two and five totemic clans; if sufficient numbers of people exist, a clan may be divided into a pair of subclans. The structures given to me of the Ingas, Sangizi, Wamek and Komak subtribes of the Boazi, and for the Gumakan and Zimakani, are given below.

Within the Sun and Moon moieties a core group of totems is more or less universal—Barramundi and Turtle for Sun, and Cassowary, Crocodile and Pig for Moon. After this, there is a certain amount of disagreement (Table 15).

One informant said all water animals should be Sun and all land animals Moon. This fits reasonably well in most of the tribes (noting that Crocodile is classed with the land animals and Cuscus with the water). The Ingas stand out as being different; here Turtle is Moon and Pig is Sun. Also, Pig and Dog are in opposite moieties, whereas among the Sangizi, the only other place to have Dog, the clan known mostly as Pig is the same thing as Dog.

Mainly Sun	Remarks
Barramundi	Always Sun. All six tribes.
Bass/Mangrove Jack	Always Sun. Not in Ingas, Sangizi.
Turtle	Sun, except Moon in Ingas. All six tribes.
Cuscus	Always Sun. Ingas, Sangizi and Wamek only.
Diver	Sun. Ingas only.
Pelican	Sun. Only Komak.
Sago	Sun. Ingas only.
Mudfish	Sun. Wamek only.
Tree kangaroo	Sun. Zimakani only.
Small turtle variety	Sun. Zimakani only.

Mainly Moon	Remarks
Cassowary	Always Moon. Not present in Gumakan.
Crocodile	Always Moon. All six tribes.
Dog	Moon. Ingas and Sangizi only. Synonym for pig in Sangizi.
Pig	Moon, except Sun in Ingas. All six tribes.

Table 15. Boazi, Gumakan and Zimakani totemic associations.

In general, it is essential that the totemic clans are consistently in one moiety or the other in a moiety system. This is to lend order to the rule of exogamy between the moieties—you must marry into the opposite one. As Pig is Sun among the Ingas and Moon among the Wamek, which principle should followed? Should a Pig in Ingas avoid marrying a Pig from Wamek because they have the same clan totem? Or is it acceptable because the affianced is of the opposite moiety? I was told moiety exogamy was the key thing; the latter is true.

The Ingas of Mipan

Notable features are the extent of land holdings in Indonesia, the absence of subclans and the difference in the fitting of clans into moieties compared, say, with the Wamek of Bosset.

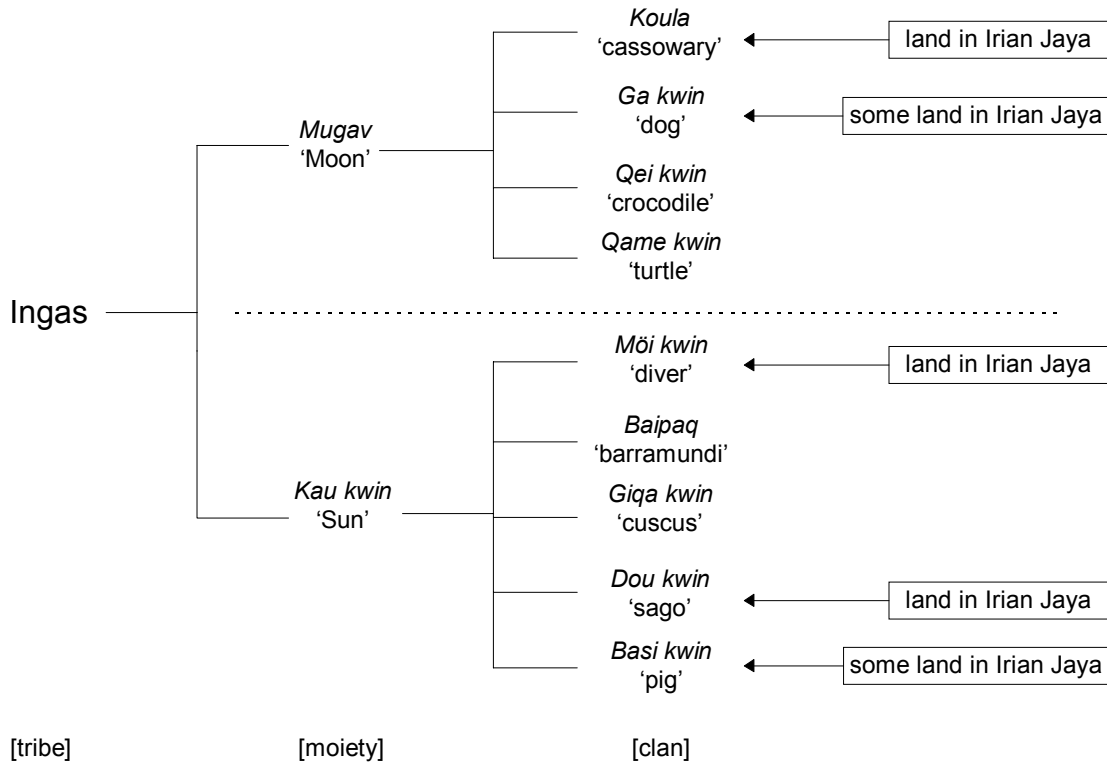


Figure 8. Moiety and clan structure of the Ingas, with clans.

The Sangizi of Manda

Like the Ingas, the Sangizi have numerous areas of sago in Indonesia.

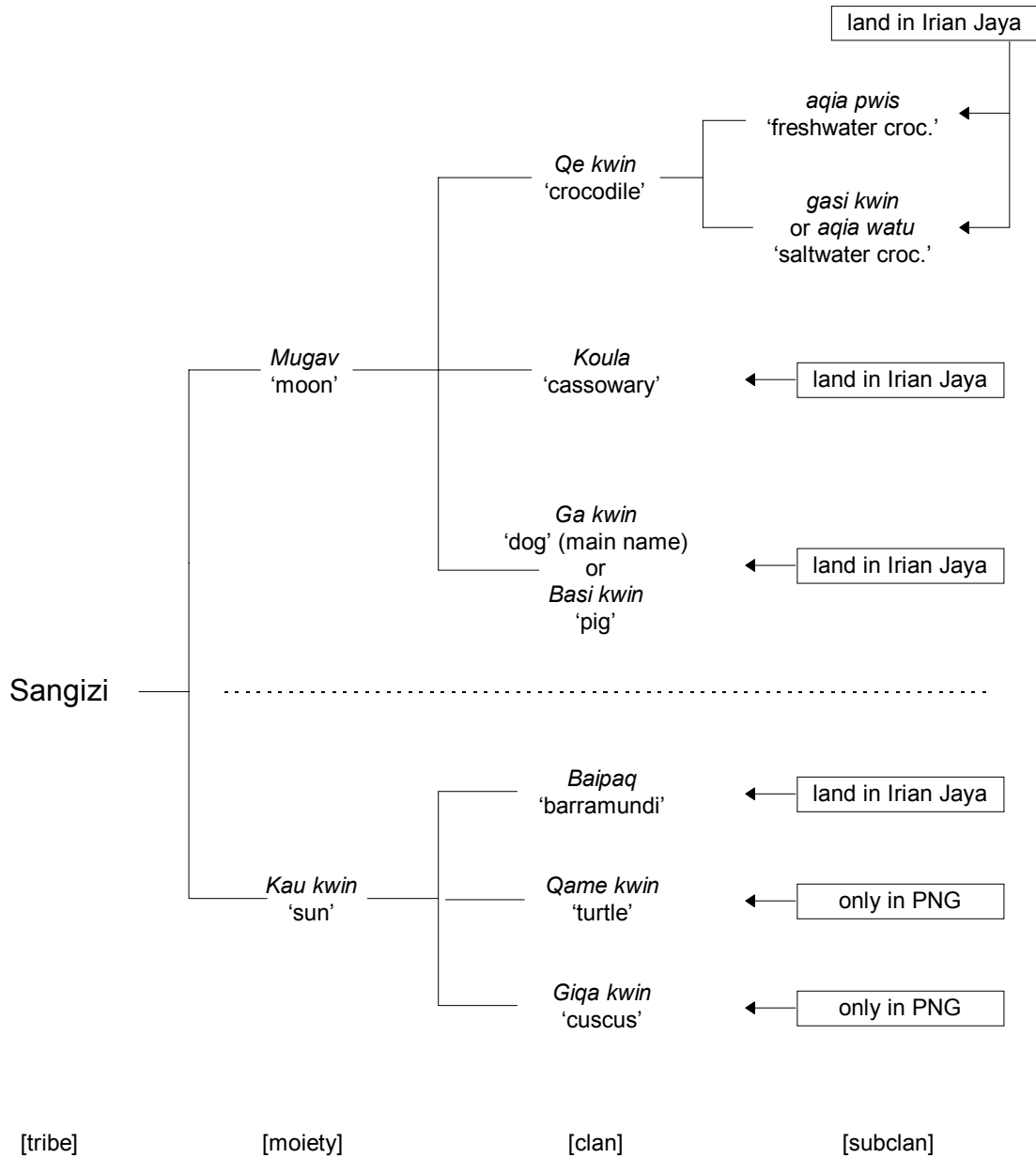


Figure 9. Clan structure of the Sangizi of Manda.

The Wamek of Bosset

This is the most populous group. See Busse (1987) for further details.

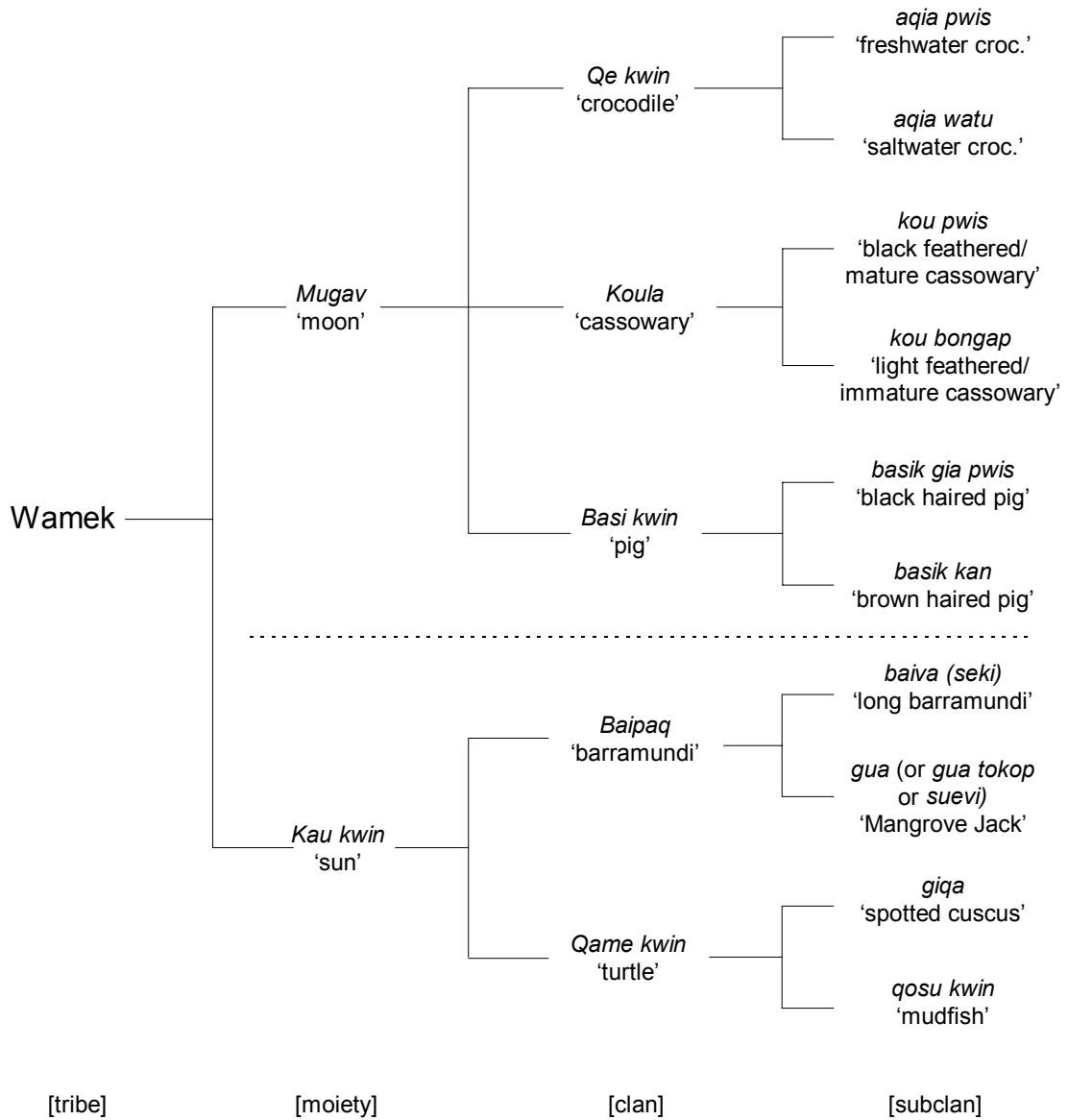


Figure 10. Clan structure of the Wamek of Bosset.

The Komak of Wangawanga/Aiambak

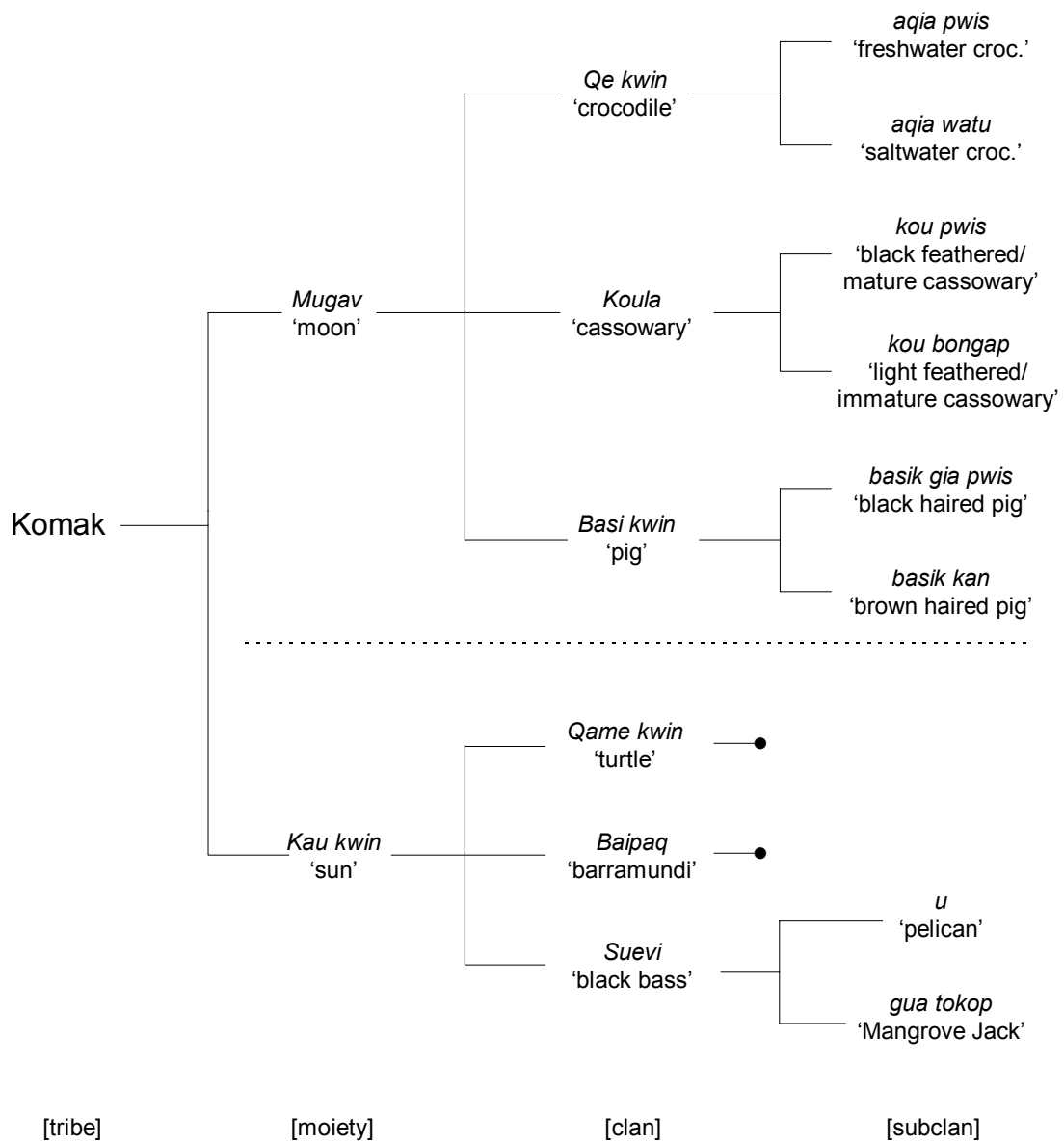


Figure 11. Clan structure of the Komak of Wangawanga.

