

**Socioeconomic impact study of the proposed
Biliau-Ramu Sugar road
in the Rai Coast and Nahu-Rawa Census Divisions of
Madang Province**

By Nancy Sullivan Ltd.:

Thomas Warr, Principal Investigator

Nancy Sullivan

Joseph Rainbubu

Moses Angasa

Jennifer Kunoko

Francis Akuani

Yunus Jonah Wenda



Contents

I. EXECUTIVE SUMMARY	7
II. ABSTRACT	11
III. INTRODUCTION	11
IV. RESEARCH DESIGN AND METHODOLOGY	13
V. SOCIOCULTURAL BACKGROUND	15
VI. STATISTICAL DATA	21
a. RAI COAST	21
A. SOCIAL STATISTICS	21
B. POLITICAL STATISTICS	24
C. ECONOMIC STATISTICS	24
D. IMPACT OF THE ROAD	27
b. NAHU RAWA	29
A. SOCIAL STATISTICS	29
B. POLITICAL STAISTICS	31
C. ECONOMIC STAISTICS	32
D. GENERAL ISSUES	35
VII. DEVELOPMENTAL SIGNIFICANCE OF THE STUDY	36
VIII. RESULTS AND FINDINGS	36
a. RAI COAST	36
A. BILIAU	37
Population	37
Clans	37
Cash crops	37
Markets	37
Transport	38
Health	38
Education	38
Church	39
Social groups	39
Water supply	39
Communication	39
Retailing	39
Housing	40
Perceived costs	40
B. DAMOING	40
Population	40
Clans	40
Cash crops	40
Markets	41
Transport	41
Water supply	41
Retailing	41
Health	41
Education	42
Social groups	42
Communication	42
Housing	42
When a road comes	42
C. SERIENG (PATENG)	43

Population	43
Clans	43
Cash crops	43
Markets	43
Health	44
Education	44
Housing	44
Church	44
Water supply	44
Social groups	44
Retailing	44
Some propose	44
D. MAIBANG	45
Population	45
Clans	45
Cash crops	45
Markets	46
Health	46
Education	46
Church	46
Social groups	46
Housing	47
Retailing	47
Transport	47
Water supply	47
Custom	47
If the road comes	48
E. RUSUANG	48
Population	48
Clans	48
Cash crops	48
Markets	49
Health	49
Education	49
Housing	49
Water supply	49
Church	49
Social groups	50
Retailing	50
When a road comes	50
F. SEREMORE-RAMBA-KIAMBOWE II	50
Population	50
Clans	50
Cash crops	50
Markets	51
Health	51
Education	51
Water supply	51
Housing	52
Church	52
Social groups	52
Retailing	52
If a road comes	52

G. MATOKO	53
Population	53
Clans	53
Cash crops	53
Markets	53
Health	53
Education	54
Church	54
Water supply	54
Housing	54
Social groups	54
Retailing	54
If there is a road	54
H. MUNIANO	56
Population	56
Clans	56
Cash crops	56
Markets	56
Health	57
Education	57
Housing	57
Water supply	57
Church	57
Retailing	57
Social groups	57
I. KONGO-FUNEYENDE	58
Population	58
Clans	58
Cash crops	58
Retailing	58
Health	58
Education	59
Church	59
Housing	59
Social groups	59
If a road comes	59
b. NAHU RAWA	63
J. NAIKO	63
Population	63
Cash crops	64
Markets	64
Health	65
Education	65
Church	66
Social groups	66
Housing	66
Water supply	66
Transportation	66
Retailing	66
Social issues	67

K. MUNAMBE	68
Population	68
Clans	68
Cash crops	68
Markets	68
Health	68
Education	68
Church	68
Social groups	69
Housing	69
Water supply	69
Retailing	69
L. HARIMBE	69
Population	69
Clans	69
Cash crops	69
Health	70
Education	70
Social groups	70
Housing	70
Water supply	70
Retailing	70
M. WANIRU	70
Population	70
Clans	70
Cash crops	71
Social groups	71
Housing	71
N. BUTEMU	71
Population	71
Clans	71
Cash crops	71
Markets	71
Health	71
Education	71
Church	71
Social groups	72
Housing	72
Retailing	72
Recommendations	72
O. GUBRAMI, MORO AND DANA	72
Population	72
Cash crops	72
Markets	73
Health	73
Education	73
Church	73
Social groups	73
Transportation	74
Housing	74
Communication	74
Retailing	74
P. SEWE	75

Population	75
Cash crops	75
Markets	75
Health	75
Education	75
Retailing	75
IX. TOPOGRAPHICAL CONSIDERATIONS	75
X. ANALYSIS OF DATA	75
Current social constraints	75
Possible negative impacts of the road	76
Possible positive impacts of the road	76
RAI COAST DIVISION	77
Community meetings' views on the proposed road	77
Analysis	77
Recommendations	77
NAHU-RAWA DIVISION	78
Community Meetings' views on the proposed road	78
Analysis	78
Recommendations	79
XI. THE POTENTIAL IMPACT OF A BILIAU-RAMU ROAD	79
A. Social implications	79
B. Cultural implications	80
C. Political implications	80
D. Economic implications	80
E. Environmental implications	80
XII. INTERPRETATION OF DATA	81
Rai Coast Division	81
Nahu-Rawa Division	81
XIII. SUMMARY AND CONCLUSIONS	82
XIV. RECOMMENDATIONS	86
XV. BIBLIOGRAPHY	87
XVI. APPENDICES	90
A. EXPRESSION OF INTEREST	90
B. QUESTIONS FOR RESEARCHERS IN SOCIAL IMPACT	
STUDY OF THE BILIAU-RAMU ROAD	91

I. EXECUTIVE SUMMARY

The Rai Coast and the Nahu Rawa Districts are very separate and different environments, socially, geographically and economically. While the entire Rai Coast is remote and disconnected from the provincial centre of Madang, there is a much greater need for communication and transport upgrading on the south side, or Nahu Rawa side, of the Finisterre Range, and in particular, of Mt. Abilala. If, for no other reason, than to bring these communities into the provincial fold and provide the political access they deserve, this road is vitally important. Virtually no one on that side of the Range objects to this road, and everyone will dramatically benefit from its construction. Whatever objections to its construction that exist to the road on the Rai Coast side of the project area rise incrementally toward the coast, to the relatively accessible and fortunate village of Biliau at the coast. It is in Biliau that people fear the loss of autonomy and safety most of all. Due to their location, they have less to gain, and therefore see the social costs as greater. Villagers want a road, but would prefer it end in Matoko, so as to prevent migration of people and crime into the area and the exodus of their land and meager incomes in the other direction.

In general, however, the economic impact of this road is potentially enormous. Both sides of Mt. Abilala have suffered from dashed hopes and wasted investments of time and labor in a series of cash crops that never found their way to market. Indeed, the ripple effect of these disappointments is considerable. The human costs of carrying enormous weights of vegetables, coffee, cocoa and whatever else is brought to market over rough terrain and many hours of walking, is inestimable. Aid posts all note body aches as a major complaint, but what is not recorded, perhaps, is the higher mortality rate of a population that must endure these burdens, and the lower birth and higher infant mortality figures that may also result.

In the Rai Coast region, lack of transport has been the cause for failed coffee, cocoa and rice projects that can never be brought to market. Sales of garden produce at the village markets, which remain the basis of family cash income, are at a depressed standstill for lack of customers and competition. Their ability of women to send their produce from the interior to the coast, and from the coast to Madang, is the linchpin to the region's economic stability. Only when this becomes possible, will there be enough cash income for school fees, aid post fees, trade stores and small retail and manufacturing projects. On the Nahu-Rawa side of the Range, women's markets are also stymied by their isolation. Where there are customers, down at Ramu Sugar and its surrounding markets, there is also extreme competition from Highlands settlers and their garden produce, in particular, peanuts.

But it is vanilla that has revolutionized the Rai Coast economy. Injecting as much as K30,000 (or more) into individual households, creating consumerism from subsistence farming, and providing the stability for extended relations to send their kids to school, to visit the aid posts, and in general maintain their standard of living during a cash crop crisis—when it is no longer worthwhile to pick or transport coffee, a major Rai Coast crop, to market—vanilla is the godsend of today's Rai Coast. Its success relies, not

coincidentally, on the fact that it bypasses all the major handicaps of cash cropping in the region: so light, so easily transportable, it does not rely on vehicles, innumerable carriers, and/or the soaring price of fuel. It makes its way to market more often than not in one container with more than one bodyguard, as precious a cargo as gold nuggets or uranium.

Using rough calculations of population, cash crop prices, transport costs, market sales and so forth, we have been able to estimate the 2003 average household income for the twelve villages on the Rai Coast side of the project to be K1792. This represents an averaged income across these villages, some of which have sold vanilla this year and some not, minus an averaged household expenses of K750. Were these villages able to sell their most important cash crop, coffee, the average household income would be K2673. Were these villages able to transport and sell all their cocoa, coffee copra and betelnut, it might well be double this figure. Add to that the income soon to be generated from ripened vanilla vines in the next two to three years, and the cash potential locked in this remote region is considerable. The operative word here is 'locked,' because this is precisely how the economic potential of these villages must be viewed, so long as cash crops and human resources cannot be transported to markets, and basic medical and educational supplies and services cannot make their way to the villages. Unlocking this potential depends entirely upon the construction of this road.

The road is necessary for the present and future economy of the area. At present, while people rely heavily on gardening, fishing and hunting to survive, this semi-traditional way of life still requires cash. It is necessary for school fees, health care, transport, clothing, and basic household needs. And it is also necessary for custom: for death ceremonies, compensation. Claims, and brideprice—which runs from K1500-2500 in the area. Polygamy is also customary, which puts additional strains on a household income.

When the road is established, household income is estimated to jump 150% by the sale of coffee alone. With the additional sale of vanilla, when the area's vines come into fruit, this income will rise at least 550%, to a (very conservative) estimate of K10, 000 per annum. With this amount of cash moving through the villages, long-defunct trade stores will be able to re-open, and all the kakaruk, kerosene and piggery projects will have the chance to thrive again. Vehicles will eventually join the transport businesses, as will more motorboats, and perhaps even another provincial shipping vessel, to supply increasing demand. There will be roadside markets and customers for a wider range of garden and small-scale manufacturing goods, like homemade clothing and baked goods. Supplies will reach the aid posts sooner, and the movement of materials from Madang and Morobe into the area will make it possible for construction of all kinds, from kit houses to meeting halls, churches, water projects, school buildings and health centres. Villages will soon get generator sets and enjoy electricity, allowing stores and cottage businesses to work longer hours, earn more money, and so forth. Indeed, the snowballing effects of a new road and the income from vanilla promises to jolt the Rai Coast into a prosperous twenty-first century. Ideally, Rai Coast villagers will be able to enjoy the mobility and entrepreneurial freedom that makes village life in Papua New Guinea amongst the best in the world: still dedicated to gardens and customary social routines, able to generate enough cash to enjoy basic comforts, send children to school,

get medical care when needed, draw clean water and sit by lamps at night, villagers will have the best of both worlds. More importantly, they will overcome the daily struggle just to get by. Children will be immunized, babies will be born healthy to healthy mothers, schools will have teachers, books and desks, mothers will have cash to pay school fees, husbands and fathers will have trucks and motorboats, crops for market, and money to fulfill affinal obligations. Rather than undermining traditional values, a steady and sufficient stream of cash afforded by opening up markets to transport can revivify the culture of Rai Coast, and guarantee that mortuary ceremonies are performed appropriately, bride price is paid, feasts are organized and young men have the incentive to stay in the village, marry close to home and raise the next generation on family land. We project a 150% increase in household income *at the minimum* with the new road, and a 550% increase when local vanilla hits the market. Added to this are the unquantifiable quality of life gains in medicine, education, housing, church and worship, sports and Mama Groups. New crops will be planted for market and consumption, boosting the nutritional value of the local diet and suppressing sickness caused and exacerbated by malnutrition. The arthritis, muscle and joint pain and bruising, that comes from long walks to and from market will be reduced, as will the terrible risks of women and children traveling treacherous and ill-graded mountain roads.