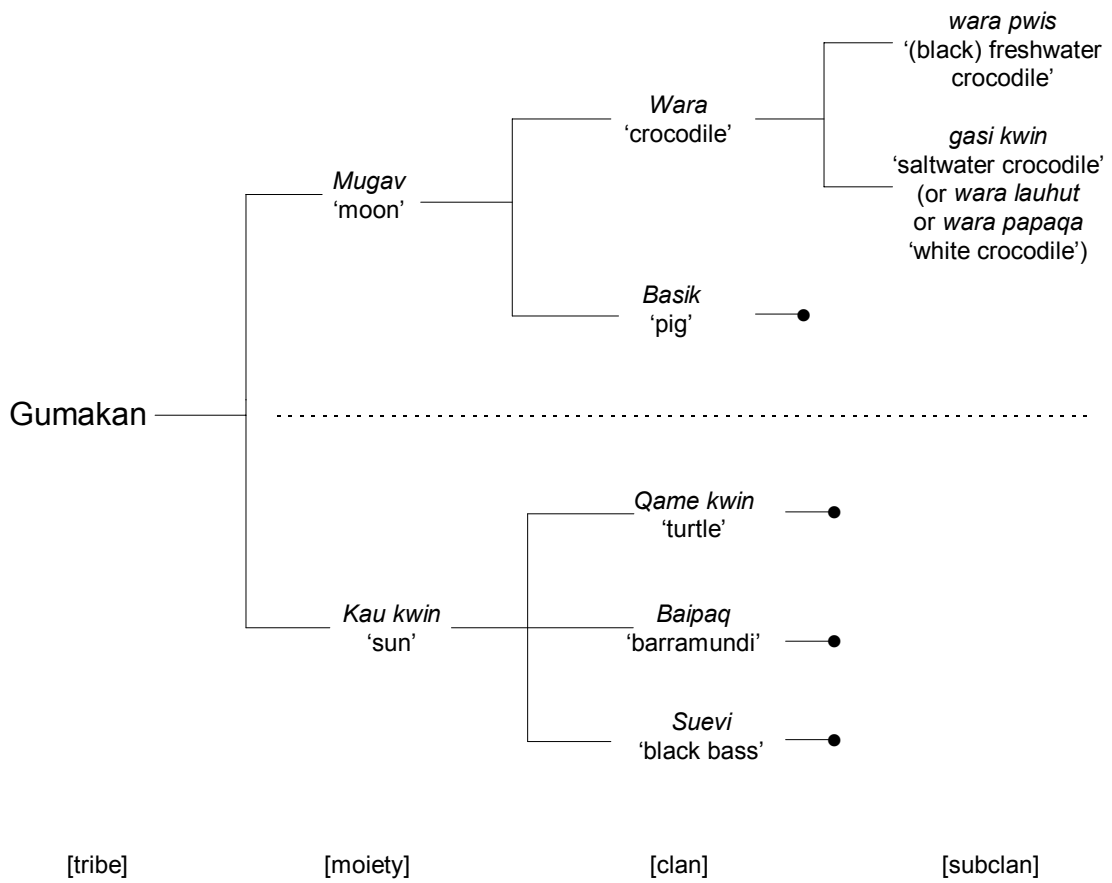


Figure 12. Clan structure of the Gumakan of Komovai/Azunange.

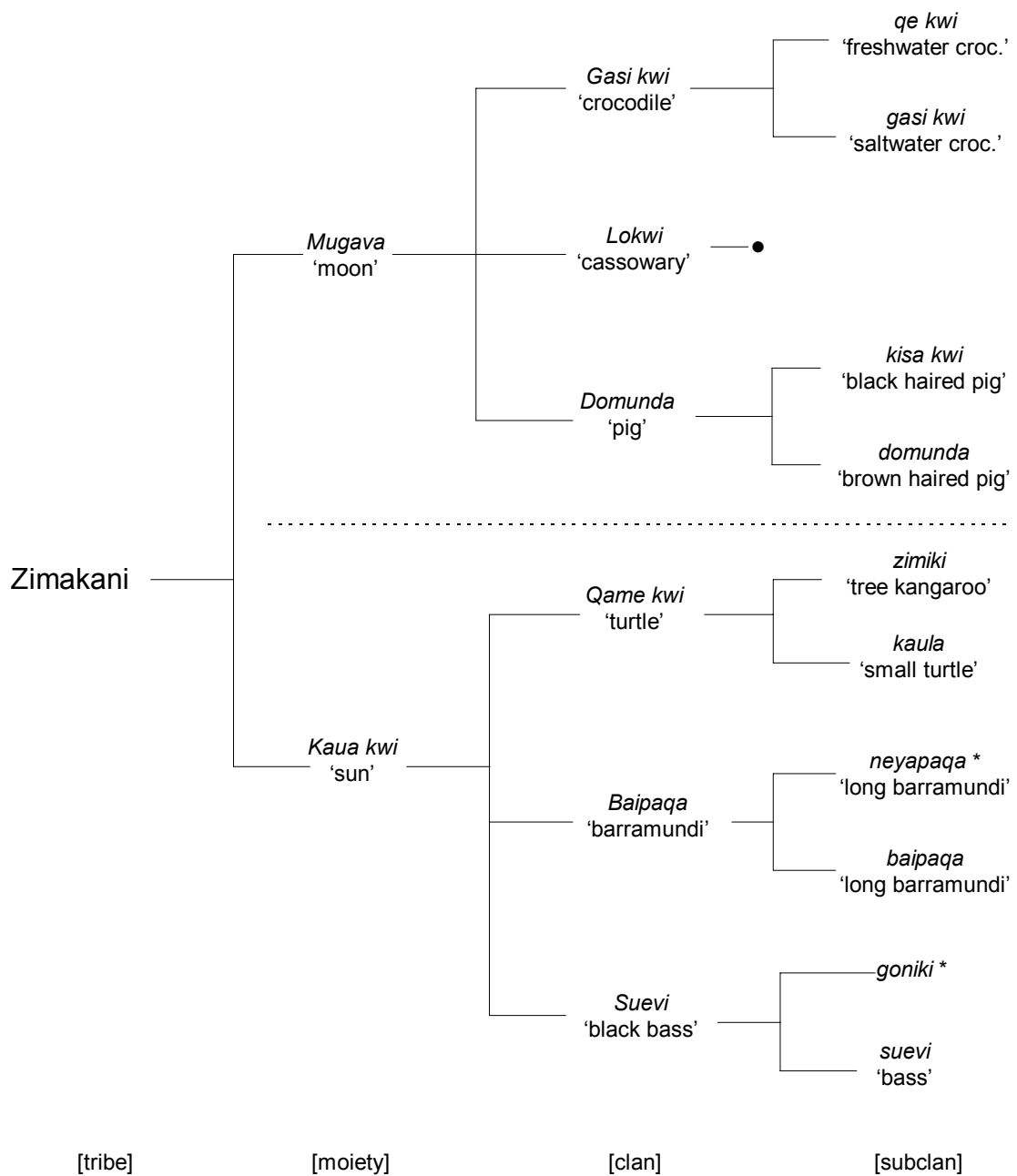


Figure 13. Clan structure of the Zimakani of Kaviananga, Kasa and Levame.

(* denotes non-Zimakani refugee group absorbed during tribal fighting)

APPENDIX E

CLAN STRUCTURES OF SUKI VILLAGES

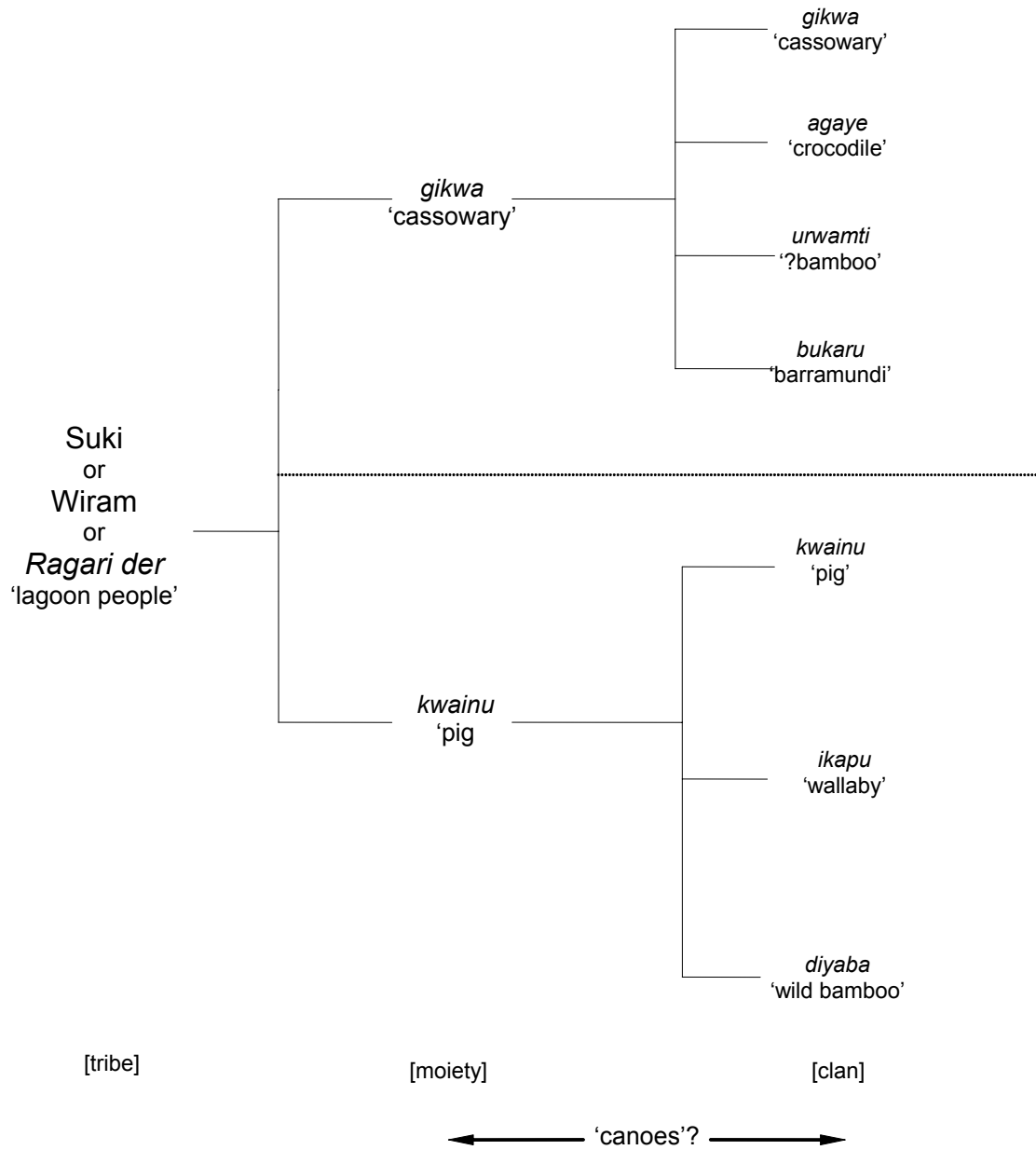


Figure 14. Clan composition given at Riti.

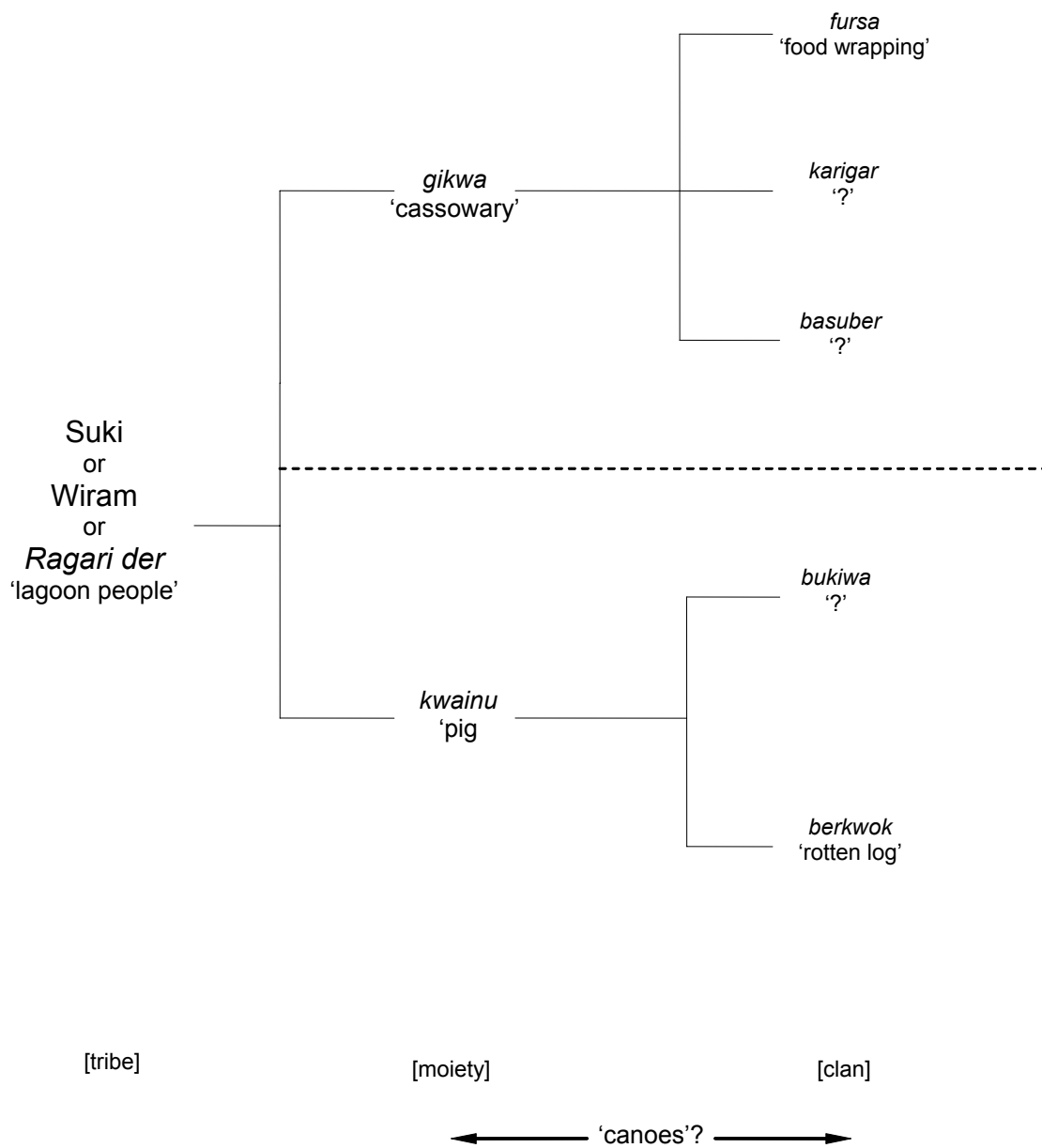


Figure 15. Clan composition given at Gwaku.

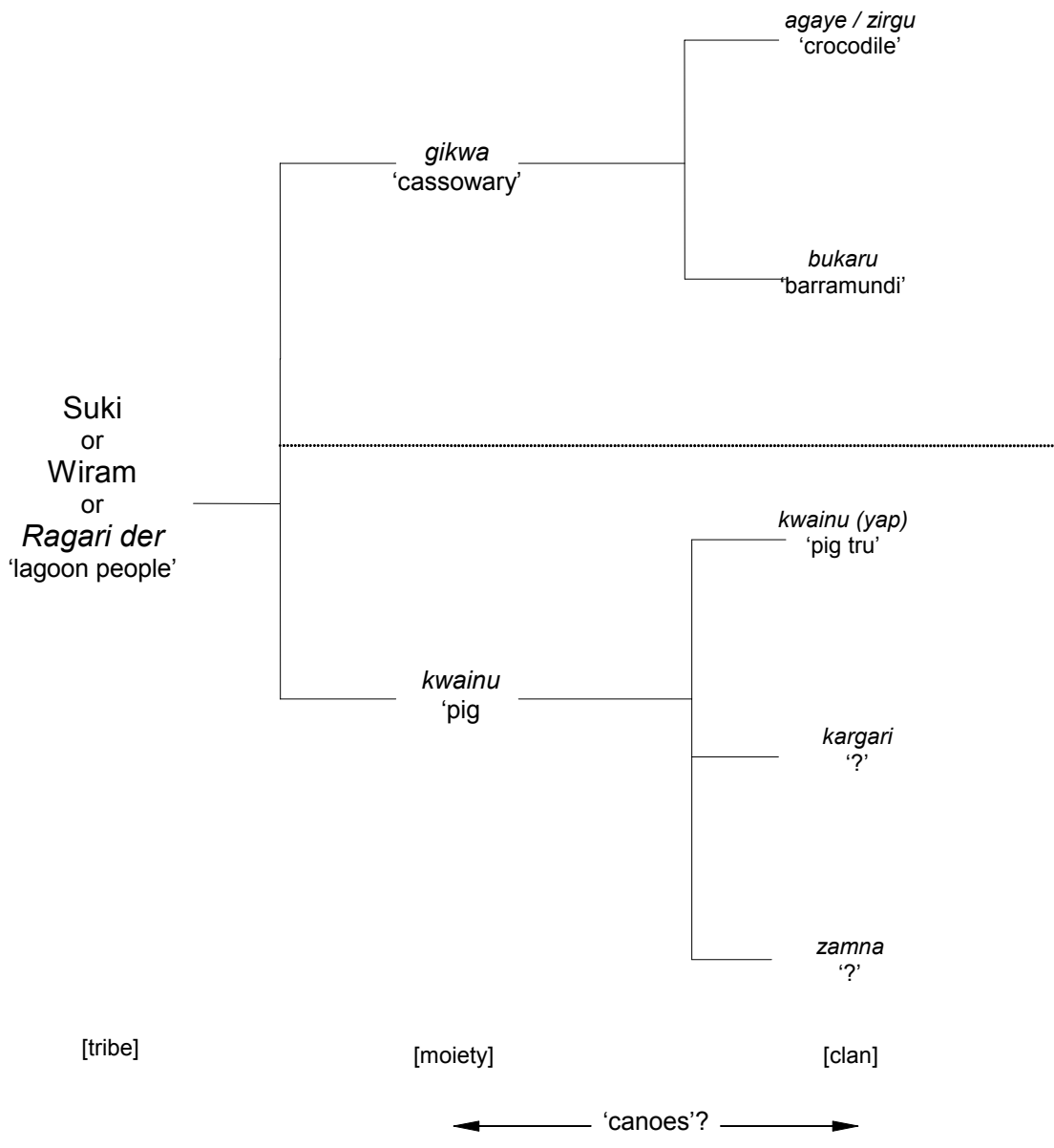


Figure 16. Clan composition given for Eniyawa.

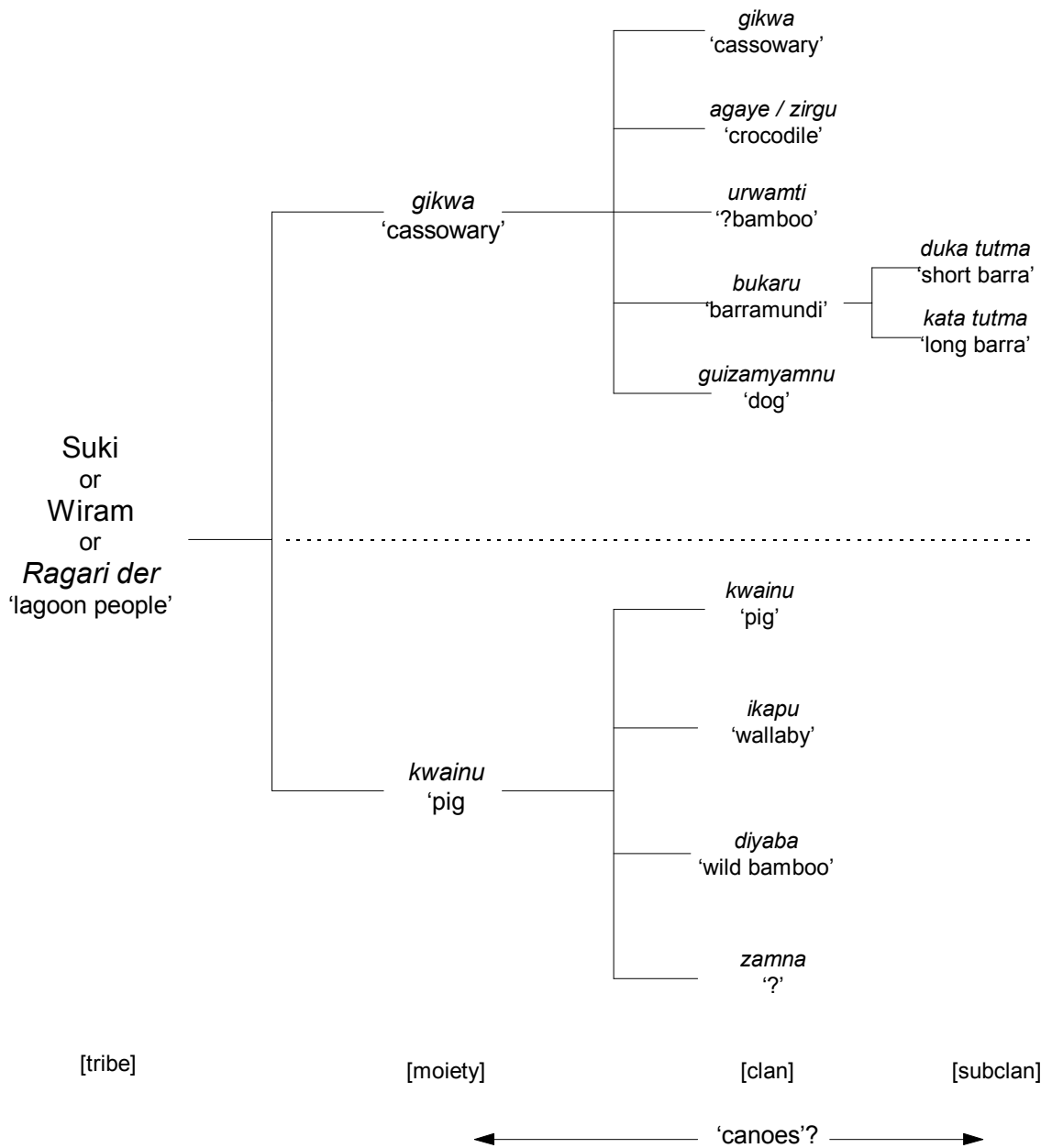


Figure 17. Clan composition given at Pukaduka 1.

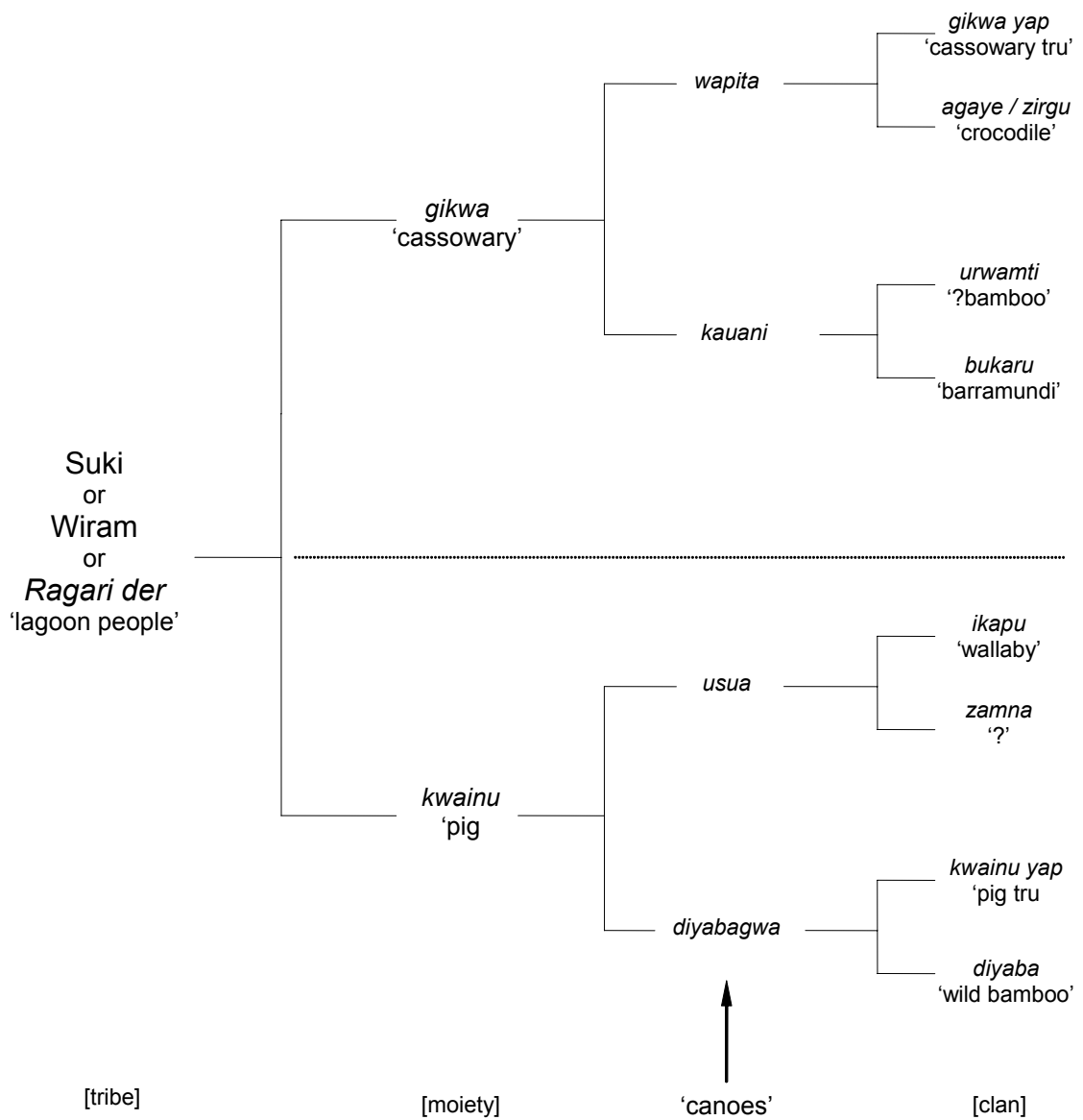


Figure 18. Clan composition given at Gwibaku with grouping into 'canoes' above the clan level.

APPENDIX F

QAYU'S *TOK PROMIS* TO THE MANDOBO.

According to Swadling (1983:23, 35 note 43), the Mandobo and Muyu, the Irian Jaya Yonggom people similar in culture to the Mandobo, moved to the upper Bian River in the 1920s, and then towards the Papua New Guinea border; approximately 1000 Mandobo and Muyu were settled in the upper Bian by 1937. In an account given by Dick Kumbange, and his son, Marcel Kumbange, the Kuem group came to live on the Fly River in the following manner:

The Mandobo country was on the Irian Jaya side of the border and war leader by the name of Kimbin gained renown among his own and neighbouring peoples during fighting with the Qouzi people in the early part of the century. Kimbin told his inlaw, Dohot, that if he travelled across the Wonam lagoon and came into contact with the Boazi Ingas tribe (whose descendants live at Mipan) he would find friendly people there as he had himself been well-received. Dohot, a member of the bird clan, and another man, Yemikinity, brought the first group of Mandobo to the country of the Ingas in the 1920s, where they were received by a leader called Qayu, who Dohot could also identify as belonging to bird clan.

Dohot and Qayu had a feast at the place Mutimangi at which their two groups exchanged women with each other for the feasting period, in the traditional peace-making manner. One man from each side came forward and collected their fighting weapons (bows and arrows, and axes), broke them, and threw them into the Wonam lagoon. Qayu stood up and held his hands out to indicate a part of Ingas country in Irian Jaya and to show that he was granting them its use. This was Qayu's promise and while the land could not be given absolutely, it was granted (in Cr Dick's words) for the Mandobo 'to freely use from generation to generation'.

The Mandobo are divided into three clans, cassowary, pig and bird; Qayu allowed the different subclans present among the settlers the use of different areas of land, as shown in Table 16.

Land	Clan	Subclan	Comment
Keimange	Pig (<i>waingan</i>)	<i>igiti</i>	On the Fly between RM345 and RM350.
Selam	Pig (<i>u</i>)	<i>utan, gewot</i>	A swamp.
Wonam	Pig (<i>u</i>)	<i>togorop</i>	A lagoonal area west of the Fly.
Kuak	Bird (<i>et</i>)	<i>ekoku</i>	A swamp. There is a border marker at Kuak.

Table 16. Places in Irian Jaya granted to the Mandobo by Qayu.

Subsequently, a second group came to the place called Selam, led by Omorop and sponsored by the Ingas man, Karot. Others followed later. Qayu's promise was for land on the western side of the Fly and was made before contact. This occurred when a Dutch patrol did a census at Keimangi in the 1940s. Qayu's three sons, Amenap, Mathias and Koto had taken his place by then. Amenap, the eldest son, personally lived among the Mandobo at Keimangi, and later brought them to the first Kuem village ('old Kuem') before going back to live with Mathias and Koto at Mipan. The Mandobo moved to Wakamunda, near the RM 340 marker on the Fly, before settling at the present Kuem village in 1961 with the permission of the three brothers. At this time the patrol officer Mr Anton and his Morobe police sergeant Womi Isiki investigated the situation.

APPENDIX G

MEETING AT MIPAN VILLAGE

This Appendix contains material illustrating the scope for misunderstanding of the objectives, methods and validity of our project. After the village visit I describe here, I wrote up my field notes in the form of a set of minutes and copied them for comments to two staff who have had a particularly close relationship with us. I was unprepared for the 'discomfort' experienced within the company when others caught sight of the memo...

See above, p. 45, for further discussion of method in relation to this.

Part A. Minutes of a meeting at Mipan village, 16/3/94.

The meeting convened at the 'single men's house' at 4 pm. Present were myself, Barnabas Uako, the provincial member for Lake Murray constituency (suspended), Councillor Richard Nosai, and 48 other men. Hearing of our trip two days earlier, Mr Uako had prepared a detailed agenda for the meeting and had gone over its contents in a public meeting the previous day.

I read out my written versions of the questions that were put to me as I took the minutes. In lieu of holding a further meeting to verify that these were a true record of what was said, I took the people's nods of approval or added verbal comments to mean that I did have a reasonably precise representation of what they said. I have expanded on my notes in places, but I have not expanded on the actual discussion that took place, nor have I used more complicated vocabulary than was used (indeed I have had to break up some longer words in some instances to lend conventional grammar to a technical sentence).

Mr Uako conducted the meeting in English and repeated my answers in Boazi language. Other men interjected or made points to each other in Boazi, and interjected or asked direct questions in English. Thus the points in each section below came from a variety of sources. It was also clear that the issues had been properly discussed at the meeting held before my arrival.

There were no women in attendance.

1. *OTML biologists* fish in our waters but we don't ever see the results. Are the fish safe to eat or is there cyanide in the river?

JB *OTML* does have a clear talk on the environmental programme and they have given it many times to the government, other people in the mining industry, and environmental and parliamentary delegations, as management have told me. Unfortunately, from what you and people in other villages have told me the talk has not been given to villagers in your area. I will relay your concern and say that you want proper information.

On the other part of the question, I can say that cyanide was used in the gold processing plant which was operated from 1984 to 1988. This means that it has not been used at Ok Tedi for over five years.

2. Sometimes the OTML Environment Department sets nets and *catches a lot of fish*. As the fish are part of our resources we want to know what they do with it. We understand that they only test part of the fish—what do they do with the rest?

JB I can answer this in three parts. As I am not from the Environmental Department, I do not have knowledge of the environmental testing methods. Some things I know about and I will tell you about them if I do. But there are many things I do not know about and I will tell you when I do not know. For these things, OTML will have to come and tell you.

The first part is that, although it may seem extraordinary to you, under the Water Resources Act the fish in the waterways of Papua New Guinea belong to the government ...

[exclamations of disbelief, sucking in of breath etc]

... so that, in this case, the Department of Mining and Petroleum can give an order to the company to test the fish. The company does not have a choice in this; they must do it. As far as the law is concerned, they don't need permission (I will talk about this in a minute).