The reverberated effects of this road project will reach Madang town as well as the Ramu Sugar and Morobe border on the Nahu-Rawa side of the Finisterres. But, whereas the Rai Coast region will enjoy prosperity, it is important to remember the Nahu-Rawa region will be the real beneficiary---finally receiving the basic communications, materials and emergency services virtually all other districts in the province take for granted. It is the Nahu-Rawa people who will be catapulted the greater distance, from an unserviceable mountain backwater to a viable and connected contributor to the provincial economy. They will now be able to market their peanuts, apples, and cold-weather vegetables in the Rai Coast markets, where they will no longer be swamped by Highlands competition but provide the much-needed variations from the coastal garden produce. Coffee can make its way from the far side of the range out to Madang, and the Nahu-Rawa planters can begin to add cash crops, like vanilla, to their gardens, with the confidence that these will make it to market.

We cannot ignore the possible negative impacts of building this road, and throughout the patrol villagers were conscious of these dangers. The idea of a highway calls to mind images of Highlanders and Morobeans flooding into the area and muscling out local trade stores and business enterprises, even pressuring vulnerable villagers to sell/rent their land to these strangers. Worse yet are the fears of raskalism entering through the back door—of a gradual loss of security for all the women on the north side of the Finisterre, a time when people will have to lock their doors and young girls will not be able to walk the roads freely. Even on a more benign scale, there are worries that outsiders will come to dominate the local markets with their produce, wiping out the gains Rai Coast women expected to enjoy with the new road. These are very real considerations, and not to be taken lightly. But there are a number of reasons *not* to be so greatly alarmed. First, the road over the Mt. Abilala pass is going to be a difficult and rough connection, hardly the ‘highway’ of people’s imagination. Certainly there will be cargo and passenger vehicles

traveling it regularly. But the idea that people would journey across this pass for a lark, or for a day trip to the market, is unrealistic. Short of an enormous infusion of aid money, the road will remain a basic emergency route for some time, not a multiple-line highway. It will offer a lifeline to the remote people of both sides, and no easy entry to wandering raskal gangs. Villagers along the Rai Coast side of the divide would prefer, of course, that their road stop at Matoko, and not crest the pass. For safety's sake, they would prefer the benefits of mobility to be contained within the province. But to ignore the greater need of Madang peoples living on the far side of the ridgetop, where there is virtually no direct connection to Saidor or Madang, and where dangerous footpaths are their only link to the rest of the province, would be to violate the best intentions of the project as well as undermine some of the real benefits for both sides of the Finesterre. A major benefit for Rai Coast people will be the introduction of highlands produce into their markets, where they will be sold without competition from highlands producers and be of real nutritional value to villagers. By the same token, yams, taro, tulip and fruits from the Rai Coast will make their way into the Nahu-Rawa markets and add diversity to their diets as well.

Suggestions made by villagers in both regions are important to heed, and have become part of our recommendations here. Police posts should be established at more than one point along the road. The lurking problems of marijuana and home-brew, which exist in the most remote villages on both sides of the range, will be diffused by the bright lights of law enforcement. Road blocks and anti-social activity that flourishes in isolation will have no chance to establish themselves. Church leaders should be encouraged to strengthen social group activities, especially Youth Groups, before the road opens; and Mama Groups and Sports Groups should all be assisted as a way of reinforcing community bonds before the road opens. A study should be made that focuses on land tenure in all the villages to be effected, so that, in the future, should migration become a problem, these details are on record. Ward Members and local leaders must draft clear development programs so that change does not occur haphazardly, and money is wasted on matters of low priority—like taverns or gambling clubs.

It is some measure of the neglect these communities have long felt—and the disappointments they have experienced in raising cash crops that never get to market—that virtually everywhere on our patrols villagers acknowledged the risks of bringing in a road, but agreed, without hesitation, that the benefits will far outweigh them. We commend the villages all along the proposed route for their courage in taking on the risks and embracing the responsibilities of living beside this road. They know they will be the first to pay a social price as well as the first to benefit from the project. But the lack of a road has left them in a development purgatory that has far greater long-term costs. Everyone now looks forward to the new road.

Our statistical raw data can be seen as follows. This is the material from which we have drawn our qualitative and quantitative conclusions.

II. ABSTRACT

The Rai Coast and Nahu-Rawa Districts of Madang Province have long been underserved and underdeveloped, as compared with the rest of the province. This is largely because they lie on the north and south flanks of the steep and rugged Finesterre Range. While the Rai Coast peoples have well-established traditional trade relations with people both toward Madang and toward Morobe Province, along the coast, the Nahu Rawa people have always been by far the most isolated section of the province. Both the Rai Coast and the Nahu Rawa are in dire need of improved transport to bring in the necessary medical and educational supplies they have been apportioned, to attract the requisite teachers and aid post officers for their villages, and to bring their goods to market. While there have been feeder roads along the Rai Coast region, leading to the Madang-Saidor road and to coastal shipping routes, these are now extremely neglected and in some areas nonexistent. The number of rivers and streams running off the mountains compounds the transport problem throughout the area. Hence, the Rai Coast villages are very supportive of a proposed road to be built from Biliau up to Matoko. They are somewhat reluctant to continue this road over Mt. Abilala, connecting it to the road now proposed to run from Ramu Sugar to Gumbrami, for fear of migrants flooding into their area from Morobe and the Highlands. Nevertheless, this is the critical link for the Nahu Rawa people, the only way to provide these villages with the services and commercial opportunities they so desperately need, avoiding the circuitous route from Ramu Sugar to Madang, and connecting them directly to the Saidor administrative headquarters and Madang town itself. This road will boost the economic and social welfare of both districts by 100 to 500%, and for this reason is welcomed by the vast majority of their populations.

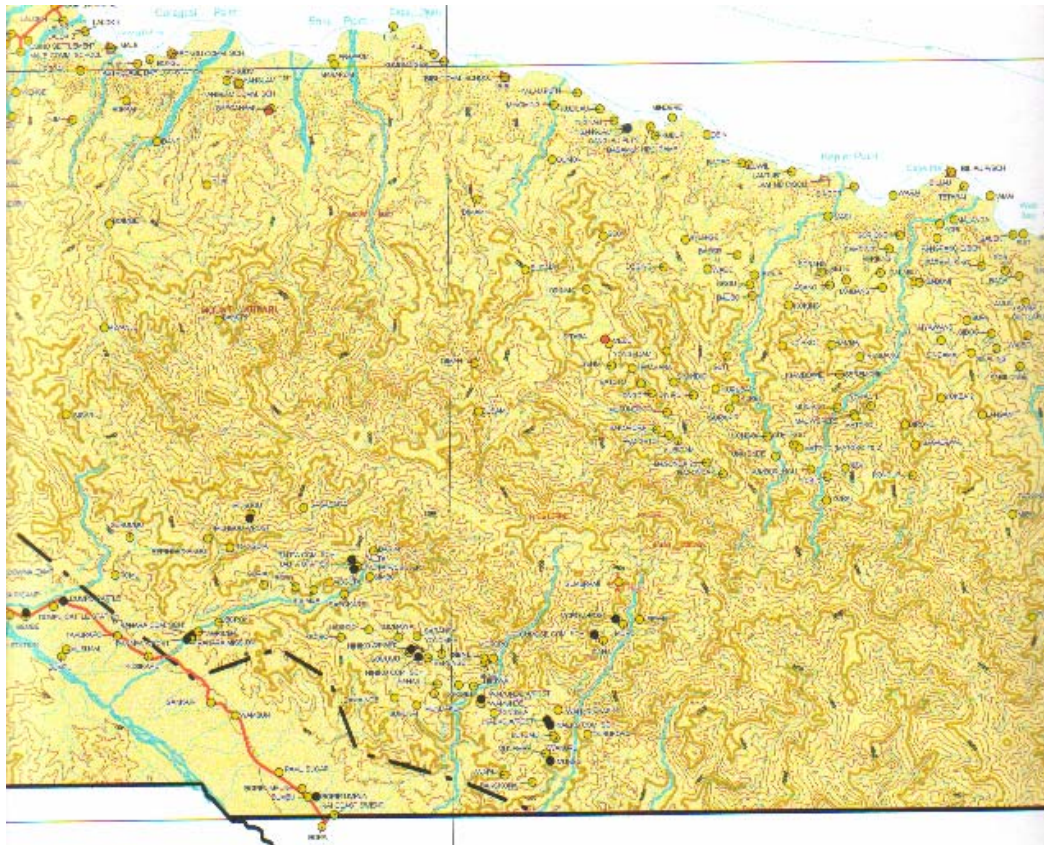
III. INTRODUCTION

The Saidor and Nahu-Rawa Census Divisions of the Saidor District of Rai Coast in Madang are amongst the most isolated sections of the country. The land is covered with complex river systems running off the north and south sides of the rugged Finesterre Range. People living in these divisions are without many of the basic services other rural areas enjoy, including working schools, access to markets, staffed and stocked aid posts, and communication with their District offices. Indeed, the people of the Nahu-Rawa census division have no direct access to the District Headquarters in Saidor, and are forced to walk several hours to the Ramu Sugar camp on the Lae-Madang highway to catch transportation to Madang, and then boat or vehicle transport to Saidor station. People living around Tauta Station, to the west, have a feeder road to the highway; and people in Gumbrami have an airfield, for occasional access.

But the majority of the population from the provincial boundary north to Butemu, Gumose and up, through the immense and rugged limestone escarpments of Mt. Abilala, to Kumburungu, Yaki, Funiyende, Sari and other villages at the high end of the Rai Coast, are all without any access whatsoever to the outside. People walk across this

ridgetop at great risk; and on the Rai Coast side, the villages of Matoko northward, toward the Coast, have a feeder road that is used by a handful of vehicles only. Nothing significant in the way of development, whether infrastructure or agriculture, can be introduced to this area without a road link to the major centres. Their village markets have evaporated, their teachers have left, their aid posts are empty and their coffee, copra, cocoa and vanilla are left unsold.

In pre-colonial days, the coastal people of this area were connected to the islands just south of Madang town (Bilbil, Yabob) as ports of call made on sea-going trading expeditions from these islands. They were part of the extensive Vitiaz Straits trading system. This system incorporated people as far a field as West New Britain, and the eastern tip of the Huon Peninsular, and relied upon large-masted sailing canoes with outriggers, their sides built up with planks. People inhabiting the coastal hinterland and the mountain ridges tended to have trade friends on the coast, which could be reached by following their respective ridges straight down to the sea. They were thus also part of the system that moved shells and clay pots into the mountains, and feathers, dogs' teeth and wooden bowls to the coast. However, they made little contact with those to the east or west of them, due both to the difficulties of travel and to mutual hostility and fear between small language groups.



The coast has a markedly seasonal climate, with northwesterly winds ('Rai' winds as they are known locally) prevailing during the dry season between May and October, and easterly winds (or 'Talió') for the rainy months of November to April. The coast (away

from Saidor with its airstrip and plantation boat) is serviced irregularly by small boats which collect passengers, and sometimes copra, roughly once a week for the sea voyage to Madang. It is also connected to Madang by a road along the coast, although this road is only useable for a few months of the year. The ferocity of the rivers flowing from the mountains during the wet season each year prevents the construction of lasting bridges, and thus the road can be used only by fording these rivers.