The second part is the test results are listed and presented to Mining and Petroleum, and the provincial and national governments in quarterly reports using the Ok Tedi project liaison system. The quarterly meetings moved between Tabubil, Daru and Port Moresby each three months when I last asked about this and I believe this is still true.

From a *narrow* point of view the company has finished when it has done this and it is the government's job to tell you about these arrangements, and the results of the environmental programme. Obviously, to be a good neighbour the company ought to let you know itself, but it does not have to.

The third part is that the Environment Department has understood that people do not like them to catch more fish than it needs to. As I understand it, they have reduced the amount of fish by using new equipment—radio sensing equipment—to do some of the monitoring work. But they cannot avoid catching fish if the tests are to be done properly. This is what your government, in trying to look after the environment, says they must do.

3. Every corner of each lagoon has a *clan owner*. It is our custom that fish must be paid for from these private fishing areas, unless the owners have been asked, and have granted permission, first. We want to know if we can be paid for these fish.

JB What about the difference between the private and public areas?

A The Agu and Fly Rivers are public fishing areas. It is the lagoon inlets, like Kui, Wagis, Jui, Da Kusu, Szaga, Rhang, Ame, Boiat, Boiwi, Dikwi, Kanda, Geinum, Zama, Rhosa, Nengapuk, Nangamange, and so on, that are private.

JB I ask you whether public areas can be sampled, but in private lagoons only where permission is obtained or payment made?

A That could be alright, but here is an example. Two weeks ago the 'Western Venturer'²⁸ set nets and caught plenty of fish ('like grass'). Some fish were caught in nets and others were poisoned with a powder they poured onto the water from a drum. What we are telling you is that they catch so much. Why?

²⁸ Western Venturer not known to be in the area, but the speaker was adamant that it was not another vessel.

Look. We are saying that we are worried about our fish. We don't have scientific proof but as our supply of resources is limited, and especially as the international border has been drawn across our land, cutting some of it off from us, we cannot afford to lose any.

We say these fish are now absent or rare:

Boazi name	Description	Occurrence
<i>buisese</i>	a catfish, white/grey, can be very large in size, it has a tail, tiny eyes	absent
<i>katoga</i>	'sawfish', tail like a shark	absent
<i>pav</i>	catfish, small mouth, yellow feelers, likes to feed on small insects above the water	absent
<i>hoho</i>	catfish that grunts like a pig, sharp head. Alternative name is <i>basik</i> , 'pig'.	absent
<i>foisik</i>	mullet	rare
<i>doumoko</i>	small flat fish, grey with black spots	absent

Table 17. Main species named at Mipan

We also say these animals²⁹ have declined:

Boazi name	Description	Occurrence
<i>daaka</i>	yabbies	absent from main lagoons; now only in bush creeks
<i>saki</i>	water leeches	absent
<i>davu</i>	water snakes	rarer than before

Table 18. Secondary species named at Mipan

Apart from this, the 'walking fish' (walking perch) is causing damage because it swallows other fish and is even known to take divers when they plunge in to catch fish.

JB The 'walking fish' has come across from Irian Jaya?

A That's correct.

4. A similar point is that some of our *sago swamps* are so far away from the village, like Zama Kusu, Da Kusu and so on, that it is not easy for us to complete simple village tasks like finishing a house in one go. That's why you see so many half-finished houses here. It's difficult to be in the village for long enough to get things done. We cannot afford any environmental disturbance on top of this.

We say we have so many sand banks these days that many the canoe passages that we used to use in the past are blocked off. We used to be able to rely on the high water periods of open up all the short cuts to places we can't use in the dry season—now the short cuts don't open for us.

[speaker in his late 30s] When I was a boy, we used to have at least five months of clear, high water each year in the Agu lagoon. Now we don't. We get grass cover from the dry season and the lagoon doesn't clear properly.

²⁹ Species names can vary depending on whether the singular or collective form is given, e.g. *davuam*, 'water snake', *davu*, 'water snakes'.

[speaker in his late 40s] Of course the Fly was regularly in flood before the mine started, but in the old days when it flooded we didn't see sand banks being formed like we do now.

5. Part of our traditional land lies on the Irian Jaya side of the *international border*, such as in Wonam lagoon.³⁰ Our problem is that (Yonggom etc) refugees began to come across and have been squatting on our land since 1983. We are fed up with this and want the national government to help us get rid of these people. They have taken up residence along the Fly. They are 'illegal refugees' and should be at the Iowara Camp. We particularly don't want them here because they provoke the Indonesians into patrolling our section of the border more often and we do not like the harassment (from both the soldiers and the OPM) that this brings.³¹ The soldiers know who we are and we are allowed to make sago in our lagoons and swamps, but we try to avoid them as much as possible.

The thing is, the way we hold the land is that the owner of a river and its swamp must hold the whole catchment. Our borders follow these natural features. But the international border just cuts right through our lagoons without regard to where we live or how we own the land. Until 1954 we were under the Dutch government and our places were on the other side. We are all here now but we do have relatives in Irian Jaya among the Rhosi people and we used to get passes to go and see them. But with the refugee problem a circular has come around from Foreign Affairs saying that no more passes will be given. This is not our fault.

- JB Yes, I'm sorry about that. It's funny that the Dutch, the Germans and the British who drew the borders here in New Guinea have just got rid of their own borders. Actually you'd be able to walk from Germany, through Holland to Britain after May this year because they're opening a tunnel ...

BU You mean a tunnel for trains?

- JB Yes. They'll keep the border for soccer teams. Not for anything else.

[laughter]

- JB Seriously, there is little anyone other than you can do about it. But I believe *you* may be in a position to draw attention to this problem with your resources. The governments did move the line once, when the border bulge—the part that sticks out into Irian Jaya in the band of the Fly—was given to Papua New Guinea. Unfortunately, this involved moving the line below the bulge about 2.5 km eastwards and giving the land from there down to Bensbach to Irian Jaya. Actually, it was mainly your land that came into PNG and places like Kai lagoon³² that went over to Irian Jaya.

The best solution is to make a request through the Lake Murray council for more exchanges of information with the border posts on the other side, like Bupul. Since the border agreements allow you to go to your sago swamps, you have a right to escape harassment.

³⁰ The Koula and Moikwin clans at Mipan are those with this problem. I was hampered by a lack of maps of the border bulge and adjacent parts of Irian Jaya, but I believe Moikwin are the most severely affected. Two other clans have small amounts of land across the border; the rest only have land in Papua New Guinea.

³¹ Substantiated by inspection of two letters from the OPM (in Malay) received in February by the Mipan councillor. One openly threatens the village with an 'operasi' the other is more formal but is still harassing.

³² Belonging to the Sangizi of Manda village.

6. On the *Trust projects*, we are not happy with the way things are half-built. The problem with the tanks is that the liners fall in and the solar pump system just doesn't work. We want 'strong' projects. We want proper maintenance on the water supplies.
- JB People at other villages have mentioned the same thing. On the subject of the liners, I know that the Trust is aware of the problem and is doing something about it. Let me ask you: who are the Trust Committee members³³ here at Mipan?
- Q What do you mean? We don't have anyone here to do this.
- JB There must be a Trust Committee. Every village has a small group to decide on the projects and talk to Robin Ette and the contractors.
- [lengthy discussion]
- JB Well, which of you helped build the tanks and so on?
- A None of us. The supervisor from Bosset came with his own labourers.
- JB Well, how do you know what you want? What projects do you ask for?
- CLlr I asked for a double classroom last time. There is one other man, but he's at his sago place now.
- JB OK, well what I'm getting at is the Trust things are for you at Mipan. They don't belong to anyone else other than you. If you haven't got a small committee to discuss your problems with the Trust representatives, you must organise one. There is no point sitting in the village grumbling about things that don't work. I don't work for the Trust myself, so I can only carry messages but it is really up to you to explain what the problems are in the proper way.
- JB As I said, I have seen things for myself and I can find out about the problem of maintenance. But in the end these things are for you to use.
- Q The pump is not deep enough to get water. The Father at Bosset, he dug a real well, a big size, and this is what we should have. The pump—I'm not agreeing with this.
- JB This is a good example. If the solar pump is in a place where there is no water, you must find out where the water is—who else will know? The contractor who comes on the boat doesn't really mind where he puts the pump. It is you who want the water from it. If you know the best place for it, tell him.
- Another point is this. I have personally dug a well out, but I only went to four metres because it was too dangerous to go deeper without timber to put on the walls and so on. Even then, another person came and collapsed the sides in when I was wasn't there. I have seen a seven metre well, but I wouldn't want to be the one to work down the hole. It is too dangerous. From what you're saying, seven metres would not be enough. You need eleven metres or more. No, the auger is the best way to put the pump in. The contractor doesn't mind drilling more holes. He will keep moving the pump about in the village until there is water.
7. Could OTML tell us the *value of each project* they have given us. We are not sure who is getting what and another thing is the company might want to count the things they have given us as *compensation*.

³³ The correct term for this group should have been the 'Trust Executives'. However, the result of the discussion would have been the same.

JB I am not the right person to tell you the answer. I can tell you what I have read from the Trust information booklet, which you may also have seen, and I do talk to the Trust officers. Also the OTML managers have talked to us about the Trust for this research project.

The Trust spends K3m or so each year. It is split between the projects and the Village Development Fund. For the projects it is used up in materials, labourers, carpenters and so on, and some transport costs. It does not pay the salaries of the Trust officers like Robin Ette, or time in helicopters, or the cost of the boats—this would be a quick way of finishing the money.

Exactly how much it costs to build each project, I do not know. But I can say that if each village receives a school building or a set of tanks, as long as it fits into the overall budget in the year, it will be built. It is not the cost that is the most important thing. If a village gets a tank, it gets one tank. It is not that the Trust spends a fixed amount for one village and the same for the next—the cost depends on where the village is. Obviously it is cheaper to put up a haus win at Mepu village in Kiunga than at Mipan, but the result is the same—a haus win.

8. What is the *VDF money* for? Is it for us to put together—I mean we know what ‘village development’ means—or is it for each one to spend by ourselves? We are confused.

JB That is a very good question. Look, even the Trust were worried when they started this. Should they just give out projects? What did people want? On their information patrols, some people told them, ‘we want to see something for ourselves, we want to see cash.’ But in the Trust some said, ‘don’t give cash, that is village business, it not for us to get involved.’ But others said, ‘if we only give things like tanks and classrooms, the people have less choice—maybe we should give money and the people can decide for themselves.’

It is true that some people cannot use the projects even they are good ones. An old man cannot go to school. His grandchildren may use a new classroom, but he will be afraid of dying without seeing anything from the mine at all. So this is why the VDF was given. It recognises that there is a mine in Western Province. It is not much money, but at least everyone has a small amount to hold in their hand.

On the question of what you should do with it, you can choose. If your village wants to keep the money together for a project, that’s okay. If you decide to deal it out to each person, that is okay too. One man in another village said his wife was frightened the police would come and court her if she wasted it. This is not true, nobody can tell you what you can or cannot do with it. Anyway the amount that you have is not very big. It is enough for school fees or soap or kerosene or whatever. Someone asked whether it was compensation: no it is not. It is just a small amount to help people in the village.

9. We are concerned about *employment*—we do not have a single soul in employment with OTML here.

JB Well, unless I have made a mistake the ‘preferred area’ people for employment are those of the Kiunga and Telefomin Districts. Many workers are hired at Tabubil and Kiunga from the preferred area.

A But that is us—we should be employed.

JB No, it is the *Kiunga District*, you are in Lake Murray [in Nomad District]. As I say, unless I am mistaken, this policy has not changed from the beginning and the districts have not changed.

One thing though is that some people say ‘you have to know somebody in the Personnel Section at Tabubil; they only hire their own province people’. You have heard this?

A Yes we have.

JB As far as I know it is quite untrue. I have not looked into this, but others have, and so far they have not found evidence of it. Outside the preferred area, workers are hired from all over Papua New Guinea. They are all mixed up. All the same, this does not mean to say we should stop checking to make sure it does not happen.

Excuse me, but it is getting dark now.

A Okay, we have finished our points.

[meeting terminated at about 6.45 pm]

John Burton 20/3/94



Part B. Correspondence over the minutes.

20 April 1994

MEMORANDUM

FROM: John Burton
TO: Robin Ette, Jeff Ransley, Ian Wood
RE: **Meeting at Mipan**

Many thanks for your comments. I hadn't expected quite so much interest in my meeting, but thanks again for taking the trouble to type up your responses.

Let me reply to some of your points.

Remember, first, that my original document was part of an attempt to review the process of contact in villages as I have been encountering it. The other parts were (a) discussions with Jeff on the same subject (on Sunday afternoons), Jeff being the field officer with the longest experience in the areas I was visiting, and (b) discussions in the office with Ian Wood relating to environmental matters, especially as they relate to reactions I might encounter in attempting to do my work in the field.

What I have written is *not* a report, then, in any shape or form. Only two copies were made, one being sent to each of Jeff and Ian. I did not print a copy for myself. I am very happy for others to freely comment, though.

I will discuss your points first, then describe some other aspects of the meeting and, indeed, of meetings in general.



Relating to my response to the Mipan's Point 1, where a villager explicitly asked whether there was cyanide in the river.

Your comment: when the matter of environmental reports is raised at the village level, people believe the results are biased towards OTML. It is necessary that the reports be ratified by the Government and passed back to the communities by Government officers.

This is very true, but ‘if only...’. But villagers I met were, if anything, more hostile on the subject of their neglect by the government than on any other subject. I don’t know if I did it here,³⁴ but if it were necessary (reason below) I would typically mention the difficulties now faced by Mining and Petroleum in dealing with the full complement of between twelve and fifteen mines, oil finds and mine prospects with a budget that has inexplicably suffered a savage cut this year. The purpose of this kind of short explanation is to avoid the meeting taking an aggressive leap to the other extreme and blaming the government for everything. This would hardly be constructive.

Your information on e.g. what happens to the (environmental monitoring) fish catches, where the Western Venturer was etc.

Ta.

The Mipans made a long point about how far away their sago swamps were, how many sand banks they now had, which passages were now blocked, and thus how hard it was to run village life (point 4).

As you point out, it has been going on for ages.

Unfortunately, I could not escape this topic in any discussion I had in Middle Fly. What does it all mean?

Firstly, note that in the variant given to me at Mipan the point starts with a general statement about Boazi economic organisation, namely that it does depend on a unique set of adaptations based on the Middle Fly lagoons where canoe travel over several kilometres brings useful resources to comparatively large villages. In other groups with a similar reliance on sago, notable on the Great Papuan Plateau around Mt Bosavi, settlements have to be much smaller and the ‘village’ (i.e. the long-house) is periodically moved about within the group’s land.

The speaker expressed the view that ‘we cannot afford environmental disturbance on top of this’. He is right in this, as far as I can work out. We don’t have a very good knowledge of Boazi/Zimakani human ecology, but in traditional times it is likely to have been a risky adaptation, by Papua New Guinea standards, due to the unpredictable nature of their environment. How risky it was traditionally, we do not know, but this is the first place in Papua New Guinea I am satisfied that infanticide was (not now, obviously) genuinely practiced as a response to environmental stress. (I have argued vigorously against it in demographic data from the very remote Hewa of northwestern Enga.)

As to how the repeated statements about sandbars can be interpreted, I do not know. There is very little point in arguing about it with them, and I did not make any attempt to comment at all. I could not think, on the spot, of any points I could have made which would have helped me get more detail or a different angle on the matter. I do suggest, though, that we make an attempt to catalogue the definite historical changes that ought to be known to each area, with a view to doing just this. Examples are the oxbow below Kiunga, as in your comments, (where in one account it was first cut by a man as a punishment for a murder), the many named canoe passages in and between lagoons.

³⁴ Bear in mind that the meeting is now three weeks ago and I held several very similar meetings at which I had to both talk and take notes. Be assured, however, that my record of the Mipan meeting really does reflect what was said. (A volunteer to do sound recordings next time, please?)

Border problems

As I mentioned, the councillor in this village was in possession of letters from the OPM regional command in connection with two men from the Iowara Camp. There is no doubt that they and their neighbours experience a degree of harassment over the border. For example, a party of 17 from Kuem were briefly detained by soldiers in 1992 or 1993.

The point was 'On Trust projects, we are not happy with the way things are half-built. The liners fall in ... We want 'strong' projects. We want proper maintenance on the water supplies.' Your question was 'How was this topic raised?'

Simple answer: these were pretty well the exact words that a man at the meeting used. It was a point off the written list brought to the meeting by Barnabas Uako.

But good question, in point of fact. I spent a fair bit of time *avoiding* this subject! It was easily the most popular topic at each village I visited, the danger being that each meeting would start off like this:

Me: Good morning, my name is John Burton, I have come from Ok Tedi ...
Villagers: Why don't our tanks work? Why doesn't our pump work? Etc etc

This wouldn't help me get anywhere at all. It wouldn't help anyone in the Trust either. My job is to find out about the whole situation of the community, not to go round in circles. This is a more appropriate introduction:

Me: Good morning, my name is John Burton, I am part of a University of Papua New Guinea research team. We want to look at the issues of development in your village, or in tok pisin *sindaun bilong ol man long ples* ... it's a patrol etc
Village A: Why can we only get an Aid Post Orderly to stay in our village for 2-3 months?
Village B: The government did not come and tell us about the pollution. He³⁵ did not warn us about it ...
Village C: When our grandparents came here the swamps were clean, there was no grass in the lagoons

Of course, I do hope the topic of the Trust projects will arise at some stage, but I do *not* want it to come up first. By the particular nature of most of the meetings in these villages, it was usually the first point discussed that was either highly charged with emotion or raised by the most dominant speaker. In general the quality of discussion and the amount that I could learn from it was in inverse proportion to both these things.

(Looking back at my notes, I can see that I failed at a fourth village, where the first question was 'why doesn't our solar pump work?'.)

The point was 'Could OTML tell us the value of each project they have given us etc' to which the comment was '?'. The following point was 'What is the VDF money for', to which the comment was 'Was this a leading question?'

No, it wasn't. This is exactly how it came out.

³⁵ Not the only Boazi speaker to say the 'the government, he is a human being like us' or similar. The construction may well reflect the structure of Boazi *tok ples*.

The point related to the inability of the villagers to say who their Trust Executives were or who had ever worked on Trust projects. Your comment: what rubbish!

I found the contrivance of ignorance in this village puzzling in the extreme. There were so many men present (50 in all) it is almost certain that some of the workmen used by the Trust in the past were actually present (1990 census, 64 households in total). Anyway, not being armed with the knowledge of who had been hired to do what or who the Executives really were, I could not exactly say ‘what rubbish!’ *in my meeting*. I might have liked to, but all I could do was be non-committal and say ‘I will look into it’.

[Since I wrote up the notes, the Kiwai LGC FEC councillors made a visit to Tabubil. Dibura Moiba, the President, made an official speech from a prepared typescript, which he gave to C. Brown, who gave it to me. One of the main features of the speech was the complaint that contractors came along and did the work and that villagers were never given anything to do. Our knowledge that villagers are hired and their repeated statements that they are not are obviously in conflict. I would like to make some suggestions as to what is causing this and what can be done about it, but I cannot do this in one sentence. Let me come back to it at greater length another time.]

Anyway, while I may try my best to be armed with all kinds of information that may help me anticipate things like this, and thus to steer away from nonsensical answers, it is not always practically possible because I cannot know everything about OTML operations, about the Trust, about the environmental programme, about the government’s budget, what DMP will or will not do, and so on. I would like to be as well-briefed as possible, and I would like to come and pester you fellows day and night for answers—but time is short and I have to be in villages. An unfortunate thing on this trip was that Robin Ette was away when I was in Tabubil, and I was away when he was. I will meet him again on my next field trip.

Did I physically inspect the tanks at Mipan?

No, it would have served no purpose here. I already knew (from Jeff and/or Robin from 1992/93) that the optimal configuration of tank, liner and so on is still evolving. But for other things, I did look at things that did and didn’t work so that I could quiz people about how they were being used. This was highly variable, as we all know.

I had met up with Glynn Short at Kuem, where he was working at the time, and discussed solar pumps. There are pros and cons for solar equipment, but as I have panels on a house myself I swear by it. Note also that a mysterious entry in the 1993 provincial budget is ‘Rural Electrification Solar: K500,000’.

More seriously, I wouldn’t have minded doing a proper field inventory of the Trust installations but it would have been invidious of me to do so without asking Robin for permission to do so first. I’m also not quite sure what purpose it would serve (unless Robin had not been to a certain area for some months and wanted me to report back to him).

The maintenance issue.

The nearest we got to this topic in the meeting was in the demands for ‘strong’ projects. I discussed this at some length with Fr. Edward from Bosset who was on the same trip to Wangawanga as I was. There is no easy answer as clearly villagers in this area ‘don’t get it’ yet in respect of where development comes from and who is supposed to look after even simple things like tank down pipes.

I will deal with this at length in due course.

The value of visits by 'strangers', possible harm to the Trust ...

Remarks of this type etc etc finding their way into print without adequate verification ... Again, the minutes of the Mipan meeting are *not* a report, I printed them for the narrow purpose mentioned on page 1, namely precisely to solicit verification of the content and appropriate treatment of the issues from two named experts.

Note that we have not just blown in, but have now made visits not just to Mipan, but to *all* the river corridor villages above Obo (including a surprising number on foot).

If there is a misunderstanding here, it does underline the need for us to work together and obtain more feedback from one another. I would welcome—in fact the present issue belatedly shows the methodological need—much more comment on any of the social monitoring project's first seven reports 1991-93, which have now entailed something in the region of a person-year of work by a team of six people all up. It does seem clear that not everyone involved at the field level has seen copies of these reports; your departmental heads will have them.

General points about village meetings

If main aim is to get people to come out with fresh information and, hopefully, new ways of looking at things, the best form of meeting should be like a conversation between knowledgeable acquaintances. The emphasis here is on *knowledgeable*. You must know the subject well to make communication worthwhile. I will address this topic at length in due course.

A question I have been asked (twice) by C. Brown is this: 'don't you awaken activism in villagers simply by going and raising contentious issues with them?'

I would be very surprised if I did. Having worked in Papua New Guinea for 14 years, with 6 years teaching and something like 3 years of fieldwork in villages in Western, Western Highlands, Chimbu, Enga, Southern Highlands, Morobe, Central, West New Britain, and New Ireland Provinces, I would be only too pleased if villagers did change their opinions after I talked to them. No one takes any notice when I write newspaper articles about stopping tribal fighting, or advocate solutions to customary land issues, and my students usually fell asleep when I discussed Papua New Guinea culture and society—I don't think I really have the power to sway opinions. I certainly can't imagine a situation where a few hours spent in a place by me will radically change how a whole community thinks. If only ...

I should also say that I try to conduct my meetings in such a way as to avoid extremely polarised opinions developing within the meeting place. This applies just as much to having people coming round to 100% agreement with you—this happened to me in Middle Fly too—as to having people violently opposing you, the government or the company. I will not let people 'find blame', which they often really like doing, if I can help it. If the target of this *asua* is someone or a body outside the meeting, I will not say I agree unless the case is extremely strong (e.g. a total absence of government as evidenced by an abandoned government post). It is good to finish a meeting *without* having resolved all points in some decisive way. I sometimes say, 'I'm sorry my answers will not satisfy you' or 'Let's finish here, but don't say later that John Burton didn't go away and make something happen—it is not my job to do that.'



I hope that we will all be able to get together and discuss these kinds of points properly at some stage in the future. I will spend a bit of my time while I am absent from site in working them up more fully and hopefully, constructing some solutions the logic of which you will appreciate.

APPENDIX H

MEETING AT WANGAWANGA VILLAGE

Date: Tuesday 22 March 1994
Place: Wangawanga village, Middle Fly
Purpose: General village discussion on development issues.

The meeting began outside the MCM women's club at Wangawanga at 8.30pm. Those present were myself, my field assistant Mila Kongua, Michael Yani (or Kani) of Wangawanga as chair/translator, Chris Obaki of Wangawanga, Fr. Edward of MCM, Bosset, and a mixed group of about 40 villagers from Wangawanga (on Kamea Lagoon) and Aiambak (about 2km away on the Fly River).

The meeting began as Mila was asking about the swamp grass currently hindering navigation in Kamea Lagoon.

- MK Will the lake clear or will the grass stay as it is in the lagoon?
- MY Yes, it will clear if the water comes right up so that the grass and water lilies die off. The catfish have been floating to the surface recently, and we might report this to OTML if we get worried [if it gets worse]. It is because the grass has died and the water has gone smelly [that this problem has arisen]. Those fish that are strong will be okay, but the weaker ones have trouble breathing because the water smells. We can still catch and eat the healthy ones. The *bun nating* ones—we can throw them away. *No gat samting*.
- JB [Explanation of the purpose of the visit in English—*sindaun bilong ol man* etc]
- MY [Trans. into Boazi.]
- Speaker Why do we only get an Aid Post Orderly for short periods? They post one here and only stays two or three months and goes away.
- JB You had an APO here last year?
- Speaker He stayed six months. He came from Kaviananga and then was posted to Lake Murray.
- JB Where did he live?
- Speaker He lived at Aiambak. The Aid Post was that fibro building; it was built with sheets left over from the double classroom [built at Aiambak by the Trust]. The roofing was from the old school library, taken down when the classroom was built. The Trust has built a new Aid Post [at Aiambak] but the APO had already left [in 1993] when it was completed. It is finished but it has no cupboards, benches or shelves.
- JB What about your Trust executives?
- Speaker We had some but we seem to be 'jumping over one another'. One man gets up, but another man makes him go down. It's always like this. We lose interest and now we are 'staying as we are'.
- JB According to the latest returns [December 1993], K12,651 was spent last year from the provincial budget on the 'Aiambak Aid Post'.
- Speaker 1 We haven't seen anything spent here.
- Speaker 2 That's a lie!
- JB Well, it's been spent, but the question is, what on?
- Speaker The HEO [named] came from Kiunga on the Election Patrol in 1992. he said he had K25,000 for Aiambak. We have waited but nothing happened.

At this point I explained more of the details of the provincial budget, the purpose and calculation of the Special Support Grant and discussed rubber and crocodile extension work. The environment was then raised as a topic and the belief was expressed by Wangawanga people that they had experienced the decline of various species of fish and water dwelling animals. The main species believed affected are shown in Table 19 and the secondarily affected ones in Table 20.

Boazi name	Description	Occurrence
<i>bösasa</i>	The biggest catfish, ‘thick like a coconut tree’, (<i>Augustus</i> sp.)	absent
<i>daka</i>	Black prawns in Kamea Lagoon	absent
<i>davu</i>	Long brown water snake, not seen since 1984	absent
<i>föisik</i>	Mullet in Fly River (<i>Mugil cephalus</i>)	absent
<i>gua</i>	Mangrove Jack, short and fat	rare
<i>kondove</i>	‘Greasy fish’, normally a highwater fish, ‘has a beard’, Fly River and Kamea Lagoon (?Eel-Tailed Catfish, ? <i>N. ater</i>)	rare
<i>miv</i>	White prawns in Fly River	rare
<i>pav</i>	catfish, small mouth, yellow feelers, likes to feed on small insects above the water (? <i>Arius beneyi</i>)	absent

Table 19. Main species named at Wangawanga

Boazi name	Description	Occurrence
<i>bakanange</i>	Small, finger-sized, with yellow, orange and brown coloured spots. Kamea Lagoon.	rare
<i>boitamoko</i>	Greyish color. Really nice taste. ‘Greasy’.	rare
<i>kafu</i>	About 12cm, brown scales with red lines. Kamea Lagoon.	rare
<i>kobo</i>	Sawfish, possibly marine, can tear up nets. In February 1994, a <i>kobo</i> was caught in the nets at Obo.	none seen here recently
<i>mipaka</i>	‘Slippery fish’. Smallest of the mudfish, brown with scales.	rare
<i>ot</i>	Black and short. Similar to <i>kondove</i> but long beard like <i>veg</i> and very small, black. Poisonous spines on back.	rare
<i>pok</i>	About 12cm with grey scales. Kamea Lagoon.	rare
<i>saki</i>	Big black water leech (big as a finger). Very good for curing sores.	rare
<i>tawa</i>	?Eel-Tailed Catfish. Black/brown up to 1m. Fly and Kamea Lagoon.	v. rare
<i>veg</i>	Same family as <i>kondove</i> but finger-sized (? <i>P. obesi</i>)	rare

Table 20. Secondary species named at Wangawanga

Speaker The water in Kamea Lagoon was just exactly like tank water. In the Fly, you could see the fish [beneath the surface] and you could drink it easily. In the lagoon, the weed *kik* used to ‘keep the water clean’—that is there were no grasses before.

[Speakers all claimed never to have seen the present grass infestation in the past.]

JB What about extremely dry periods when the lagoon was empty?

Speaker Before 1993, Kamea Lagoon was completely dry in 1965.

- JB What about 1972 and 1982? [see Appendix C]
- Speaker Yes, it was dry then also.
- Speaker We used to have plenty of swamps, but now they are covered with ground. Before the Fly would rise and flood over very wide areas. Now it doesn't. Also the dry season used to leave hard ground, now it leaves muddy places [referring to the silt deposited]. There are now sandbanks along the Fly. All the passages are blocked. Now we come to Wangawanga up Kamea Creek, as you did, but we used to take shortcuts. The shortcut called 'Boqasi' from Gikoq to Bakanakwa is okay, but 'Komunakais' from Muiyag to Kaqomisti is blocked.
- CO Some of our resources are already spoiled, they are gone. We are still seeking the reason why.
- Speaker One funny thing is we used to plant bananas straight, in a hole. Now we dig a hole but put the shoot in sideways, otherwise it won't grow.
- Very angry man We have been arguing with [named company official]—he looks at big villages and ignores the small villages. He says it must go by population. We say 'you must look at the circumstances we are in—we are still affected by the same river system'.
- Speaker An example is the water tanks. We requested five. We were given two here and three at Aiambak, but they should be located at our respective areas, e.g. where the councillor's house is in the village. Another example is shower blocks; there are none here. We asked for assistance in the form of economic projects. The [official] says 'Yes, I will go and think of something. But when he comes back he talks about something else.'
- [Long discussion among villagers about projects, Independence, use of the VDF money, role of councils, etc, and what the people themselves could do.]
- Speaker The government invited the company in, therefore the government should look after us.
- Speaker The Environment Department staff come and take samples, but we don't even get the results. The Faiwol get compensation, but they are not affected. There should be two kinds of money, the VDF for village development and compensation for the Fly River. Even we are affected. We seek medical treatment but perhaps the doctors are giving false reports saying we have heart attacks or something, I don't know.
- CO If they come for National Census, I don't think I'll give my name again. I'll be in the bush. The government is only looking at the big towns.
- Speaker The German scientist Jorg [Hettler – was here doing sampling] and NGOs come and say:
 'The water is polluted!'
 'Don't eat the fish!'
 'Human beings are polluted!'
- We wouldn't believe the government. We believe the German scientist and NGOs.
- Speaker Why is the government not taking care of us at the moment? He is inviting this foreign company in and if he is doing it why is he not looking after us. Only the Faiwol said 'Yes' to the mine. If we had realised what would happen, we would have opposed it.
- Speaker We have wantoks from Bosset who load copper in Kiunga. They say it spills out of the barge into the Fly [from the loader or by workmen sweeping up].
- Speaker We believe the Trust man at Obo takes our projects and throws them away and puts in the Kaviananga projects. The Kaviananga people can get money any time, but we write 300 maybe 400 times for nothing.
- Speaker We have already given out points. Is there any other way we can look for help? We are worried [about the situation]. We are blocked. We are 'having nothing to do'.

The meeting closed at 12.15 am.

APPENDIX I

MEETING AT KOMOVAI VILLAGE

Date: Wednesday 23 March 1994
Place: Komovai village, Middle Fly
Purpose: General village discussion on development issues.

The meeting began at 8.30 am in the Trust-built community hall and lasted for about three hours. The following were present: Kapi Egam, Richard Kapi (principal translator), Max Kapi, Rodney Kapi, David Kapi, Akua Kirai, Joel Paimer, Bekoneba Maniel, Kwinami Kendy, Keini Urbanus, Borok Awame, Tobias Nekei, Matias Gasimbo, Siague Ibare, Marsei Selepa, Julius Chan Kwinami. The councillor, Fidelis Fili, the president of the Lake Murray council was absent on business.

My record of this meeting is as a series of points. The translator was Richard Kapi, so that while individuals or small groups raised various topics, each viewpoint was presented to me by him.