Both the Rai Coast and the Nahu Rawa Districts of Madang have been left out of the loop of interdependence and development, largely because they lie along the rugged terrain of the Finisterre Range. Whereas rugged highlands provinces, such as Enga, for example, rest on exploitable natural resources, rich veins of copper and gold that for the basis for a decentralized development, and enjoy pockets of surprising wealth—where nonliterate villagers now have satellite phones and Seren wives—the Rai Coast/Nahu-Rawa peoples are not so lucky. No mining or manufacturing paves their economic growth; they are dependent upon the same cash crops that other Madang areas cultivate: coffee, copra, cocoa, and now vanilla. The difference, however, is that these villagers have enormous transport burdens, and are the last to market and the first to feel market fluctuations. Their very distance and inaccessibility means that their profit margins are minimal, and often disappear overnight between the rising cost of fuel, health and education, and the need to garden for subsistence as well. For Rai Coast/Nahu-Rawa, then, the main contrasts between the traditional Madang economy and that of 1974, or today, are...well, negligible: broken promises, frustrations, and a growing hunger for change.

In the words of anthropologist Louise Morauta more than thirty years ago (1974:66),

The main contrast between the traditional Madang economy and that of today is that the village sphere is no longer autonomous but is related to towns, to plantations, to commercial enterprises operating on Western lines and to extra-village, and in many cases international suppliers and buyers.

This still describes Madang Province's rural economy. Or rather, it works for most places in the province. Morauta was talking about an exciting transitional moment, the even of Independence and a period of expansion for every small scale community in the country, suddenly part of a larger national social and economic network. Much of the promise of that era has come to pass: villages are linked to the main towns by commuting wage-earners; to the nation by communication, transportation, and domestic markets; and to the global community by cash crops, media, education and even the church. No village is an island anymore. And yet, in some remote corners of the province, it might as well be the case.

IV. RESEARCH DESIGN AND METHODOLOGY

Social analysis improves project quality by revealing the dynamic interplay between people and institutions. It traces the barriers to opportunity on “maps” that take into account the institutionalized rules of the economic game, categories of social diversity,

and the interests and influence of multiple stakeholders. Done well, social analysis shows us how to overcome constraints and to activate the often-invisible incentives and channels through which development is fostered and sustained. Social analysis thus charts a path to social development.

Social analysis of proposed projects examines the extent to which they are likely to lead to desirable social development outcomes. The analyst identifies opportunities and constraints arising from the country's socio-cultural, institutional, historical and political context and, armed with that knowledge, prepares strategies that are more effective in achieving the project's intended social development objectives to help reduce poverty. Social analysis also helps to assess the likely outcomes, impacts and social risks that need to be considered in the design of the project.

Complementing economic and institutional analysis, social analysis assesses the likelihood that the project will be socially sustainable, that its social benefits and economic opportunities will be widely shared, and that it will not be foiled by unforeseen counter-objectives.

Social analysis does so by (i) examining the social opportunities, constraints and likely impacts relevant to the project; (ii) assessing the role of beneficiaries in project design and implementation; and (iii) helping the Borrower to explicitly identify and monitor the project's expected social development outcomes and social risks.

These outcomes are achieved by measures that (a) increase access of the poor to markets and public services, (b) increase the social and economic assets and capabilities of people, especially the vulnerable and the poor, (c) mitigate adverse impacts and address social tensions and conflict, and (d) increase the accountability of public institutions to citizens.

A social development strategy would thus help to increase benefits to the poor and reduce social and political risks that could undermine the gains of development thereby increasing the sustainability of projects.

Teams conducted research in two phases. In the first phase, four men and two women traveled through the northern area of the project, in the Rai Coast, for a total of two weeks. We set up village meetings at the following times and places:

Biliau 21.10.03 Tuesday
Damoing 22.20.03 Wednesday
Serieng 23.10.03 Thursday
Maibang 24.10.03 Friday
Rusuang 25.10.03 Saturday
Kiamsowe 26.10.03 Sunday
Seremore 27.10.03 Monday
Muniano 28.10.03 Tuesday
Matoko 29.10.03 Wednesday
Funeyende 30.10.03 Thursday

Kumbrungu 30.10. Thursday

In the second phase, three male researchers conducted research in the southern side of the project, the Ramu side of the Finisterre Range in the Nahu Rawa District. They spent ten days traveling through the following villages:

Naiko 15.12.03 Monday

Munambe 15.12.03 Monday

Harimbe 16.12.03 Tuesday

Waniru 16.12.03 Tuesday

Butemu 16.12.03 Tuesday

Gubrami 20.12.03 Saturday

Moro 20.12.03 Saturday

Dana 20.12.03 Saturday

Sewe 20.12.03 Saturday

Methodologies include: literature review, on-site group interviews, individual interviews (tape-recorded and hand noted), and participant-observations. Statistical data has been generated from estimates and used to project household and village incomes per annum, from which further projections have been made regarding future incomes with and without the presence of a Biliau-Ramu road.

We would like to acknowledge the limitations of this research, and clarify that the information gathered within is neither conclusive nor exact. Our patrols were brief but thorough, and we are confident that the statistical as well as qualitative material presented here is an accurate *reflection* of the Rai Coast and Nahu-Rawa villages surveyed. This material should not be mistaken for census information, or for a rounded picture of these communities. More social research is recommended, especially on land tenure issues. Spellings may vary here, as they do on the ground.

V. SOCIOCULTURAL BACKGROUND

Madang Provincial population is 252, 411 citizens and 784 expatriates. It's land area is approximately 29 000 square km. The Rai Coast population is 23,236. Languages in the Rai Coast region (which includes the Nahu-Rawa District) fall into the language groups called Nahu, Rawa, Mebu, and Nankina. The Rai Coast is the area of land that falls from the steep and rugged Finisterre Mountains to the sea in Madang Province. It begins at Astrolabe Bay (where the Russian scientist Michlouho-Maclay first landed at the village of Bongu, n 1871), 30 km. south of Madang town, and runs to the border of Morobe Province, more than 100 km. to the east. The coastal plain is narrow, hemmed in by the mountains that rise steeply to peaks reaching as high as 4000 m, at some points within 25 km. of the coast. Fast-flowing rivers pour from the high mountains, cutting deep channels between sharp-forested ridges as they rush from the heights. This series of parallel ridges, which run roughly south to north towards the coast, makes travel in the area difficult everywhere except adjacent to the shore. Even here, for all but the dry season between May and October, the flooding rivers make travel hazardous.

Traditionally, the Rai Coast people were connected to the islands just south of Madang town (Bilbil, Yabob) as points along longer sea-going trading expeditions from these islands, in turn part of the larger Vitiaz Straits trading system. This system included people as far afield as West New Britain, and the eastern tip of the Huon Peninsula. People inhabiting the coastal hinterland and the mountains had 'trade friends' on the coast (Lawrence, 1964:27), and were also part of the system that moved shells and clay pots into the mountains, and feathers, dogs' teeth, and wooden bowls to the coast.

Hamlets are situated along the limestone ridges. The land is heavily forested, with green patchwork hillsides from successive cultivation and regrowth. The darkest patches indicate spirit places where the forest is never cut for gardens. Farther south lies the huge and densely forested Finisterre range. In the subcoastal area running south and uphill from Biliau to Maibang, steep ridges embrace fast running watercourses, which bubble up from many springs, and run away to the two main rivers which drain from high in the Finisterres. (Leach 2003: 12-17).

Serieng, Reite, Asang, and Sorang all speak Nekgini. Coastal people adjacent to these territories speak a language related to Nekgini and Ngaing, called 'Neko' by Wurm (1981) (also note Leach 2003: 8). Neko speakers include Goriang, Damiong, and part of Serieng. To the south of Nekgini speakers, separated from them by a steep rise in the mountains, lie the villages of Dau (or N'dau) speakers (Lawrence 1964:13) (Rusuang, Seremore, Muniano, Funiyende, Kumburungu, Ramba, Matoko, Yoki, Kongo, Sari, Bambangu). This language appears cognate with a large group known as 'Rawa.' To the east lie the territories of Ngaing speakers, which include Maibang and Biliau (Lawrence 1964, 1965; Hermann 1992; Kempf 1996).

Although contact with Europeans began in Madang Province in 1871, most Rai Coast people had little contact with white people until after the Second World War. The early German traders, planters, and missionaries who arrived in Madang and traveled along the Rai Coast appear to have restricted their movements to the coastal plain. While their introduction of steel tools to the area at first had little impact on the swidden gardens, their advent intensified trade and exchange both amongst sub-coastal, and between coastal and subcoastal people. With trade, also came marriage between these groups. With the advent of pacification by the German (1885–1914), and then the Australian administrations (1921–42, 1946–75), movement became easier, and the kind of fear that required hamlets to be small and easily relocated, subsided.

The beginnings of migrant labor by Sengam and Neko-speakers during the 1930s also introduced Tok Pisin to the area. This, more than anything else, resulted in more congenial relations with neighboring language groups. In the 1930s, when the gold mines at Wau and Bulolo in Morobe Province opened, some subcoastal men left the villages to work there. Some of the generation of men who are now, or would have been, great-grandfathers (many of whom died during 1970's influenza epidemics), worked not only in the mines, but also on ships that plied between Rabaul and Madang. Some also went to work in plantations nearer to home on the Rai Coast. This small-scale, but significant

labor migration continues to this day, although now it is centered upon the town of Madang (Leach 2003: 8-10).

Mission influence began through the Rhenish Lutheran Mission during the 1930s. In 1923, a Samoan pastor named Jerome expanded the missionary work that had been established in Astrolabe Bay in 1884 onto the Rai Coast with its first notable success. Eight assistant teachers (recruited from Siar and Kranket islands in Madang harbor) were placed in the coastal villages between Lamtub and Saidor (Reiner 1986:122-3). In 1932, a mission station was opened at Biliau which remains there to this day. By the 1930s mission workers began to appear in villages, requiring local people to expose the ritual paraphernalia of the male cult to women, whereupon they burned the objects.

Dissatisfaction in the rate of development help offered by the Mission, fuelled by the growing influence of local charismatic leader Yali Singina, whose position was sanctioned by the Australian administration after the war (see Lawrence 1964), encouraged some coastal villages to 'send the missions away' and reinstate traditional ritual practices. These included the construction of male spirit cult houses and the paraphernalia of the cult during the 1950s. The male cult (*tambaran*) is today a significant and living part of many coastal and subcoastal villages' ceremonial life.

In 1932 a patrol station was established at Saidor. This became a government substation in 1936 under the Australian Mandate Administration. From this time, patrols into the Rai Coast territory were made, giving these people their first view of white people, and their first direct experience of being 'administered'. They were required to relocate into centralized villages by the colonial officials, to bury their dead in a village graveyard instead of exposing them, and to provide labor for the maintenance of footpaths and for the construction and maintenance of a rest house for the patrol officer. Japanese troops landed in Madang in 1942 and moved along the Rai Coast seaboard during 1943 (Lawrence 1964:49). As they became more desperate and were cut off from supplies, Japanese began to kill local people's livestock, and to take food from their gardens. Resistance was met with violence. In many villages, people were turned out of their houses, and hid deep in the bush eating only wild roots while the Japanese ate from their gardens and lived in their houses. Patrol reports from the area in 1947 record that almost all seed yams had been consumed by the Japanese, leaving hardship on their departure (Bentink 1949/50).