- Pollution The government did not come and tell us about the pollution. He [see below, 'human beings'] did not come and tell us about the pollution. He did not warn us about it. Did he find anything out about it?
- JB In the original mine plan it was assumed there would be a dam to retain tailings. The environmental consultants certainly did visit the Middle Fly, but they did not come to look at the impact of tailings in the river. It was more to look at development and subsistence. More recently it has been the job of DMP Project Coordination to take care of any complaints. Unfortunately the government has just cut the budget of this section.
- Consultation When the [Ok Tedi mining] agreement was signed, the government did not come around and consult the Middle Fly people.³⁶ We are not alright now. What will the government do for us? [The sentiment was added that all the other provinces received lavish funding at the expense of Western.]
- JB It is true that there was little consultation in this area in the beginning, but the system at present is for quarterly meetings to be held between the national government, the provincial government and the company. On the question of funding, it is not true that everywhere else in Papua New Guinea is better off. For example, the Special Support Grant is only received by the four mining provinces; Western Highlands [where my field assistant, present at the meeting, comes from] does not receive this.
- Fish We had a meeting with the Kaviananga villagers at Kaviananga at the start of the year. As we said already, the Environment Department sets nets on the Fly. They come every three months to do this. All the villages want to be paid for the fish.
- JB The problem here is that the government directs OTML to sample the fish in the waterways. Under the Water Resources Act, the main waterways are considered to be

³⁶ Not 100% true as Pastor Pereme Livai of Kaviananga, who was the member for Middle Fly from 1979 to 1983 and Minister for Forest, Wildlife and Justice for a period, was well-informed of the history of the negotiations and agreements. He did not, though, accompany the Fly River Provincial Government delegation to Port Moresby to attend the main signing in 1980.

- held in public (i.e. State) ownership. Perhaps this is something to take up with your member.
- Lagoons We are looking at the lagoons. Now the grass is over them and the sand banks are coming up. Before it wasn't like this and we are finding it very hard to get to the sago places.
- JB In which years did you have dry lagoons?
- Lagoons (cont.) In 1993, this stretch of water, Tamu, was completely dry as it was in 1982. Droughts occurred in the years 1972, 1965 and 1962, but there was still water in the lagoon. Grass grows back after a dry spell, but this time it is being accompanied by mud [refers to silty water filling the lagoons from the Fly].
- JB When did the lagoon begin to refill this time?
- Lagoons (cont.) It was still dry at Christmas 1993. The first water came in in January 1994. The lagoon refilled through the passages when the Fly rose due to rainfall in the mountains. The local rain is not enough to refill the lagoons. It 'goes into the ground'.
- The main grasses in the lagoon at present are *sisiq*, *davimbaiki* (Boazi language), and *nusunungui* and *va* (Zimakani language). These are swamp grasses from our area but they are normally restricted in their extent.
- JB Will the grass go down?
- Lagoons (cont.) We don't think so.
- Housing It is very hard for us to collect bush materials and sago [used for food and roofing] from the bush, because the passages and swamps are getting blocked up by mud. ('Grasses and mud are coming up'.) So the speaker is saying the government should build houses for us—for every family in the village.
- JB What does the government say?
- Housing (cont.) The speaker says they must build houses for us because they have spoiled [our bush]. The government is saying 'it's my property' [i.e. the bush]. He made an agreement with the company, so what is he going to do for us, for the house materials and sago we now have to get from very far places?
- The church worker says because of the pollution the government has to change our houses, in all the villages along the Fly.
- JB Yes, but what will the government say?
- Housing (cont.) We expect them to say 'Yes'.
- Politics At the village level, the government comes for the vote. The member comes around and greases me. He is a minister and he forgets about the village people. We must fight for our rights. In Bougainville they are fighting for their rights. Right now our life is really bad, so it might happen like in Bougainville. They are fighting for their rights.
- JB Let's go on to actual services you have.
- Services We have no school and no aid post. 'The government is a human being, we too are a human being. We are not like animals that dig for food in the ground.'
- Projects The village people request the money for projects. The government says 'yes', but we wait and nothing comes. We planted rubber, but the trees have grown wild and we have never tapped them. Now the DPI officer [based at Bosset, see Case 5, p. 36] says he will start a new nursery, but this has not happened yet. We planted chillies, but none was ever bought from us. The fisheries officer came and we gave our requests. We asked for a freezer, a generator and nets. He said there was money there.
- JB Do you sell crocodiles?

- Projects (cont.) One farmer has 15 [small] crocodiles.
- Village services We have appointed a Village Services Scheme Co-ordinator and an assistant. We have no instructions yet, but Fidelis [the councillor and Lake Murray president] went to Port Moresby to 're-sign the Kiunga-Lake Murray Agreement'.³⁷ When he comes back, the Executive Officer will go down to Daru to 'get the money'. It will be administered through the village councillors.
- VDF We can discuss this subject. Komovai first received K6300 and this rose to K7200 in 1993. We have bought 15 h.p. outboards each time and we now have seventeen altogether at a cost of K1600 each. We also bought 25 nets at K195 each, but they are not being used because we have no lines, sinkers or floats.
- Trust items We have this community hall, 4 tanks, and a solar pump, which works well. The community hall is okay, but it does not have proper doors and dogs get inside and sleep in it. We do not have a haus win although we expect one this year. We have asked for a lawnmower.

³⁷ I am not sure the KLM Agreement was a live issue at this stage. However, he may well have been negotiating for Village Services grants for his council.

APPENDIX J

ILLUSTRATION OF METHOD: DISCUSSING A LANDSCAPE AT SUKI

Date: Wednesday 31 August 1994
Place: Gigwa Station, Suki
Purpose: Obtain the Eniyawa clan names, apply them to the landscape around Eniyawa village, and pick up on any disputes or important issues affecting the Eniyawa people.

The meeting began underneath the Kwainu long-house being built by the Eniyawa people at Gigwa. Those present were myself (JB), Budai Tapari (BT), Andrew Zeipi (AZ) of Eniyawa, and a large group of men from Eniyawa at Gigwa doing community work building the long-house.

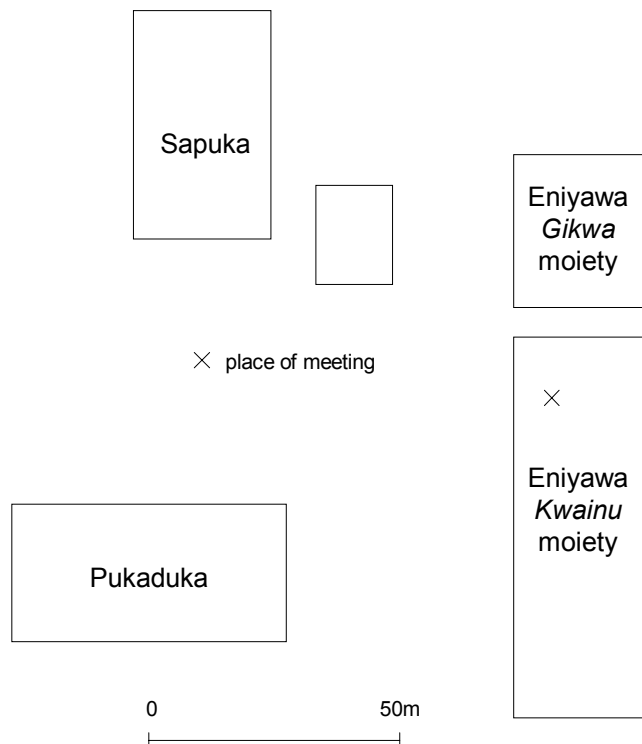


Figure 19. Plan of community long-houses being built at Gigwa Station in August 1994
Roofing iron, ridge-capping and nails supplied by National Member, P. Zeipi, from his EDF.

Youth You better spread the map out here.

JB No, perhaps it would be better upstairs on the floor of the meeting house.

[everyone moves upstairs]

JB If we show you these maps I want to make clear we're not trying to mark the land. See how these maps only have names like 'Ellangowan' and 'Fly' on them [...we want the real names for places...]

AZ [explanation Suki language]

BT [further explanation in Motu]

JB Suki Creek is really ‘Pamina’?

All *Pa! Pa!* [Yes! Yes!]

BT Cassowary Island *inai be* Kawatagwa?

All *Pa! Pa!*

JB As long as it’s clear we are not coming to mark people’s ground then.

All Yes, OK.

JB We were about to go to Eniyawa but you told us you were all here and not to go—otherwise we would go there. Your councillor is Cllr. Swai, is that correct?

AZ Yes, he is at Morehead Station.

BT Does he have komitis?

AZ Yes, Mr Masai KWAMAI, Mr Gigimi DENU, and also Mr Mitri DUSU and Mr Isaac AGUDI at the village.

JB We are beginning to understand the clan system here and we know everyone is divided into Gikwa and Kwainu, but at Eniyawa the subclans may be different. We’d like to start with the small clans at Eniyawa.

BY [Motu]

JB We’ll start with Gikwa. Only people from Eniyawa should speak. Pukadukas should not tell us. [Clans given: Gikwa is made up of Zirgu or Agaye, Crocodile, and Bukaru, Barramundi, and Kwainu is made up of Kargari and ‘real’ Kwainu, Pig.]

JB Is it ‘Argaye’ or ‘Agaye’?

All AGAYA!!

JB You’re all talking, I can’t hear properly!

Man ‘Agaya’ with no ‘r’ and change the last ‘e’ to an ‘a’.

JB How do you say ‘real Kwainu’? Kwainu is the ‘big name’ or ‘mother clan’, but it can also be used as a small name alongside Kargari. How do you say this?

All/BT [Long discussion in Motu]

BT They’re saying Kwainu is the mother clan and it has small clans like Kargari and Kwainu.

JB That’s what I just said.

AZ *Kwainu sibona...*

JB That’s it! How do you say *sibona* in language?

AZ/BT [discussion]

BT ‘Kwainu *yap*’.

JB Good. Now can we also have ‘Gikwa *yap*’?

All ‘Gikwa *yap*!’ Yes, we do!

JB [Looking at map now] What about Zamna [a usual member of Pig moiety]—do you have Kwainu Zamna at Eniyawa?

AZ Yes, only me and Perry [Zeipi].

JB You are both from Eniyawa?

AZ Yes!

JB OK, from here [pointing at map] you go to Gumaka Apu [open water lagoon] and then Eniyawa Creek.

All [discussion]

AZ Where does this point go to?

JB Don’t worry about the small places—the map may be wrong. We just want the big places.

AZ There should be a small creek here.

JB What about the land first—what’s this point?

AZ Gantawa

JB ...point? Gantawa Giyu?

AZ Yes, Gantawa Giyu...this one is Rapamku...from Kilariri Point to Rapamku, that’s Gantawa Ragari [swamp] to the east and Gumaka Apu to the west.

BT [Asks for names of lagoons between Gigwa and Gumaka Apu, i.e. from the station to the beginning of Eniyawa country]

All Ask the Gwibaku people.

JB Your ward, Ward 11, is a multi-member ward under Cllr. Ganga and Cllr. Swai. Yesterday we went to Pukaduka and the people showed us the area covered by Cllr. Ganga. Can we see the area covered by Cllr. Swai? Let’s see—Gantawa Ragari, that’s an area for Eniyawa?

All Yes

JB What about Gumaka Apu? Is that also for Eniyawa or is it for Gwibaku?

All [long discussion]

JB to BT (Let’s be careful. It’s a multi-member ward. It may be that there is no boundary and that’s why it’s a multi-member ward.)

All [long discussion]

AZ There’s another village, Gumaka, about here [points].

JB Right. We don’t know exactly where it is. We will have to explore this lagoon by boat to locate these places.

JB to BT (Now we are discussing places we haven’t seen.)

JB [pointing to a creek that could be on or near the boundary] We still don’t know this creek name!

All We don’t live there, you’ll have to ask the people there.

JB How can you not know? It’s on the way from here to Eniyawa!

Man It’s Kiyabu Creek

BT The lagoon is also Kiyabu?

Man Kiyabu Creek and Kiyabu Ragari.

JB Let’s look east from your village towards the Fly now. Your land must go this way and also south towards Mokodevan [village 14 km southsouthwest]. You have Gikwa and Kwainu people; your clans are Zirgu, Bukaru, Kargari etc—where are the lands for these people?

Man [points out creeks near Mokodevan]

JB Names please?

All [long discussion]

Man We can’t talk about Mokodevan. We have a border between Mokodevan and Eniyawa.

JB Yes, let’s have that!

Man They have names...

JB What are the names?

Man Ask Mokodevan.

JB Aha, that land is all inside Mokodevan?

Man Yes

JB Never mind. This place is Duru [old village now shifted to Eniyawa]. Is it abandoned?

Man There are only gardens there. There’s a track to Tutma where there’s another old village. [Tutma is opposite Tutma (Alligator) Island and it is where the UFM missionary Len Twyman landed and built a house. The present day village of Sapuka is some 4 km to the south.]

JB Does it have any houses now?

Man No, it is just a sago place.
JB There's an island here, what's that?
Man Bibra Ku—Bibra Island [low hill near Tutma].

The meeting continued and a generalised border was established between Eniyawa land and Mokodevan land to the south, Pukaduka land to the north, and Gumaka land to the west. The eastern boundary was given as the Fly River. Across the Fly at this point—between Tidal (Sirauwa) and Alligator (Tutma) Islands—no clear evidence of claim was given. Some distance to the east, it was said the Gogodala people used the land for hunting, but in fact the area marks the beginning of the uninhabited buffer zone between the Suki and the uppermost village of the Fly Delta. The 1:100,000 Sturt topographic sheet contains only one geographical feature with native name, Burei River, which runs only 3 km into the sheet on the western side.

The discussion added names for further dozen or so lagoons (*apu*), swamps (*ragari*) and broad-channelled rivers (*ari*).

APPENDIX K

THE BASIS OF COMMUNITY RELATIONS

This appendix was written as a briefing paper for Murray Eagle in July 1994. I reproduce it here in its original form.

Summary: Contrasting sets of priorities are shown to influence the way the contact between villagers and outsiders is assessed by the two parties. Criteria for evaluating community relations are then put forward, with examples drawn from mining areas. A network of field stations in the Middle and Lower Fly is proposed for Ok Tedi.

Brief

In April 1994, M. Eagle, Executive Manager, Environment and Logistics, asked for my views on how OTML's community relations and environmental monitoring functions might better be handled in the Lower Ok Tedi-Fly River Development Trust (LOTFRT, 'the Trust') area between Tabubil and the Fly estuary. My instructions were to give special consideration to a more co-ordinated approach to community relations and environmental tasks, which are currently the responsibility of separate departments within OTML and subject to quite different chains of reporting to the General Manager.

Pacific Social Mapping and OTML

Pacific Social Mapping is acting as an external consultant to OTML on social and environmental matters, in conjunction with Unisearch PNG Pty Ltd, on the *Ok-Fly Social Monitoring Project*, which began in 1991. Six volumes of project reports describing the aims and results of the project to date are available.

The contents of this paper should be viewed as points for discussion based on my personal observations of the interface between OTML and villages communities in the Trust area. There are people with a more hands-on experience of this interface, and no doubt their observations are also on record or can be solicited at short notice. What I say here is certainly not meant to cast doubt on other points of view, but in contrast to add to them.

Part I PRIORITIES

Relations with strangers through history: two roads

The study of relations between outsiders and Melanesian villages is highly topical in contemporary anthropology. A key area of interest is the meaning that the two parties involved—in the last century, typically the trader or missionary and the un-Westernised 'native'—ascribed to such commonplace acts as exchanging trade goods. On the one

hand, the trader might offer knives, salt or tobacco he had purchased with money according to a market-set value and, on the other, the villager might offer garden produce, artefacts, shell valuables, or even women, in return. Sometimes the exchange of goods passed off as a simple act of bartering and nothing more was thought whatsoever. But on many other occasions, what one side saw as simple trade, with no meaning beyond the physical act of exchange, the other could see as the servicing of a personal relationship between two people. The villager and the trader might well have quite contrasting priorities (Table 1).

To some extent this is a caricature, because both sides were and are quite capable of adopting the other's priorities. Nevertheless, the priorities I have listed as No. 1 on the list, 'service a personal relationship' and 'make a living' would generally be accepted as characterising the essence of the difference between the two.

Villager's priorities	Trader's priorities
1. Service a personal relationship	1. Make a living
2. Establish a bond of trust with a stranger	2. Obtain desired village goods
3. Do something valued or noteworthy in village affairs	3. Pay a 'good' (low) price
4. Obtain desired Western goods	4. Establish a bond of trust with a villager

Table 1. Contrasting priorities.

The reason I have introduced this example is that, if for 'trader' we read 'resource developer' or 'mining company', the contrasting lists of priorities are go a very long way towards explaining the oddities of company-landowner relationships; the two parties to these relationships are, even if they share part of the journey together, actually travelling on different roads.