After the end of hostilities came a time when the administration attempted in earnest to develop the Rai Coast, encouraging agricultural projects such as the growing of ground-nuts to improve soil quality, and of rice cultivation for sale (McAlpine 1953/4). Their efforts were always hampered by the area's inaccessibility, however. After 1954, native local government councils were formed, and a school was opened in Saidor in 1955. These were the years of the rise to prominence of Yali Singina, and the development of the administration was overshadowed in local people's perception by the anticipated developments that various forms of Yali's movement were expected to produce. Yali banned the practice of magical killing, which by all accounts had been a more usual method of homicide than open warfare in this area. "It is now said that *not* practicing

sorcery is kastom by some Reite villagers, meaning that it is a law introduced by Yali, of whom some people still speak as a kind of deity.” (Leach 2003: 17)

Yali ’s influence was positive in many ways. There is a feeling, shared by some in Reite, that he was put in a difficult position not only by the colonial government, but also by some of his followers. It is perhaps some of the latter, particularly unrealistic in their expectations, which brought his eventual downfall. The association with cargo cult has overshadowed the fact that he encouraged his followers to build houses raised on stilts, to separate pigs and other livestock from living quarters, and to dig pit latrines. He also encouraged cleanliness in villages, which to this day are kept beautifully well swept and have flowers planted around them, as he recommended. Despite being blamed by the administration for much of the millenarian activity at this time, he did much to improve the quality of life in Rai Coast villages such as Reite. The question as to what the expectations of those who followed his recommendations (about village cleanliness and layout) were, must be left open. (Ibid).

Gardening remains the single most important activity for Rai Coast and Nahu-Rawa communities. Their social and economic lives revolve around the seasonal cycles and constraints of weather and the land. Garden work begins each year in June and July. At this time new areas of forest are located and earmarked by men for new gardens. June and July are the hottest and driest months on the Rai Coast, with a prevailing north-westerly wind (the Rai wind).For the months between May and October, heavy rain is rare, and having cut the forest early enough for the undergrowth and branches to dry in the sun of the coming months, people wait, usually helping others with the heavy tasks of clearing and cutting. This is the time of year when people spend most time away from the hamlets, often living for weeks in rude lean-to shelters near their garden sites. Most hunting also takes place during these months when the leaves are dry and marsupials may be heard clearly at night as they move among the branches or on the dry leaf litter of the forest floor.

The next task is to burn off the debris in the garden, and to divide it into roughly equal



Serieng vanilla being pollinated

sections of between 10 –20m along each side. These sections are called *hokung* . In gardens I measured, I found the following variation. *Hokung* were between 100m² and 500m² ,but mostly neither quite as large or as small. A square or rectangle of 15 –20m on each side seems fairly standard. Reite people also make gardens of sweet potato, of Chinese taro, of yams imported from the coast –*mami* ,and occasionally of green vegetables, tomatoes, and melons. None of these gardens are divided into *hokung* ,and not all households will have all, or indeed necessarily any, of them in any one year. Sweet potato and Chinese taro are the main staples after taro, both eaten during the hard months of January and February before beans, maize, and cucumbers are ready in the new taro gardens. (Leach 2003: 102 ff).

Rai Coast people subsist on a mixed swidden system, cultivating yams, indigenous taro varieties, Chinese taro, sweet potato, small quantities of sago, and other (native and introduced) vegetable crops. Coconuts and areca palm (betel nut) grow at these altitudes, although the former only slowly. There are, however, many coconut palms along the coast, the majority planted during the years of colonial administration when native, mission, and company plantations were all established there. Most of these plantations are in the care of local people, although some (Lagap and Nom plantations near Saidor government station, for example) are still run by expatriate workers and owned by large corporations.

Today most coastal and subcoastal households have steel tools, cooking pots, plates, and manufactured clothes. Some occasionally purchased kerosene, tinned fish and rice, while others have luxuries such as radios (and batteries), although these kinds of items are most likely received as gifts from kinsmen in paid employment, or as part of kin-based exchanges. Houses are constructed of local forest material, with floors raised on stilts, walls of platted bamboo, and roofs made from sago thatch. Corrugated-iron roofing material is reserved for the small trade stores which dot the area. Despite the presence of a road, very few vehicles ever attempt to follow it, and because of the rains it is little use for most of the year other than as a footpath to the coast.

Coastal people are able to care for many more pigs than the people who live in the mountains, feeding their livestock on the flesh of dry coconuts. Elsewhere, pigs are scarce, but marsupials and birds are hunted to supplement the mainly vegetable diet. Subcoastal villagers make regular trips to the coast to collect coconuts, often received in exchange for garden food, as coconuts are valued for their oil and flavor in cooking. Villagers also collect eels and crustaceans from the streams and rivers.

From the early 1970s, villagers began to plant coffee and cocoa, ignoring what had become a faction in the region which maintained that certain rituals (offshoots of Yali 's influence) were the only way to bring development. Thus cash started to arrive in the village at the same time as the development of services on a modest scale. During the 1980s, subcoastal villages were connected to the Saidor-Madang 'Highway ' by a feeder road up into the foothills of the mountains.

Cash features in the subsistence regime of all Rai Coast people today. It is earned through coffee, cocoa, and copra sales, or provided through small remittances from kin living and working in other places as schoolteachers, businessmen, laborers, or politicians. Villagers near the coast generally have small plantations of coffee and cocoa, owned by individual households, the produce of which is laboriously carried to the coast, and then on by ship to Madang town where it yields a small cash addition to their subsistence agriculture. Cash is used to purchase rice and tinned fish from small local trade stores, and to buy second-hand clothing, steel tools, and kerosene from Madang town. These items have long been more or less essentials, rather than luxuries, for most Rai Coast people (see Lawrence 1964:59). Cash is also required for the payment of school fees in the local government or church community schools, which are dotted along the coast and in the mountains behind. In the months when betel nut is plentiful (May to September), it is sometimes transported as far as Madang for sale. Thus cash started to arrive in the village at the same time as the development of services on a modest scale. Cash features in the subsistence regime of all Rai Coast people today.

The large Ngaing-speaking village of Maibang has remained along a ridge, uninhabited before colonial rule, to which people were moved by the administration in the years following the Second World War. There have been no moves on the part of Maibang villagers to return to the scattered hamlet pattern of the past, and they have consolidated a drawn-out settlement consisting of members of four or five clans. (Leach 2003:40). Above these villages just inland, the first rise of the mountains proper is so steep that it is uninhabited. However higher still, at altitudes above 1,200 m, the mountains tend to level out again into a series of steep valleys and ridges with inhabitable land along them. At these altitudes, a number of ecological zones exist, rising from lower mid-montane forest, to grassland near the summits of the mountains (Kocher-Schmidt 1991). People here practice mixed swidden agriculture and pig husbandry. They have no access to coconut, such an important item in the diet of the other Rai Coast dwellers, and cultivate temperate rather than tropical vegetables. Their lifestyle more closely resembles that of the Nahu-Rawa people on the far side of Mt. Abilala, also in mid-montane forest altitudes.

Rai Coast peoples speak of being related to each other in terms of sharing the land (see Leach 2003, Chapters 4,5, and 6). For them, people are related because of sharing land, not the other way around. Lawrence (1955, 1984) found this also to be true for the Garia people just south of Madang town. Land is thus vitally important to them, and fears expressed about migrants and affines moving in to acquire land cut to the quick of what it means to be a Rai Coast person. Until recently, marriage patterns that favored sister-exchange kept these worries to a minimum, and people followed customary rules about how many in-laws could reasonably move into one's land, and for what reasons. But in today's world, where 'mixed' marriages are increasingly common, and Rai Coast families are more and more built from compromise between two cultures (even two cultural regions—such as with Sepik or Highlands spouses), the matter of containment and control of one's land is foregrounded. In-laws following their own virilocal residency rules now 'squat' on land that would otherwise be passed strictly through one male patrilineage. When, in the data discussed below, Rai Coast villagers express their concern over Highlands businessmen and women 'conning' them into giving up ground, they do

so with some degree of familiarity, even if these fears sound hysterical. Rai Coast complacency pitted against Morobe or Highlands land-acquisitiveness is battle already lost, and opening up the region to possible migrations from the Nahu-Rawa side of the Finesterres is a harrowing prospect to some.

Villagers on the backside of the Finesterre Range, in the Nahu Rawa Census Division, have a very different social history than that of the Rai Coast. Anthropologist Doug Dalton explains in a personal email that,

There were significant population displacements following the German colonization of the north coast where I lived in the middle of the Rawa II census district and a lot of bad feelings left over from them over land issues. But I don't know to what degree the Butemu residents experienced that history. They may have issues with the Mari (Markham valley grasslanders) as well, who were traditional enemies...I haven't heard of migrations from the foothills to the road. ...I suspect one can find a general tendency for people to relocate over time in that general direction, however. (11 November 2003)

VI. STATISTICAL DATA:

a. RAI COAST

A. Social statistics

1. Population estimates

a. Biliau	300
b. Biliau Community School	250
c. Damoing	276
d. Serieng	154
e. Maibang	329
f. Rusuang	266
g. Seremore	74
h. Ramba	95
i. Kiambowe	95
j. Muniano	234
k. Matoko	671
l. Kumburungu	400
m. Yoki	252
n. Sari	61
o. Bambangu	162
p. Funiyende	466
q. Kongo	412

2. Housing

- a. Almost all homes are bush material

3. Main social problems

- a. Theft
- b. Disruption of property
- c. Land disputes

- d. Marital and sexually related problems
- e. Drugs and home-brew
- 4. Clans**
 - a. Total 64
- 5. Schools**
 - a. Primary top-up 1
 - b. Community schools 2
 - c. Elementary 2
 - d. Tokples 3
 - Total:8
- 6. Health**
 - a. Aidposts: Total 4: Biliau, Reite, Matoko, Funiyende*, Kumburungu*
- 7. Churches**
 - a. Lutherans (the majority), Catholics, Baptists (minority)
- 8. Social groups**
 - a. Youth groups 6
 - b. Mama groups 8
 - c. Sports groups 20
 - d. Business groups 1
- 9. Communication**
 - a. Two-way radios 3
 - b. The remainder is oral and radio toksaves
- 10. Roads and transportation**
 - a. Biliau to Maibang: existing feeder road, not used by vehicles
 - b. Speed boats 3*
 - c. Ships
 - d. Walking
- 11. Water supply**

Two villages have water supply:

 - a. Matoko—8 taps (copper pipes) funded by Provincial Government with Lutheran Development Service expertise
 - b. Muniano—bamboo pipes
 - c. Most other villages have no easy access to water, due to geography, climate and resettlement of villages
- 12. Language groups**
 - a. Samang [aka Sengam] (Biliau)
 - b. Neko (Goriang, Damiong, Serieng)
 - c. Ngaing (Maibang Samang (Biliau)
 - d. Dou [aka N'Dau] (Rusuang, Seremore, Muniano, Funiyende, Kumburungu, Ramba, Matoko, Yoki, Kongo, Sari, Bambangu)
- 13. Dispute settlement**

Disputes are settled by elders and church leaders through customary mediation and village court
- 14. Major social constraints:**
 - a. EDUCATION

Lack of teachers
High transport costs
Lack of school materials
Lack of school fees
Low staff performance
Poor community participation in school activities
Rugged mountainous terrain for students' travel
Fees between K25-100.
Teaching staff (8+3+2)= 13

b. HEALTH

Lack of medical supplies
Lack of health workers
Lack of aid post fees
Insufficient aid posts
Theft of medical supplies
Rugged mountainous terrain for patients
Traditional beliefs/norms
Lack of government support

1. APO's
 - a. Biliau 3
 - b. Reite 2
 - a. Matoko 2
 - b. Kongo *
2. Fees K5/year (50t per medicine)
3. Infant mortality rate high
4. Maternity deaths high
5. Main illnesses: malaria, cough/flu
6. Main problems:
 - a. Only one post (worker?) catering for maternity health (Saidor)
 - b. Distance effects pregnant women and their checkups
 - c. Too few aid posts
 - d. No good medical supplies, delay in resupplying often 1 month

c. CHURCHES

Church domination/manipulation of offerings
Church participation moderate

d. SOCIAL GROUPS

Lack of government support
Lack of community cooperation
Jealousy and self-interest
Mismanagement
Conflicts of interest
Financial problems
Lack of sponsorships
Poor leadership
Lack of knowledge and skills
Lack of motivation

Traditional beliefs and practices

Mama Groups

1. Operating
 - a. Matoko
 - b. Yoki
 - c. Kumburungu
2. Main problems:
 - a. Lack of motivation
 - b. No cooperation
 - c. No knowledge/skills in business management
 - d. Discouraged by men (lack of support)
 - e. Financial constraints
 - f. No set objectives
3. Number of gardens per family: between 3-7

B. Political statistics: Rai Coast Local Level Government (7 wards)

1. BILIAU-WARD 13 Ward Member David Madakoi
2. DAMOING/SERIENG/MAIBANG WARD 18—Member R. Kuruk (deceased)
3. RUSUANG/SEREMORE/RAMBAI/KIAMBOWE –WARD 22--Member Samson Rombo
4. MUNIANO – WARD 19 –Member Rinuo Nuse
5. MATOKO –WARD 23—Member Yawang Gara
6. KUMBURUNGU/SARI/YOKE/BAMBANGU –WARD 20—Member Luke Katenu
7. KONGO/FUNIYENDE –WARD 26—Member Wokenu Zawainga
8. MAGISTRATES 7
9. PEACE OFFICERS 7
10. COMMITTEES 18 (est)
11. INFLUENTIAL LEADERS: Peter Nombo (Ward 18), Timothy Navira (Biliau Community School), Mesi Gawariri (Ward 23)

C. Economic statistics

1. Estimates figures for cash crops

VILLAGE	VANILLA	COFFEE	COCOA	COCONUT
a. Biliau	7800		15 000	2 400
b. Damoing	13800	2760	8280	552
c. Serieng	15400	3080	4620	308
d. Maibang	32000	8225	9870	658
e. Rusuang	26600	5320	2128	
f. Seremore	5550	1850	592	
g. Kiambowe	2375	2375		
h. Ramba	7125	2375		
i. Muniano	5850	5850		
j. Matoko		16775		
k. Sari		525		
l. Kumburungu		10000		
m. Bangbangu		4050		
n. Kongo		4120		

o. Funiyende		4660		
p. Yoki		6300		
TOTAL	116500	78265	40490	3918
Vanilla: All-100, Most-75, Some-50, Few-25				
Coconut: All-8, Most-6, Some-4, Few-2				
Cocoa: All-30, Most-23, Some-15, Few-8				
Coffee: All-25, Most-20, Some-15, Few-10				

2. Small scale manufacturing

VILLAGE	CHAINSAW	COFFEE PULPER	COCOA FERMENTARY
a. Biliau	0	0	0
b. Damoing	0	0	0
c. Serieng	0	1	0
d. Maibang	1	2	2
e. Rusuang	0	2	0
f. Kiambowe	0	0	0
g. Seremore	0	1	0
h. Ramba	0	0	0
i. Muniano	0	4	0
j. Matoko	1	2	0
k. Kumburungu	0	2	0
l. Yoki	0	0	0
m. Sari	0	0	0
n. Bambangu	0	0	0
o. Funiyende	0	1	0
p. Kongo	0	0	0
TOTALS	2	17	2

3. Small scale merchandising and retailing

VILLAGE	TRADE STORES	2 ND HANDCLOTHES	BOTTLESHOP
a. Biliau	5 *****	0	1*
b. Damoing	2*	0	1*
c. Serieng	1	1	0
d. Maibang	4*	0	2*
e. Rusuang	2**	0	0
f. Seremore	1*	0	0
g. Kiambowe	0	0	0
h. Ramba	1*	0	0
i. Muniano	0	0	0
j. Matoko	6*****	0	0
k. Sari	0	0	0
l. Yoki	0	0	0
m. Kumburungu	3***	0	0
n. Bambangu	0	0	0
o. Funiyende	3*	0	0
p. Kongo	4**	0	0
TOTALS	32	1	4

4. Livestock and domesticated animals/food production

- Pigs, chicken, fish, others
- 5. Local markets**
Biliau, Serieng, Reite, Rusuang, Matoko, Kumburungu
- 6. Primary sources of income**
Local markets, cash crops, social groups, retailing/merchandising
- 7. Main expenses**
Transport, labour costs associated with transportation, maintenance, fuel
- 8. Basic household spending**
Store food, soap, salt, kerosene, aid post fees, school fees
- 9. Human resources**
Limited human resources; labour force is substantial, but it lacks skills and technology
- 10. Cash flow**
Low
- 11. Marketable goods**
 - a. cabbage
 - b. sugarcane
 - c. kaukau
 - d. potatoes
 - e. coconut
 - f. taro kongkong
 - g. taro
 - h. yams
 - i. banana
 - j. passionfruits
 - k. peanuts
 - l. other nuts
 - m. tulip leaves
 - n. chako tips
 - o. pumpkin tips
 - p. onions
 - q. oranges
 - r. beans/peas
 - s. pandanus/marita
 - t. forest fruits
 - u. tomato
 - v. corn
 - w. fish
 - x. pigs
 - y. chicken
- 12. Major constraints on economic development**
 - a. Mismanagement
 - b. Land disputes
 - c. High transport costs
 - d. Lack of transport
 - e. Cultural pressures

- f. Low cash flow
- g. High wholesale prices
- h. Few markets
- i. Lack of competition
- j. Rugged terrain
- k. Insufficient human resources
- l. Lack of government support
- m. Lack of knowledge, skills and technology

13. Women's data

Village	Pop of women	No. of women going to market
a. Biliau	126	30
b. Damoing	117	40
c. Serieng	66	
d. Maibang	141	
e. Rusuang	114	
f. Seremore	33	22
g. Kiembo	41	
h. Ramba	41	
i. Muniano	100	
j. Matoko	288	100
k. Kumburungu	171	30
l. Yoki	108	20
m. Sari	26	
n. Funiyende	200	
o. Kongo	177	
p. Bambangu	69	
TOTAL	1818 (= 3/7 TOTAL POP OF 4497)	

14. Market earnings (average)

- a. Biliau K1-5 veggies / meat K10
- b. Serieng K1-3
- c. School markets (Biliau, Reite, Rusuang)—
- d. Matoko K1-3
- e. Kumburungu K0-5

Rate of saleable market goods 10t-50t

D. Impact of the road

a. Possible social impacts (positive)

1. Easy transport accessibility
2. Attracting more school teachers
3. Discouraging out-migration
4. Bring in knowledge and skills
5. Improve basic services
6. Possible new schools
7. Possible new aid posts and clinics
8. Improved health services
9. Improved teachers and students performances
10. Improved student attendance

11. Increase in educational opportunities
12. Lower school fee problems
13. Accessibility of communications media
14. Better delivery of government services
15. Improvement of social groups and their activities
16. Improvement of church facilities and workers

b. Possible social impacts (negative)

1. Increase in security/law and order problems
2. Increase in marital and sexually related problems
3. Traffic problems
4. Increase in denominational divisions
5. Immigration
6. Destruction of natural environment
7. Increase of mixed marriages/intermarriages
8. Increased land disputes
9. Family breakdowns
10. Loss of traditional values
11. Introduction of prostitution
12. Increase in STDs, AIDs, etc
13. Population increase
14. Introduction of drugs and addicts
15. Relocation of people costs

c. Possible economic impacts (positive)

1. Increase in local and outside markets
2. Increase production of goods
3. Increase cash flow
4. Increase retailing businesses
5. Increase small scale manufacturing
6. Increase competition
7. Increase government and NGO involvement
8. Increase local and outside investments
9. Improve knowledge, skills and technology
10. Improve standard of living (housing, water supply)
11. Better management skills
12. Improved government services

d. Possible economic impacts (negative)

1. Increase outside chances to dominate local business activities
2. Increase in individualism
3. Increase demand for money and western goods
4. Increase pressure on environment
5. Redirection of taxes out of Madang
6. Relocation of business activities

Men's meetings views on proposed road

1. They are aware that the road will have both positive and negative impacts. However, according to their judgement, the possible positive impacts

outweigh the possible negative ones and thus the road would alleviate most of their social and economic problems

2. Prior to road construction the people should organize themselves to participate and benefit from it
3. The people are also aware that the road would cause environmental destruction but they insist the road should go ahead
4. Almost all the people whose land would be effected claim they would not seek compensation because it is greatly needed
5. They are also aware that any problems the road would bring about would be the responsibility of the local people themselves and the government to address
6. Very few did not want to road because of the social problems that it would bring; some of those have political reasons for not supporting the road, eg Maibang and Serieng peoples.

Recommendations for Rai Coast

1. Security: Police Stations at Biliau and Matoko
2. Awareness of road impact
3. Survey team must work closely with landowners
4. Alternative road linking Singon-Matoko-Ramu Sugar?
5. Relocation of villages effected by government
6. Community policing introduced, empowered by local and government leaders
7. Locals as teaching staff and health workers
8. Consider development priorities in terms of road accessibility by other parts of Raicoast.

b. NAHU RAWA

A. Social Statistics

1. Population Estimates

Village	Population
a. Naiko	174
b. Munambe	165
c. Waniru	126
d. Harimbe	103
e. Butemu	526
f. Wamunde	300
g. Mundesono	200
h. Senei	500
i. Gombrami	250
j. Moro	300
k. Dana	138
l. Sere	516
m. Durukopo	400
n. Yagawan Parish (consisting of Sereral villages)	1500

NB. Yagawan parish is part of the Morobe Province but would directly benefit if the proposed road is built.

2. Housing

- a. Permanent Houses 7
- b. Bush materially Built Houses all the rest

3. Main Social Problems

- a. Theft – hold-ups
- b. Land disputes
- c. Fights
- d. Drug Abuse
- e. Marital and sexually related problems

NB. There is no practice of home brewing like Yawa.

4. Clans There is about a total of 30 clans

5. Schools

- a. Top-up Schools Nil
- b. Community Schools 4
- c. Elementary Schools Nil
- d. Tokples Schools 4

The only Top-up school is in Ramu Sugar Town. Student who pass their grade six final examination and are selected for High School attend St. Michael’s High School. Wavivi Community School is under the Morobe Education Branch but students from Madang are attending school there. The tokples schools are initiatives of the Summer Institute of Linguistic (SIL)

6. Health/ Aidposts

- a. Health Center Nil
- b. Aidposts 4

Wavivi Aidposts is the Aidposts on the other side of the Provincial Boarder of Madang but it serves the people of Naiko, Munambe, Butemu and Durukopo.

7. Churches

- a. Lutheran (the majority)
- b. Baptist and EBC (the minority)

Prior to the introduction of the two other Churches the area was Lutheran dominated.

8. Social Groups

- a. Youth Groups 9
- b. Women’s Groups 6
- c. Sports’ Groups 16
- d. Business Groups 3

Sereral Social Groups have ceased operations due to various reasons. Otherwise the main reason is that there is lack of Government and Church support. Their number is not added to the list above.