The priorities at a mining project

The difference in the first priority is very clear to see at mining projects in the respective utterances of landowner leaders and company heads, and also in newspaper reports, especially at the pre-project stage. On the landowner side, leaders emphasise the partnership that will exist between themselves and the company, that both sides will profit, and that their district will *go het* in consequence. Company leaders, by contrast, have won their positions by success in getting 'object' results and tend to describe the exact size of the animal and the precise division of the portions among the various players who will be party to any eventual agreement to mine.

At Porgera, the pre-Forum landowner's position paper had a vision of a future Porgera with a bustling, harmonious town where miners and Porgerans live and work side by side, and where wives and mothers of all countries and races push their babies side by side in their strollers in the shopping centre.³⁸

³⁸ The Tabubil supermarket, and Tabubil itself, were a model for this idea. There is no doubt that the township of Tabubil has succeeded in showing how essentially the full package of Western development can come to a mining area. Porgerans remain dissatisfied on the score of town

In the case of Lihir, the company's pre-agreement information brochure actually uses the metaphor of a pig standing for the revenue from the mine, with portions marked out for taxes, local incomes through wages and salary, royalties, mine operating costs and so on, all sized correctly.

So what's wrong with that? What else should landowners and companies say? Nothing at all—but it is essential to be aware that there *is* a difference in emphasis. The start of a project, before any of the costs of development have been felt, is the point at which company-landowner relations are at their most harmonious and the difference may seem to be slight. Later, it is inevitable that differences will widen as changes to the 'rural idyll' of village life become irreversible and advancement comes mainly in the form of Western 'object development'—more jobs, schools, clinics and so on—not in an imagined total partnership between miner and landowner.

Community relations: are there universals?

Let us take community relations as the management of the interface between an enterprise, be it a colonial or post-colonial government, or a large resource developer, and the traditional communities of the area in which the enterprise operates.

A first point is that there are many contrasting examples of how it is carried out in practice. Local factors must be examined long before we get anywhere near the actual management of community relations, the budget for it and the training and experience of the village liaison team. These include the size of project impact areas and the distribution of population within them, the level of development within the impact areas, the effectiveness of government services locally, and so on.

Differences of geography and social development

In the 1989-1992 period, the PJV Site Manager was, by all accounts, known and respected at Porgera for his hands-on approach and personal attendance at trouble-spots, often at a moment's notice. As successful as this was, it is hard to see how he could have done this at Ok Tedi or Kutubu because of the distances involved. At Porgera, both manager and landowners can be at any settlement, garden, piece of bush, or road cutting within minutes and certainly in under half an hour. At Ok Tedi, attendance at any random trouble-spot, say in the Lower Ok Tedi or at Ogwa, either takes up all day or takes days to arrange, and weeks if government (e.g. DMP) staff must be summoned from Moresby as they often must be.

Again, in contrast to Porgera, where villagers routinely jump into a car or truck at a moment's notice because (a) transport is universally available and (b) it does not unduly disrupt daily life to do this, in Western Province people have many fewer opportunities to find transport and they often make trips to distant gardens, bush camps and sago stands which (a) involve periodic stays away from communications and (b) cannot easily be interrupted without a large wastage of time and effort. In other words, even where management can respond swiftly to a problem, perhaps by helicopter, a quorum of

development, but the provision of permanent materials housing for landowners has taken place on a scale at Porgera for which there was no precedent at Ok Tedi at the same stage of the project.

community members cannot always be on the spot to sit down and explain things. Indeed, the use of the helicopter—which is extremely well-intentioned as it enables managers to do what the PJV Site Manager did by Landcruiser—simply rubs in the fact that villagers are for the most part still very much earth- or canoe-bound travellers. This does not assist in the coming together of two parties on what can be felt to be something like the equal terms expected in the pre-project period (as the pre-Forum Porgera document, for example, imagined).

Differences in social development affect the form community relations must take. At Ok Tedi in the 1970s or Kutubu in the 1990s, few adults had High School education. These areas still lag behind other parts of the country on many indicators. At Lihir, negotiations begin with a Bishop, half-a-dozen priests, a retired pilot, and many other professionally qualified people among the project area people. It seems self-evident that this sets a very different agenda for talks between a miner and local area representatives.

Successes and failures: interpreting the priorities

The logic of my league table says that conforming with the ‘villager’s priority’ of maintaining a personal relationship was the key factor in the success of the Porgera Site Manager’s hands-on approach. He surely guessed this, but in reality it was simply *practical* for him to do this, given the disposition of his area. The factory owner who rolls the sleeves up and mucks in on the shop floor is a figure of legendary status in industrial folklore. Unfortunately, it is not always good management practice as, apart from being meddlesome, it may rob the decision-maker of time better spent keeping abreast of the operations of other equally important, but less interesting, parts of the enterprise. With respect to community relations at a mine, it is highly doubtful that the General Manager or Site Manager would ever have much time to spare, and this means that what successes he may achieve should be attributed far more to the ‘villager’s priority’ placing value on his presence and his word, than on qualities unique to him.

I have encountered many instances of failure to maintain good village relations. I am struck by the virtual absence of blame attached to *technically* poor policy decisions or administrative mistakes in any village I have experience of. Invariably, villagers first express dissatisfaction by saying the *kiap*, or liaison officer, or local member, or whoever, fails to come and see them. The complaint heard second is that he comes but is ‘all talk’ and never backs words with action. The third complaint is that what explains the second is his trickery and his innate greed: he talks of giving this or that, but actually goes away and corruptly diverts the things for himself or his own people.

I heard all the complaints I have mentioned in villages in many provinces, and usually aimed at the absence of government compared with the (remembered) frequency of patrols by *kiaps* at some time in the past. Sometimes they have been just, sometimes unjust complaints. In the case of the wider Ok Tedi impact area (the Trust villages and their neighbours), an identical pattern is found. First, villagers complain of not seeing company officials, who, they are generally convinced, would only have to see their predicament to come to their assistance. Second, meetings with staff evidently took place, but all that is remembered today is that it was *mauswara*. Third, the villagers most disaffected with OTML are inclined to impute avarice and hostility in *any* action taken by the company in their area.

The Western response to criticism of this nature is to bounce back with a factual rebuttal—that meetings have been frequent, all promises that were made have been kept, indeed with interest, and that the company’s intentions are honourable and in good faith. A complementary material response is to step up the budget for local extension work or infrastructure projects. But this rarely has the desired effect, because these ‘objective’ arguments and ‘object’ achievements count for nothing if, in my league table, the higher-ranking priorities of good inter-personal relations have not first been fulfilled.

This can be immensely frustrating. Three teachers interviewed me in their classroom at a Trust village. (There was little if any evidence of government in the village; the Catholic Mission was the major provider of health and education.) The classroom was a Trust building; it was of robust construction and was fully and productively used by the school. The teachers grilled me over why the company had never done anything for the village at all, ever. There was a range of grievances, but the considerable object value of the classroom was not of the slightest weight in their arguments.

In summary

Whether or not there are weaknesses in the detail of my discussion points, we cannot escape the fact that in the village it is how well you look after personal relationships that counts first. What I have called ‘object’ values and achievements do count, but they only make sense in the context of relationships. Outside them they are completely disabled and meaningless.

We can go further and say that for any plan of action to be successful, it must be put together, and carefully evaluated, with reference to other people’s values, not one’s own. I suggest this is the essence of good community relations, and that this contrasts with a conventional reliance on social indicators (= ‘objects’) to determine whether material progress is being made, and on presentations of facts (= ‘objective’ arguments) to dispel suspicion or ill-feeling.

Part II OK TEDI

Review of village liaison

I have not been asked to review OTML community relations functions in any detailed way, nor am I in a position to do so. My specific brief is to express a personal view on how better village liaison could be conducted, on any front, in the Lower Ok Tedi-Fly River corridor.

Essentially this means Trust matters and the environment. These two functions fall on two departments at OTML, but the nature of contacts at village level means that there are considerable areas of overlap.

The deployment of village liaison resources

The departmental structure of Community Relations and Business Development at OTML has three relevant lines of activity. (A fourth, Recreation Activities, is not of

concern.) The deployment of staff reflects the historical need to concentrate resources on the mining lease areas of the Star Mountains. Even today, about 60% of the department's work is found north of Ningerum. However, the emphasis of the Trust, which was founded five years after mining began, is a mirror image of this, with over 80% of Trust villages being located south of Ningerum. At the same time, the Environment Dept. has greatly expanded operations in the Middle Fly and elsewhere, and probably has an even greater concentration of work outside the northern area.

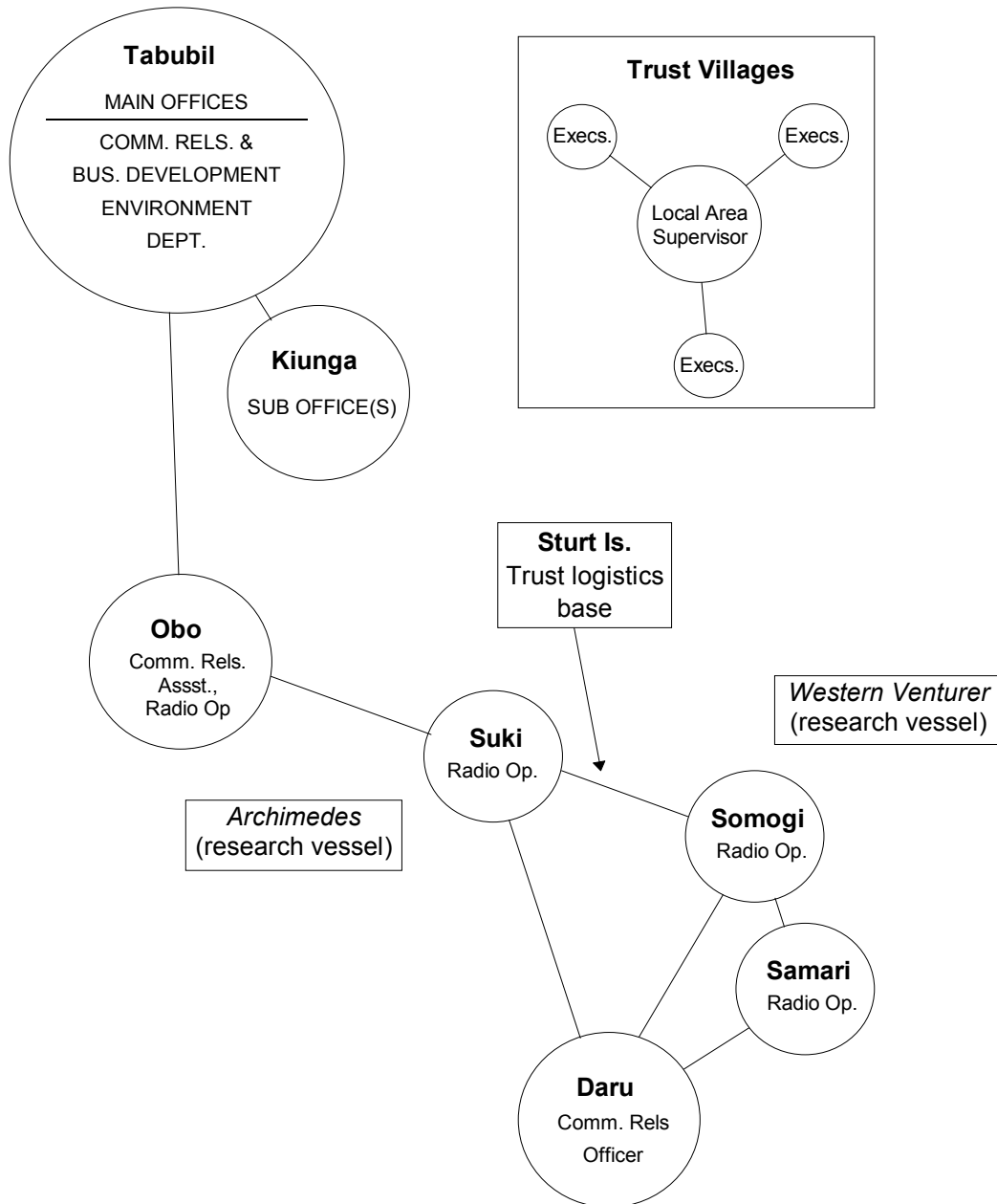


Figure 20. Deployment of OTML village contact resources in Western Province

The locations of Community Relations offices and posts are as shown in Fig. 1, showing the concentration of resources on Tabubil. There are understandable reasons for this: access to office facilities, closeness of staff to decision-making, ease of staff housing and so on. Note that good access to transport means that the Projects Officer has a permanent workboat and that Tabubil staff can be flown to field locations by helicopter. In Trust

villages, a Local Area Supervisor, a villager with trade skills, is the link between the Projects Officer and the Trust Executives in each village, and the village labour hired to build village-level Trust projects.

The Environment Dept. also has a main base at Tabubil, but has a greater dispersal of capital assets on the river system and estuary, in the form of the research vessels *Western Venturer* and *Archimedes*.

Evaluation

My discussion in Part I can now be applied to an evaluation of the two main village liaison activities which are seen in the river system, namely the Trust and village contact in respect of the environmental programme. With respect to the Trust, the contrasting priorities of Part I can be rewritten as shown in Table 2. A similar table could be drawn up to reflect environmental liaison activities.

A commercial enterprise will always incline towards the ‘object’ point of view in the second column, and we can say that the performance of the Trust has been very good when rated against the criteria in this column. Successive Annual Reports implicitly do this in pictures and by tabulating achievements and finance details, just as any company’s annual report would be expected to do. Personal inspection verifies that the reports do reflect the field situation.

‘Relationship’ point of view	‘Object’ point of view
1. Service a personal relationship	1. Get the job done
2. Establish a bond of trust with Tabubil	2. Bring about physical development
3. Do something valued in village affairs	3. Be cost effective
4. See physical development	4. Establish a bond of trust with village

Table 2. Contrasting evaluations.

However at village level, as I have lengthily argued, the criteria in the first column are those used for evaluation of any contact with OTML. On this score, the company is not faring so well.

I do not doubt that the personal contacts between management or their senior staff and their village contacts are excellent. But, taking the river system as a whole, these contacts are infrequent—they cannot be weekly or even monthly for most villagers—and the burden of day-to-day contact falls on the radio operators and assistants stationed in river villages. In 1994 there was only permanent OTML representation at one out of 101 Trust villages (Obo / Kaviananga).

This means that the No.1 priority ‘relationship’ function is delegated to the most lowly members of the organisation, to untrained part-timers, or is only carried out intermittently when more senior staff members call. At the village with permanent representation, used by both departments, there is no office space from which to plan and conduct liaison operations, nor adequate accommodation for Tabubil staff to use as a temporary base.

The second of the ‘relationship’ criteria, establishing a bond of trust with Tabubil, is not easy to report on. *In my opinion*, the majority of villagers I spoke to during field visits in

March/April 1994, made the kinds of complaint I described on page 113, above, with a greater or lesser degree of emphasis. Here are examples (Wangawanga village, 22/3/94):

‘Why is the government not taking care of us? He³⁹ is inviting this foreign [sic] company in and if he is doing it, why is he not looking after us?’

‘We asked for assistance in the form of economic projects. We were told “yes, we will go away and think of something.” But when [the official] came back, he talked about something else.’

‘The [named official] takes our projects and throws them away and puts in the [named village’s] projects. The [named village] people can get money any time, but we write 300 maybe 400 times for nothing.’

All field officers will be familiar with these. The difficulty is to decide whether the problem is serious, or it is ‘just the way people talk’. There are really only two options. First, if it is not serious, it still counts as a partial failure to spend a lot of money and have recipients complain about it. Second, if you are undecided whether it is serious or not, the best policy is to take steps to do better in future.

The third criterion, doing something valued in village affairs, concerns decisions by individuals. Will a man make a positive contribution to village affairs if, say, he takes a sympathetic line with OTML on environmental matters, or will he make a more positive contribution by opposing them? With the statements above, only an exceptional person would get credit for ‘straightening the talk’ and rebutting them—there would be much more credit in pursuing the complaints and trying to get some action. It would not really matter if (measured objectively) a successful outcome was not forthcoming.

The fourth criterion, seeing development in the village, is by no means simple either. Because of all that has gone before, a inoperative water tank, an unused clinic building, a frustrating delay in obtaining replies to questions, and gossip of this or that budget fund being mislaid, tend to overshadow the material progress that is being made in *working* water supplies, school buildings, aid posts and so on. The average villager also sees only one or two of a hundred villages where development is going on, but can hear destructive rumours from many times this number.