9. Communication

- a. Two-way Radio 2
- b. The remainder is oral and radio toksaves

One of the Two-way radio is own and run by the SIL

10. Roads & Transportation

- a. Feeder Road accessible – Main Highway to First Gate
- b. Car – 2 but one not operating anymore
- c. Walking

First Gate is new settlement after the landslide and flood in 1993 that washed away the villages like Naiko.

11. Water Supply and Sources

- a. Water Supply nil
- b. Bamboo pipes 1
- c. Almost all villages have easy access to water and the water sources are good and healthy.

12. Language Groups

- a. there are only two language groups, but 'Dou' is the dominating/major language group. All villages of Nahu speak the 'Dou' language

13. Dispute Settlement

Village elders and church elders settle disputes. Most often customary laws are applied through mediation and village court.

14. Major Social Constraints

a. Schools - Education

- Lack of teachers
- High transport costs
- Insufficient school materials
- Parents not affording to pay school fees
- Poor community participation/support
- Poor management
- Rugged, mountainous terrain - long hours of walk

b. Aidposts - Health

- Lack of medical supplies
- Aidposts fees not affordable
- Lack of health workers
- Lack of government support in terms of clinic programs and funding.
- Rugged, mountainous terrain - long hours of walk

c. Church - Religion

- Church domination/manipulation - e.g. high offerings
- Limited approach - the only focus is on spirituality

d. Social Groups/Interest Groups

- Lack of government & church support
- Poor management
- Lack of community cooperation and participation
- Conflict of interest
- Financial disadvantages
- Poor leadership
- Limited knowledge, skills and technology
- Lack of interest and motivation
- Traditional beliefs, customs and practices

B. Political Statistics: Nahu-Rawa Local-Level Government

1. Wamunde – Ward 15 Member Mansi Yevi
2. Naiko, Harimbe, Waniru & Butemu – Ward 16 Member Mike Kusi
3. Munambe- Ward 17 Member Itine Wawangio
4. Senei – Ward 18 Member Rotenu Siongoa

5. Gombrami, Moro & Dana - Ward 19 Member Bondo Gawa
6. Sere – Ward 20 Member Jack Dawa
7. Durukopo – Ward 21 Member Isira Wawandio
8. Magistrates (Village Court): 7 – each ward area has one village court magistrate
9. Peace Officers: 7 – each ward area has one peace officer
10. Committees:13 – each village has one committee
11. Influential leaders: Gimbo (Naiko) Muhuyu Singoa (Naiko, former Provincial Government Speaker), Mike Kusi (Butemu – Ward member of ward 16) & Bondo Gawa (Gombrami, ward member of ward 19)

These two ward member are working closely with Governor James Yali to the propose road get through.

C. Economic Statistics

1. Estimated figures for cash crops

Village	Vanilla	Coffee
a. Naiko	753	3, 900
b. Munambe		25, 000
c. Waniru		2, 530
d. Harimbe		16, 000
e. Butemu	300	7, 000
f. Wamunde		9, 000
g. Mundesono		4, 000
h. Senei		30, 000
i. Gombrami		12, 000
j. Moro		15, 000
k. Dana		10, 000
l. Sere		46, 000
m. Durukopo		10, 000

In other villages vanilla is a newly introduced cash crop. It is already attracting many farmers and soon farming of vanilla would be second to coffee. At the moment coffee is the main cash crop and people are still extending their coffee fields.

Apples (red) are growing well in Gombrami. According to Bondo Gawa, the ‘Brukim Bush’ Farmer there are about 1, 200 trees of apples growing. Surrounding villages have shown interest in the project and when the production is of good quantity and quality they would sell to the local markets and the super-markets in towns. Up to date no support of any kind was received from outside.

A family in Naiko has started growing their own rice, which was taken to the mill for milling for family consumption. They working to increasing the production and when there is surplus of rice they would start selling it to the local people.

Also in Naiko the people have access to hiring the tractors of Ramu Sugar Company to plough land for peanut growing. They sell peanut in reasonable quantity and a bag of peanut is sold at the price of K50.00 to K80.00

2. Small-Scale Manufacturing

Village	Chainsaws	Coffee Pulpers
a. Naiko	nil	nil

b. Munambe	nil	1
c. Waniru	nil	1
d. Harimbe	nil	1
e. Butemu	nil	3
f. Wamunde	nil	2
g. Mundesono	nil	1
h. Senei	nil	2
i. Gombrami	1	4
j. Moro	nil	5
k. Dana	nil	2
l. Sere	nil	7
m. Durukopo	nil	3

3. Small-Scale Merchandizing & Retailing

Village	Trade Stores	Bottleshops
a. Naiko	3*	nil
b. Munambe	2	nil
c. Waniru	1*	nil
d. Harimbe	nil	nil
e. Butemu	3***	1*
f. Wamunde	nil	nil
g. Mundesono	nil	nil
h. Senei	2	nil
i. Gombrami	5	nil
j. Moro	5	nil
k. Dana	1	nil
l. Sere	5	nil
m. Durukopo	4	nil

Most of these stores face difficulties during wet season to carry goods up their respective villages. It is also true that goods don't sell out fast because of the fact that the cash flow in the communities is low. Village further away up the mountains of Finister have more trade stores as compared to the villages that are close to the Ramu Sugar Town.

4. Livestock & Domesticated animals/food production

Pigs and Chickens: There are four poultry owners/farmers in Naiko and their chickens are sold at the price of k18.00. Pigs are sold at the price ranging from K50.00 to K300.00

5. Markets

The main market is at the township of Ramu Sugar Company. Unfortunately that market is dominated by the highlanders who also sell the same things that the people of Nahu sell. The highlanders come with large quantities since they bring in their produce by the trucks whereas the Nahus carry their produce on their backs and thus they come with small quantities.

6. Primary Sources of Income

Market, coffee and livestock (pig and chicken)

7. Main Expenses

Transport, labor costs associated with transportation.

8. Basic Household Spending

Store goods: soap, salt, kerosene, cooking oil/dripping, Aidposts fees & school fees.

9. Human Resource

Limited Human Resource: labor is sustainable, but it lacks knowledge, skills and technology.

10. Cash Flow

Low Cash Flow: They have large number of coffee but transportation is the sole reason that they cannot sell all the produce. Apart from coffee they are rich with vegetables and fruits but could not have access to more markets. Ramu Sugar Market is dominated by the highlanders who produce the same things.

11. Marketable items/goods

- a. cabbage
- b. sugarcane
- c. kaukau
- d. potatoes
- e. taro kongkong
- f. taro
- g. banana
- h. passion fruits
- i. peanuts
- j. tulip leaves
- k. chako tips
- l. pumpkin
- m. pumpkin tips
- n. onions
- o. oranges
- p. beans/peas
- q. pandanus (marita)
- r. corns
- s. tomatoes
- t. pigs
- u. chickens
- v. tobacco (brus)
- w. buia
- x. daka

12. Major Economic Constraints

- no road access
- only one main cash crop i.e. coffee
- poor management
- cultural pressure, e.g. Bride Price Payment
- lack of knowledge, skills and technology
- access to limited markets
- land disputes
- low cash flow
- No government support, eg. DPI Extension programs
- rugged, mountainous terrain, long hours of walk
- insufficient human resource
- Relocation because of the 1993 flood and landslides – eg. Naiko

- lack of transportation at the first gate, only one car

13. Women's Data

One third of each village population is made of women. Women who are physically fit walk up and down the rugged terrain to the nearest market in Ramu Sugar's township. Men (husbands) do assist with carrying the loads down to the market but marketing is mostly done by women. Money earned from marketing is not more than K20.00. at often times their vegetables and other items are not all sold.

D. GENERAL ISSUES

a. Possible positive social impacts

1. easy transport accessibility
2. attract more community school teachers
3. sufficient school supplies
4. possible new schools
5. all children attending school
6. improve students attendance
7. possible new aid posts and clinics
8. improve health service
9. sufficient medical supplies
10. attract more health workers
11. discourage out-migration
12. decrease school fee problem
13. increase means of communication
14. better delivery of government services
15. bring in of new knowledge, skills and technology
16. improve social groups and their activities
17. improve church facilities and workers' performance

b. Possible negative social impacts

1. increase in law and order problems
2. increase in marital and sexually related problems
3. traffic problems
4. increase in denominational problems
5. immigration
6. destruction of natural resources
7. Increase chance of natural disaster – eg. Landslide
8. loss of traditional cultures and practices
9. increase in land disputes
10. family breakdowns
11. introduction of prostitution
12. increase in STDs
13. population increase
14. increase drug abuse and home brew
15. relocation of villages/people

c. Possible positive economic impacts

1. Increase local markets

2. Accessibility to more outside markets
3. Increase production of goods
4. Increase cash flow
5. Increase retailing businesses
6. Increase small-scale manufacturing
7. Increase government and NGO involvement
8. Increase local and outside investment
9. Improve knowledge, skills and technology
10. Improve standard of living
11. Better management skills
12. Improve government services

d. Possible negative economic impacts

1. increase outsiders' chances of dominating the local business activities
2. increase individualism and capitalism
3. increase demand for money and western goods
4. increase pressure on the environment
5. redirect taxes out of Madang
6. Relocation of business activities

VII. DEVELOPMENT SIGNIFICANCE OF THE STUDY

A. Objectives

The principal objectives of this Social Impact Assessment are to survey the affected population and assess the social and economic benefits and drawbacks of constructing a road from Biliau on the Rai Coast to the Rama Sugar camp on the Lae-Madang Highway.

The proposed road has as its objectives, to:

- a. Raise the standard of health and human services on the Rai Coast and Nahu-Rawa areas of Saidor District.
- b. Raise the economic standard across all of Saidor District and Madang Province.

B. Contribution to National, Provincial and District/LLG plans

Improvement of health and education services in the rural districts is the National and Provincial Governments' main priority in social and economic development. The direct benefit of this project will be linking the entire Rai Coast and Nahu-Rawa region to the greater provincial and national economies, and engaging these remote villages in the cash economy on a more consistent and reliable basis.

VIII. RESULTS AND FINDINGS

a. RAI COAST

A. BILIAU

Population

Population of about 300. Committee is Alsing Panusien, councilor is Madakoi (for the six villages of ward 13). There are about 50 households, and the households of 9 or 10 women sell at market regularly.

Cash crops

There are 100-600 coconuts planted, by 7-9 families. Cocoa and vanilla are new cash crops. There are approx. 10 people planting vanilla and 4-5 planting cocoa. But the CMB is now out of operation and most of their dried coconuts are wasted. When there was copra sales, they had money; but now they don't. Before, copra would get K80, and now



Matoko Village coffee stored for a fee under houses in Biliau, waiting for a boat to Madang

it only fetches K20—the price has really plummeted. Now to sell it in town it's K18 to get there, at least, and can cost K40 by speed boat plus K10 for one bag on the boat to and from Saidor. No fermenteries or copra dryers. Only now have individuals started planting cocoa. Cocoa beans are bought by surrounding villages that have copra dryers, but they've had no sales as yet. When copra is brought to town, people wait 2-3 weeks before they can sell it, due to the lack of funds by the CMB, the only market for producers.¹

Markets

The places that market with Biliau are Teterai, Yamai, Malangai, Pangpang, Serieng, Maibang, Damoing, Goriong, Warai, Sorang, Reite, Asang, Masi, Singor, Lamtub, Basor, Koking, and Koiako. They all trade with each other. The women want a road because they want to earn money, it would make their access to town much easier. They would also have access to electricity in the village, and water supply. They currently do not have

¹ Calculations for household income are as follow: Normally copra could get K2000 for a grower of 100 bags in town (in the past it was K8000); now the deductions for transport are more than half of that. They wait too long for sales, it goes off, and they give up now. So it is not being sold at present. They sell cocoa locally, where there is a fermentery; the price is 7.50/bag, and 100 bags can get K750 (minus carriers at roughly K100=K650). So 8 families X 650 =K5200 cocoa. 10 families = K8000. But none have sold cocoa yet. Vanilla will be 10 people x K10,000 (minimum) in future = K100,000 total. Garden produce earns a woman K36.50/week on average, x 50 weeks = K1825. Some sales from sea cucumber, crafts, shells and fish. Costs include: K250/year/family school fees, K13/family/year aid post. Kerosene, soap, rice =K100+K160+20.50+100clothes etc+k100 soap=K500/year. Family costs=K763. Discluding transport costs. 50 families making K2000/yr = K100,000. But expenses are soaring. 2000-763=1237 income per household.

accessible water supply. Biliau, Warai and Teterai are their markets, although most women go to the latter two. They sell mumu tapioc and fish at the markets too. They have an arrangement with the school to market garden food at lunch time and to sell to teachers. They say it's hard to get food in the kunai grass, as they don't have much big bush. An estimated 20 mothers work gardens. They earn about K5-10, and 10+ for fish and sea animals, then use the money to buy kerosene, soap, rice, and basic food items. They look forward to roadside market business when a road comes in. The problem is that they need a way to buy garden goods from others, as their bush is mainly grassland and not good for gardens. The men sell fish and the women buy them. There is no cocoa, and they grow betelnut mainly for consumption. The school market also charges 20t tax (Committee led by Giliab Damuvi of Teterai).

Transport

They used to have a regular shipping schedule, when the Malo came regularly, Monday and Wednesday, and they could bring goods to market in town. Now they have no replacement for that. There are 3 Biliau boats still, but their motors have stuffed up and they don't work now. The Malo doesn't come and go on a regular schedule now. Ships fare is K16-20 one-way. Private boats used to charge K20 to take a passenger to Madang, and now the price has gone up to K35, even K40, due to rise in petrol costs. There is an urgent need for a government shipping vessel.

Health

One aid post orderly (a nurse and her husband), plus one retired doctor. The aid post serves other villages as well. Warai, Biliau, Teterai, Bisi, Goriong, Damoing, Yamai, Malangai, Talifai, Yori (Pang Pang). The villages with aid posts are: Lamtub, Singor, Bang, Basor, Masi, Asang, Sorang, Reite, Koking, Koyako, Suwit. When their supplies run short, they come to Biliau. Medical supplies are good, and when they run short, patients usually use bush medicines. They look after sicknesses only and when a woman is in labor, or when there is an accident like falling from a tree, there is difficulty finding emergency transport to hospital in town or Saidor. Malaria and cough is the main sickness. There were 3 mouth cancer patients in the village who needed attention in town hospital and came back to die; one was a woman with breast cancer. When there is road access they want a health centre to be erected. A day ward has been in place where school of nursing students can come and do their practical. This would benefit them enormously. K5/year for aid post fee for each family. K1 per injection and 50t for medicines. But most families do not often pay their annual fee and yet get medicines from the aid post. They do community service instead.

Education

When the road comes the school will have new classrooms or buildings. Many more teachers will be teaching, and there will be more grades. Biliau Primary School is for grades 1-8, and they have enough teachers, some from Rai Coast, one Sepik is married here, and one from West New Britain. But there's only one grade. It covers from Biliau to Gawarai coastal areas—Warai, Teterai, Yamai, Malangai, Damoing, Maibang. School fee K50, and Top-up is K100. There are approx. 40 children in Biliau School, from grade 3-7. Level 4 top-up school has 3 female and 5 male teachers, most of whom are local. The teachers do not want a road because they say the people will not benefit. They

believe the income generated in Raicoast would go to boost the economies of other areas like Lae and the Highlands. They also fear the destruction of the natural habitat. They want the government to make bridges along the former road link, buy a ship and make a port instead of the road. This road will not solve the education problems, teachers say. Human resources are very low for the schools. While elsewhere schools in the new reform system are benefiting from double classrooms, they are not introduced to the Raicoast. Teachers question whether the school will still be adequately supplied with the new road, or whether the area will be supplied from other provinces now, like Morobe or the Eastern Highlands. They question the relocation of villages, and the disturbances to traditional lives here. School-leavers in Biliau: approx. 5 grade 10, 9 grade 8, and 20 or more grade 6 school-leavers. Some teachers do not attend as they should, too, and stay out during fortnights for up to a month in town.

Problems of the school include no bridge connection to Raicoast High School and to Madang town. CODE fee for unfortunate students and sea transport is high, making it difficult for them to get an education. Materials are difficult to acquire, which delays the flow of study. A CODE centre should be situated in Raicoast. Good teachers do not want to come to Raicoast. When they do come they don't do their required work, they stay out in town for so long and teach when they feel like it. The children suffer. No water, depending on high/low tides. No program manager or inspector visits the school. Many facilities and materials were provided by Ausaid (?) but there are no proper place for their use.

Church

Lutheran church. Church headmen Katai, Motomai and Panusen.

Social groups

Their Biliau Mama Group (chair Ruth Katai) does odd jobs to earn money, like carrying firewood for the teachers. The Teterai Mama Group and the sports group both help carry cargo further up the mountains too. The Biliau Youth Group (Chair Kalal Aku), and two sports groups (Pirates and Sinarang teams) (sports club chair Navira Timothy, vice-chair Alex Silaum).

Water supply

It has been hard to build a water supply system here, for the costs of wells. They do have tanks from the European Union, though. Their main problem is during dry season. Recent World Vision officers estimated an expensive water supply. Tendency to destroy water pipes. Three wells in village, but they're no good.

Communication

VHF radio donated by Peter Barter at the Health Centre.

Retailing

Before they had a store, but now not, because of transport costs and the prices going up too much. Rice at K3.20 I kg, salt at K2.50. There were once five stores here, but now they're all closed for lack of customers. One man sells kakaruk (Gab Tambor), three men used to have motorboats but their motors broke down, and 7 people sell kerosene. They

also sell sea cucumber, shells and fish. People also get financial assistance from relatives in town. They also exchange and barter between bush and coastal peoples for fish for coconuts. Bush people also pay for accommodation at the coastal camp. No cash flow in village.

Housing

The village has one permanent house, one semi-permanent, and all others are thatch.

Perceived costs

Biliau's perceived costs for this road will be raskolism, break and enter crime in schools, stealing, hold up when marketing goods, competition in the sale of goods, marijuana sales to villages, highlands connection problems, intermarriages, overuse of resources, prostitution, settlements, loss of land to others, new diseases, less safety for women, deterioration of customary practices. They also believe a road will cause kids to drift to town, the highlands would make money out of their coconuts and betelnut, and land disputes will arise causing compensation demands. But the women's group looks forward to being able to go to market wherever and whenever they like. Some feel strongly that the government must settle land disputes before they build a road.

Some villagers propose that there be a road linking the region to Madang but not to other places like Morobe and the Highlands. Open road up to Matoko only, they say. No point in fixing feeder roads, just make a road link with bridges, no highway. There are cash crops being grown in laces where people might, by now, otherwise have trucks if the road link to Madang had been opened and new bridges constructed. The former road should also be moved a bit away from the mouths of the rivers so the bridges wont be washed away. They want road connection with Madang.

B. DAMOING

Population

Population 276, with 39 households. Councilor (Ward 18) Raymond Church (Reite), recently passed away, and no current replacement. No committee. Language is Neku.

Clans

Their family names: Tatou (8), Goriong (4), Damiong (16), Anilte (2), Waingap (3), Kouting (2), Musepring (1), Salapa (1), Untangai (1), Watator (1).

Cash crops

They have coffee and cocoa, and vanilla is the new crop with approx. 8 families planting it. 60t per kilo is offered by a local cocoa buyer in Maibang. They also sell their cocoa at Agmark in Madang, but mostly they sell to local buyers in Warai. Families earn from K5-10 for their bags. Around 11 women have sold their cocoa already this year. All households have cocoa, but there are no cocoa fermenteries, the nearest is 1 hour's walk. Coffee is sold to Bismark in town. Betelnut is grown for consumption only. In 1993 it was destroyed from over consumption.²

² Cocoa sold by 11 women x 10 (est) bags each x 7.50 =K750 each seller. Coffee: 10 families x 7 bags x 50/bag = 3500 total, K350 each. No betelnut sold for sale here. Market sales: K3.50 x

Markets

Almost all the males and females go to the market. Two nearest markets are 1 and a half-hour's walk. They market their goods in Biliau and Pateng (Serieng) markets. Their main goods are kong kong taro, banana, kaukau, tapioc and greens like tulip and aibika. Two hours walk to Biliau market and thirty minutes to Pateng. Mostly they sell dry coconuts in Pateng. They earn between k1-5. They do not market in town, but if there were a road link they would go there. They would also plant many other vegetables. Money earned from the markets is collected and kept to pay school fees. No vehicles for transport to markets. And few markets, where everyone sells the same stuff and no one makes enough money. They want a road that would give them access to outside markets and also open up their markets to outsiders where they might earn enough money to buy what they need.

Transport

Sea transport is also very costly, K35-40 to town.

Water supply

They have difficulty accessing water, which is a 15-minute walk away. Some, but not enough, is brought by bamboo pipes. In dry season the stone hole water dries up and they have to wait for it to rise again. The water access is down the side of the mountain where it is hard to come up carrying a heavy load, especially pots of water. They use this same water to bathe. Difficult access to water, and in the dry season there is no water. Nearest water is 1 hour's walk. People are resettling now closer to the water.

Retailing

Three trade stores, only two operating. They are run by Kainaka Maruk and Mike Walei, the third is owned by Kula Kakayan but is not operating—closed due to transport problems. Prices very high. Philipus Tepe has a chicken project. Main problems are transport fares for speedboats to town—K400-500. There are 7 kerosene sellers, but they sell on and off due to transport problems. Hey sell pigs, bandicoots, kapul, tobacco and peanuts.

Health

Sick people often walk to the aid post in Biliau, some carried on stretchers. The road to Biliau is quite hard because it is right up at the mountain keels with no shade at all. The main sicknesses are malaria and coughs. Malaria is quite a problem, and one female and two males have died from it. 'Sotwin' is also a problem. In one month 3-4 people are often infected with malaria. When a person is very sick and cannot walk the doctor or APO usually comes to treat him or her. If medical supplies run out at Biliau they go to

3/week=10.50/week x 50 =k525. 750+350+525= 1625 per household x 39 = K63375 total income for the village. Expenses: school fees for 4 children est. K250+20=270 = 13/yr aid post = K283. Household costs=500/year, total household =K 783—which represents all cocoa pay, and more than the marketing income. K1625-783=K842/yr per household after expenses.

Reite aid post. The distance is similar but with a river to cross with a mountain. There is often a lack of medical supplies. It takes about 1-2 months before supplies arrive again. In this time, people turn to bush medicines like pawpaw seeds for malaria and gorgor for sotwin, and salat for skin aches. Pregnant mothers go for the clinic at Biliau and Saidor health centre, 3 hours' walk. Some mothers do not want to walk and do not go to their check-ups, and some children are left without immunizations. Almost all the mothers said they need a highway. They have suffered too long carrying heavy cargo to and from the market and the aid post, schools, to travel to town. Hard to transport all the cargo they would need to take home without vehicles.