Towards a solution

It will be obvious that I advocate a much greater field presence than is currently the case.

The essential thing is to establish field stations along the length of the river system and to station good, dedicated field officers at them. I am sure that few would resist this idea, were the means of implementation readily to hand. (I leave open the question of what section or department should house them.)

In the first instance, three of the existing field bases in Fig. 1, Obo, Suki and Somogi, could be selected for upgrading with the addition of good standard housing for, ideally,

³⁹ The speaker’s words. A Boazi speaker once told me ‘The government, he is a human being like us ...’

two field officers and their families, a visitor's house, main and radio offices, and secure store and power supply, if not already present.

For reasons such as the last complaint I quoted above, I would discourage the placement of field officers at out-stations from, or with local area relations in, the province they are working in. (If this were likely to be problematic, there are three other large resource projects operating in the country who might be contacted for staff exchanges, not to mention the Chamber of Mining and Petroleum, where the issue could be debated.)

The tasks of the field officers at these stations—an experienced staff member and a 'cadet', perhaps—should focus on the contact between OTML and local communities, and should be additional to the existing programmes run by OTML. They should include:

- regular patrolling using means of transport available to local people, namely, on foot, by motorised canoe or banana boat, and by fixed-wing aircraft; helicopter trips must be used sparingly; patrols to be written up with full-length patrol report and patrol diary;
- periodically to convey Environment Dept. staff on environmental briefing patrols; field officers to be well-qualified enough to be able to (a) give simple briefings unaided, (b) have a passive understanding of the more complex details of the monitoring programme, (c) to be able to bring local environmental problems to the Environment Dept.'s attention;
- to establish personal relations with leaders and prominent persons at all villages within their catchment, and to act as the point of first referral for *all* OTML visitors to the area; a log of visits to be kept;
- attendance, with observer status, at local (village, District) planning meetings, and Council meetings where invited; minutes of formal meetings to be recorded;
- to act as a points of dissemination for OTML information and to be available to be the carrier of messages from villagers to OTML.

It goes without saying that considerable personal skills are required to carry out these duties properly. This means that there is little point of establishing a system that is not capable of being reviewed for performance. The emphasis I have placed on reporting is intended to make readily apparent whether a station is functioning up to the expected level. The purpose of stationing a 'cadet' at each of three stations is so as to allow a period of probation to apply to field duties, with rotation and further training after a given period. In all tasks, the emphasis must be on working unhurriedly and in such a way that the quality of contacts between OTML and local communities is placed at a premium.

The value of traditional patrolling has never diminished since its inception in Papua at the turn of the century. Patrols carried out census, conveyed information to villagers, heard disputes, and escorted medical staff, agriculture and other extension staff as available. Obviously, nobody expects to see a line of carriers heaving patrol boxes in the 1990s, but

the basic functions of patrolling do not need much alteration to still be highly relevant today.⁴⁰

Biting the bullet: to be involved or not to be involved?

The key question at many mines is ‘how much should the company involve itself outside the mining area?’ Elsewhere,⁴¹ I have discussed the failure of core government functions in Western Province, noting that the curse of district development is the constant multiplication of new agencies, funds and village committees, each one of which adds to the picture of confusion.

But, with respect to Ok Tedi, the company has a huge involvement along the river system already. This includes the whole of Trust programme, part of the environmental monitoring programme and, periodically, funds for bush compensation, which can be costed in total, depending on what is included, at between K5m and K8m a year. My answer to the question is that in practice it lost relevance at Ok Tedi long ago. At this project, the question should become ‘how best can village liaison be done to assist the existing activities outside the mining area?’

Example of a decentralised out-reach organisation

A valid comparison may be made with the network of stations run by the Montfort Catholic Mission (Fig. 2). The entire organisation is dispersed to a high degree. The headquarters has extra staff, but senior members of the organisation are permanently based in the field. They are supported by ancillary staff; each station has one to three missionary sisters/brothers. In the case of Health Sub-Centres for which the MCM is an agency, two Sisters and three Community Health Workers is normal. Church agency schools vary in size with the school classification; three to six teachers is not unusual. Technical support comes from a well-organised radio sked and a network of private and CAA airstrips. The MCM generally has a pilot in Kiunga, otherwise normal carriers are used.

The MCM out-stations owe a lot of their success to the many years of training and high level of motivation of the staff. This cannot be instantly replicated by OTML, but the principles of operation can be. These are mainly a focus on people management and closeness to the ‘clients’. The budget is modest, but not so modest that technology cannot be used appropriately, e.g. seen in the use of airstrips and in the MCM’s communications network.

Considerations of cost

What I advocate will inevitably have budgetary implications. However, there is no doubt that staffing specifically for village liaison jobs is well under-strength by comparison to other large projects in the country. The Supervisor, Community Relations appears to have

⁴⁰ Though census is a government responsibility, many projects do census for their own benefit. Pacific Social Mapping supplies a PC-based census program, VPS (*Village Population System*), for this purpose.

⁴¹ In previous reports, notably *Development In The North Fly and Ningerum-Awin Area Study* (1992).

only four staff under him, before assistants and casuals are reached. (There is also no provision for women's development that I am aware of.) Environment Dept. does not have its own liaison staff at a senior level.

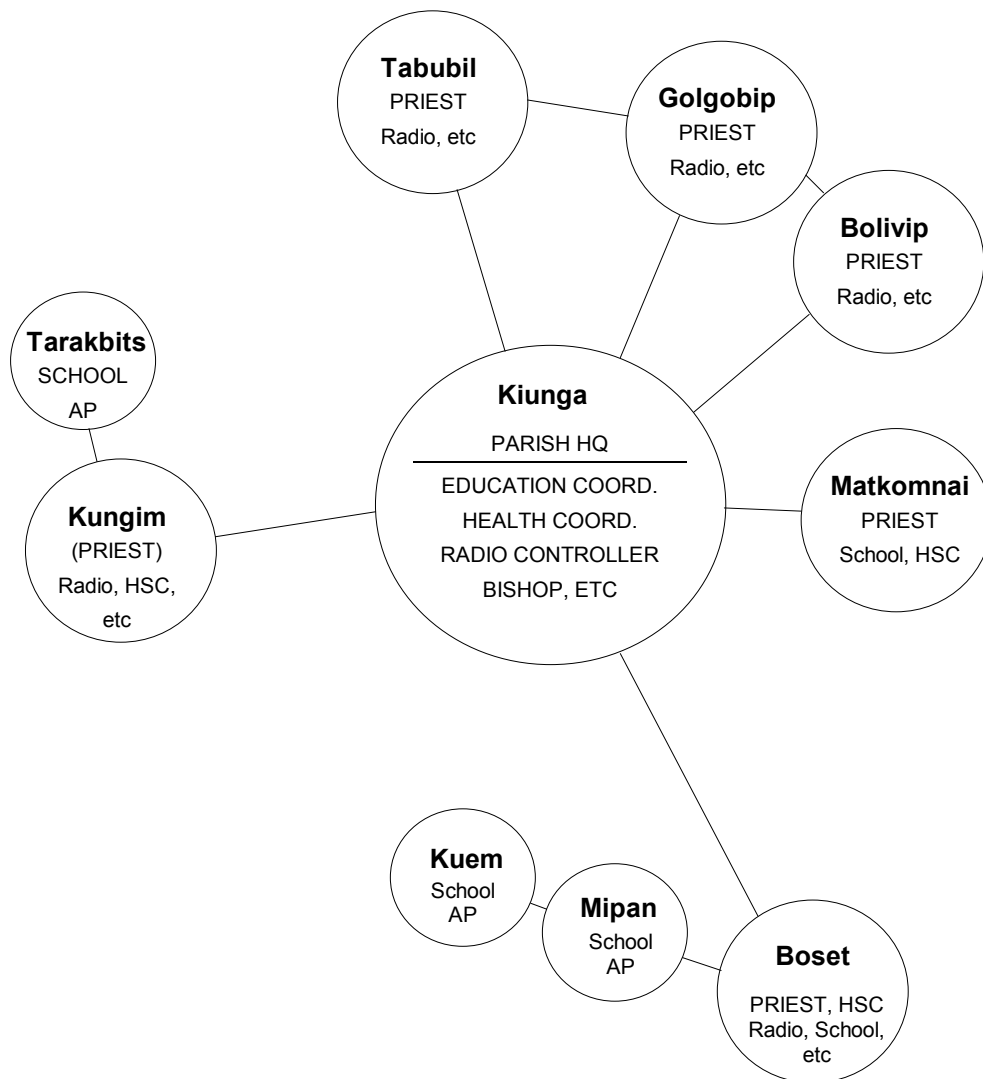


Figure 21. Deployment of Montfort mission staff from Kiunga.

These staff numbers are appropriate for the work load of the lease areas, but given the growth of spending to K5-8m a year outside the leases (see above), good arguments can be made for a commensurate expansion in any case.

Co-operation with the Department of Western and LGCs

I have previously advocated more co-operation between OTML and provincial staff with respect to village contacts and project extension. I have also mentioned the potentially important role of Local Government Councils. I repeat this here, noting that it would be particularly unfortunate for officers to be placed at new field stations to find themselves opposed by District staff, who are already aware of the differential in resources available to them. A case in point, often quoted when the subject is raised, is that of the declined offer of co-operation between the OTML and provincial health services; similar anecdotes abound from resource projects in other provinces.

This is an impasse that must be broken and a ‘District offensive’ would be an essential part of the introduction of field stations. Again, this is a question of thinking first in terms of relationships and only second in terms of what ‘objects’ to install, i.e. the personnel and physical facilities.

Conclusion

I have contrasted two sets of priorities in this discussion paper—the villager’s set of ‘relationship’ priorities and the Westerner-outsider’s ‘object’ priorities—and I think that the distinction does hold up in many situations. This does not mean that villagers or outsiders are intrinsically different from one another; it means that in their situation, and valuing what they do, they probably will not think alike. I do not mean to be definitive about my rather simple characterisation; something more accurate might easily be found.

All the same, if my model is wrong, adopting the ‘relationship’ viewpoint as a means of judging the wisdom of any course of action should be classed as erring on the safe side. It would be hard to lay fault if liaison was overdone this way.

With respect to Ok Tedi now, a properly run network of field stations would help to shift the burden of routine village contact problems off ‘people-with-jobs-to-do’, who do not have the time (and are not qualified) to properly solve them, and on to *skilled* people provided with the time and facilities.

APPENDIX L

‘MAXIMS’ OF SOCIAL MAPPING METHODOLOGY

An extract from Burton (1994c) ‘Social mapping for village description’, an internal working paper prepared for this project.

- I. *Protocol of Village Contact.* A prominent community member should be the primary contact at a village, selected from a local order of precedence.
 - A. A local order of precedence might be: (i) village councillor/ward member, Peace and Good Order *komiti*, Village Court Magistrate, or parliamentary member; (ii) ordinary *komiti*, priest or pastor, former councillor, former *komiti*, former *luluai/mamus*; (iii) teacher, health worker, other public servant; (iv) another specially educated or eminent local person, a local business man or woman.
 - B. Observing this protocol properly places the village visit into the sphere of the village’s ‘external relations’. Village officials have a right to be annoyed if they are bypassed when visits are made by outsiders with whom they are not acquainted, for any reason.
 - C. There is an ever-present danger of making first contact with a widely disliked person or a factional leader. Contacting an elected official provides you with ‘insurance’ that problems of this nature are not of your making. Older councillors usually prove the ideal informants anyway, because of their knowledge and experience.
 - D. Observing this protocol allows a social mapping project—indeed, any project where informants will be the source of some information—to operate as openly as possible, so that members of the public can feel comfortable with the purpose of the project, and have a channel of complaint if they do not.
 - E. The means of initially notifying the primary contact person can take several forms. If a Local Government Council (or Community Government) is well-regarded in the project area, then contacts should be set up by (i) attending a meeting before the start of fieldwork, (ii) notifying individual councillors a day or so in advance of village visits, and (iii) making use of a council-recommended *tanim tok* as a patrol guide.
 - F. If the social mapping project is attached to an existing extension or community relations programme, and can be logically included in that programme’s activities, then village contacts can initially be made through the programme.
 - G. In non-council areas, or districts where communications are unusually difficult, initial village contacts can be made through other non-village establishments such as a missions, schools, health or trading posts.

- H. Visiting villages ‘cold’ can be done as a last resort, but it is not desirable. A list of leaders, such as councillors in a council area, ought to be obtained before beginning the patrol. Useful fallbacks are lists of mission helpers or catechists provided by a parish priest, teachers at remote community schools, and so on.
- II. *Criterion of Public Domain.* Only information that lies in the public domain is generally admissible in social mapping.
- A. Information received in confidence may not be presented publicly.
 - B. When confidential information is likely to be divulged by informants in an interview, the interview should include an adequately long discussion segment that makes clear the distinction between private (e.g. family or clan only) and public knowledge and the uses to which the results of the interview will be put.
 - C. In most situations, informal interviewing poses no problems, assuming interviewer possesses the requisite skills and interview ‘manners’. Informants adapt to this best and the ‘interview’ can take the form of a highly productive, yet unstressful conversation.
 - D. Informants may give ‘off the record’ comments which they would not repeat in a formal interview or in a public place. Careful judgement should be exercised as to how—or even if—these should be recorded. It is unwise to show undue interest in ‘hot’ information by, for example, being seen ostentatiously writing it down. The information may be very valuable, but it should be noted discreetly and not used as primary evidence.
 - E. Payment should never be given for information. Buying information implies that the seller claims exclusive ownership, as of a secret spell or ritual. This does not conform with the criterion, and no situation in social mapping has yet called for the use of secret knowledge.
- III. *Criterion of Consensus.* Only information for which there is a general consensus is usable in social mapping.
- A. The quest for increasing detail on boundaries, land ownership, migration histories and the like must not be pressed beyond the point at which consensus is lost.
 - B. Information about which there is substantial disagreement should not be represented in reports and on maps at all. Instead, the dispute itself should be discussed, with attempts to understand its origin and to establish its historical context. The standard method is to trace the problem through patrol reports, early ethnographic accounts, court records and other archival documents.
 - C. During fieldwork, disagreements of opinion may be noted when encountered, but the social mapper should step back from them. There

should never be an attempt to adjudicate, and this should be refused if requested by villagers.

- D. Minor discrepancies of evidence may be accommodated by clear annotation. For example, if a boundary is in dispute along a small fraction of its length and this does not alter the overall picture of land-holdings in an area, the disputed area may be labelled as such.

IV. *Criterion of accord.* The long-term value of information is proportionate to the accord with which it is given.

- A. Topics that concern people's rights to exist excite controversy. However, since people are not in dispute for most of their existence, it is a basic principle that much can be learned *without* exciting controversy.
- B. By using good interviewing and appropriate meeting skills, the fieldworker should attempt to (i) maximise the harvest of uncontroversial information, and (ii) minimise the anxiety of informants over 'hot' topics by anticipating them, noting what they are, and steering around them.
- C. When hot topics cannot be avoided, a fallback is to become more formal about the process of gathering information. A written interview schedule can be made public, and in the extreme, a public meeting can be convened and minutes taken, together with a list of people attending. Tape-recording has a place, but not generally at large meetings, unless very good facilities are available. Video may be useful, but perhaps not in the bush, unless good assistance is at hand.
- D. When informants are obviously in conflict, such as on the priority of settlement at a place, their statements may be recorded, even at length and in detail, when given voluntarily. However, considerable skill is needed to ensure that questions at interview are simply for clarification, and neither offer provocation (to other listeners) nor endorsement. It may also be necessary to explain to onlookers what is being written down and why.
- E. Factual contradictions detected in an informant's testimony, or between it and publicly-held views, may be challenged, even vigorously, as long as this may be done without causing embarrassment.

V. *Fair dealing with informants and guides.* [section under development]

VI. *Depth vs. breadth of coverage.* Fieldwork for social mapping must be paced to optimise the depth of information obtained against the breadth of its coverage.

- A. Fieldwork should proceed slowly enough for basic information to be accumulated for each place visited, but fast enough to allow a more or less uniform understanding of the whole project area in a given time.
- B. If an extended stay is made at one place, the extra detail obtained by staying there must be more valuable than the knowledge of other places that must be sacrificed to make it possible.

- C. When informants give confusing or conflicting information at a place, spending too long resolving the differences there may put the goal of good project coverage in jeopardy; equally, when incomplete basic information is obtained at places, 'holes' in the coverage compromise its overall worth.

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