Education

Children attend Biliau school, where the fees are K100 for grades 7-8, and K50 for grades 3-6. The Elementary in Goroing/Damoing is K10, and next year K20. Run by community teachers from the village. 11 children in Damoing go to school in Biliau top-up. Two hours' walk, they must get up very early to set out. One child goes to school at Raicoast High. Transport is sea and land where it is difficult. Sea transport depends on what boat is going, and it takes a day to reach the school. Sometimes their families in town help pay the school fees, but it is still difficult. Most children therefore do not complete their education due to the fees in high school. Usually the fees are paid bit by bit during the year. In one family there are approximately 2-3 kids going to school at the same time, which is very stressful. At present 8 children are not in school now due to long distances to travel and school fees.

Social groups

There is no mama group in the village, and no Youth Group. One sports club—the Seng Skippers. A catholic Mama Group was started in 1993 by a Siassi lady married to Damoing, but that collapsed from lack of cooperation. Community groups were developed but collapsed because of disputes. There is a lack of government support.

Communication

There are two-way radios at Biliau and Reite. Otherwise its letters through the Biliau Community School.

Housing

There is no permanent housing, although there is one semi-permanent house.

When a road comes

When a road comes, they would like transportation, a water supply system, a clinic/health centre, their own school (top-up), easy markets, easy transport to town, businesses of their own, a fermentary of their own (something they are already planning for, but need to transport materials from town). They are aware of the negative impacts of the road but desperately need a road and transportation. They also say they are aware of the possibility of hold up on the road, of highlanders bringing in problems to the villages with business deals, possible violence, inter-marriages, young people migrating to towns, settlements, and other law and order problems. Concerning inter-marriage, they say that if a woman from Raicoast gets married to a man from the Highlands or Sepik, he may take his wife back without any of her relatives. Their relatives living in town should not come back and

ask for their land if they have been gone for too long and forgotten their origins. They will not be accepted. They are also aware that they might lose some of their traditional customs if a road comes. And there are fears that some will sell their land to outsiders. It is recommended that some awareness meetings be held before the road is begun. People should assist the engineers in building the road. It should be built along the side of the village. Migration of in-married relatives should be controlled. European businesses should be controlled, people discouraged from taking bribes. Sale of land should be controlled. The Damoing who have stayed outside and wish to come back to resettle should do so before the road is built. Road transport is hindered by fast flowing rivers, and they should maintain feeder roads instead.

C. SERIENG [PATENG]

Population

Approx. 154. 22 households. Pateng (7), Tambanu (5), Pisawaing (3), Turgang (3), Tamangin (3). Councilor Raymond Kuruk (Ward 18), has recently passed away and not yet been replaced.

Clans

Five clans: Mifu (Paul Yakal), Napiang (Lucas Putupau), Simowi (Frans Kolowau), Tuang (Peter Turner) and Pisowine (Josphe Sawing). This is ward 18 and their councilor is Patrick Patowinga.

Cash crops

All families have cocoa; there are an estimated 7000 cocoa trees. Many have vanilla, and 16 have begun selling it. About one-third of the households grow coffee. They grow betelnut for their own consumption, about 5 trees for each household. One person is growing rice. Government officers do not give assistance on cash crops.³

Markets

Their main markets are Reite, Pateng and Biliau. These markets operate on Wednesdays and Saturdays only. Their earnings are between 50t and K5. Some food sales are wasted or given to wantoks. They mainly sell taro kongkong (seasonally), bananas, kaukau, pumpkin, corn, fruits and greens. The main purchases are kerosene, soap, salt and rice. Their market money is enough for these basic items only, not enough for clothes or other household goods. Their basic crops are taro, their staple food (which takes 7 months to grow), banana, kaukau, corn, cucumber, tulip, greens, pigs, cuscus, bandicoots ---all sold at market. Vanilla income is spent for tools, household expenses, savings, and clothes. Cocoa is sold for K1.40 to 60 t per kilo. They also spend money on bingo and gambling with cards. They have plans for a cocoa fermentery. Urar Real Estate Company controls a vanilla business, a coffee business, land registration for business, and is currently run by Son Tomongo. Taru to grow cocoa, vanilla, coconut. Taru is preparing to establish an

³ 22 households x 20 bags (from 318 trees) x 440 x 7.50 local sale=k3300. 22 households x 50 bags x 7.50 = K8250. Average of the two is K5775 for total village. 16 vanilla growers have sold their vanilla (ave. K10,000) =K160,000 total community. Average household income= K262.50 cocoa+10,000 vanilla+ Markets K525/year = ave income K10,787.50-K750=k10,037.50 income/year after expenses per family x 22 = 220,825 total village income.

export license. Vanilla plantation—Pais Tavor has 7000 sticks; the community has 50,000 to 60,000 sticks. They are exporting through Papindo under their license. Sales from 2 big vines and 1 small vine, harvested and packed seasonally, are K45,000-60,000 per market. Started the garden in 1994. Income saved in an IBD, investment account. Future plans are to start a vanilla growers association for 12-16 growers. Problems with vanilla include theft—about K9-10,000 of beans have been stolen. There are also disputes over land, as, for example, in Peter Taru's case.

Health

They have an aid post (in Reite) with 2 APO's. Their main illnesses are malaria and coughs. But it is a 1-2 hour walk to Reite. The main problem is a shortage of medical supplies that take 1-2 months to come.

Education

The children attend Reite Community School, which has 3 teachers, and 1 vacant position. Grades 2,4,5,6 are taught. The main problem of school is the difficulty getting teachers: many positions are vacant all throughout the year. Transport problems are the main cause. Most supplies are provided by struggling parents to provide project fees, as the Education Dept and the government have no money. The school fee K30 is too high for the parents, though. There were at one point 200 students in Reite, but this has dropped to 150. 30% fewer girls attend school than boys, we are told.

Housing

Peter Taru was the first to build a semi-permanent house, but there are no other permanent or semi-permanent houses at present.

Church

One Catholic Church

Water supply

Robert Reigle, an American anthropologist, helped Peter Tarur and others establish a water supply in 1986/7, but this was destroyed by jealousy, people say.

Social groups

There is one Sports Club called Mipstuna, but it is no longer active.

Retailing

Three people sell kerosene for K1/gallon. There was a store and bottleshop established with a loan of K4300 (repaid), but this collapsed due to theft, break and entering, and related disputes. We are told salt is still sold for K2.70 and rice for K3.05. A cattle farm was established with the DPI's assistance and a K3700 loan, also repaid within 2 years, but this, too, collapsed, because the cattle kept breaking the fence. There was at one time a horse used to transport cash crops to the coast.

Some propose:

Some propose a road link only to Matoko, and the maintenance of feeder roads. They don't want a highway to Ramu out of fear that it will become another Highlands

highway—with all its law and order problems. They believe money made in Madang should be kept in Madang. Sea transportation is their preference, and they fear highlanders may otherwise come in and grab their land. They also admit to being susceptible to bribery. Instead, they ask for a bridge, a road to Madang, and new shipping vessels for transporting cargo. If the government cannot fix the road from Madang to Saidor, they ask, why make a Biliau-Ramu road? Many social problems will come if the road is linked to Ramu; and they don't want influences from outside. They also worry their young people will move to town if a road is built. At best, they ask that a police station be built on the road near Biliau.

It is also recommended that the feeder roads to Matoko be rehabilitated and maintained. People would also like to see small jetties built at the coast and bridges on the feeder roads. The community also suggests they establish their own 'laws' to protect land, people, village and traditions once the road has opened.

D. MAIBANG

Population

Population 329. Families have up to 10 children, and on average eight. There are 46 households, and their names are: Kambingo (4), Sanguso (5), Tut (4), Maibang (28), Patoratin (3), Sukum (2), Kayawang (1). This is Ward 19, and their Councilor is Raymond Kuruk (recently deceased). Ngaing language is spoken.

Clans

Six clans: Rimbi (George Singauga), Anusang (Clemence Dawon), Munongaran (Matthew Buna/ Joseph Wingei), Waping (William Walawang/Michael Kundi), Rorowa (Tataus Sundi), Kilang (Ronni Pupilung). Subclans: Simaruk (Yamangi Randia), Usugiwarung (Sawai Kalana).

Cash crops

Each family has between 4 and 7 gardens. There are approximately 1-2 gardens of cocoa or coffee per family. They have two cocoa fermenteries, and they charge 60t per kilo. Cocoa production and supply depends on the seas, we are told. Vanilla is new, and almost all families are engaged in planting it. About 4 families have already sold theirs. People attended a vanilla workshop prior to planting. Rice was planted before, in 2002, but due to transport problems it has not been continued. There is also no rice mill. If a road came, they would plant rice again, and also chilli. Betelnut of 3 varieties is sold for 20t each, and can bring K200-300/week to the seller.⁴

⁴ 46 households. Cocoa x 10 bags @K7.50/bag=70.50. Coffee 30/bag x 10 =300. Betelnut K200/wk x 35 weeks= k7000. 4 families sold vanilla x k10,000 each = K40,000 (later to be multiplied by 40 or so?). Markets: K3/day x 2 days/week (3 x 104)=K312—rounded up to K350. 70.50+300+870 (average per household of total vanilla sales)+7000+350=K8590.50 per household. Expenses: K750/household. 8590.50-750=7840.50 per household, or K360,663 total for village.

Markets

Their markets are in Pateng, Reite and Biliau. Mostly women go to the local markets to sell goods. Their main sales are taro kongkong, banana, kaukau and greens. Each earns between K1-5 per market day, rising with the number of people attending the markets. Wednesdays and Saturdays are market days. It depends on the woman, which market she attends. If they go to Biliau, they might earn as much as K6. The ways of earning money for school fees include selling market goods, and cocoa and coffee. All households have both cocoa and coffee, and everyone is now also growing vanilla (4 people have sold their vanilla thus far).

Health

The aid posts are in Reite (3-4 hour's walk) and Biliau (5-7 hours walk). It depends how sick a person is, where he/she will go. Main sicknesses are malaria, coughs, scabies. Supply at the nearest aid post in Reite is often depleted and it takes 2-3 months before they can get resupplies. During those spells they use bush medicines. Reite aid post is 50t per medication; Biliau is K1, and Saidor Health Centre is 30t. No other big diseases in the village, but there sanguma-related diseases. There are people who have accidents and find emergency care difficult, as it is so hard to get to the nearest health centre. Pregnant women have great difficulties going to the Saidor Health Centre. One mother died in the village due to transport problems. Nowhere to rush her to. The child survived. Two APO's at Reite. There is now a nurse/midwife who often comes to the village to visit mothers and expectant mothers. Saidor Health Centre is the only health centre where mothers can go for their check ups. They walk a whole day to Biliau, from 6 AM to 5 PM, depending on the month of pregnancy, then walk several hours the next day to Saidor Health Centre. Husbands never accompany the women. After check-up and medication is given, they walk back to their village the next day, sleeping in villages halfway. There are approximately 7 children who have died since 200 due to transport problems. Sorcery is a problem.

Education

The students attend Reite Community and Biliau Top-up schools. At least one child in the village was unable to attend high school for lack of fees. Reite school fee is K30, Biliau's fee is K30. Numbers of children in schools: 23 in Reite, 7 in Biliau, 2 in Pang Pang, 1 in Paruwei, 2 in Rai Coast High School, 3 in Madang High School, and none in University. 3 boys and 1 girl did not go to school due to no proper dormitories, school fee problems and long walking distances. Teachers don't come because it's too remote. Parents do not show up for school clean ups. National government did not fund this year's supplies. It is a long and difficult walk to school for the kids, too.

Church

Catholic Church, within Saidor Parish—to which most people attend. Church leader Pius Puenga.

Social groups

No Mama or Youth groups. There once was a Catholic mama Group. A soccer club for men and volleyball club for women, though. There are no Mama or church groups to help

strengthen their social values before the road arrives. The young people are not interested in youth groups either. Women say the men in the village do not work with them. Men do not see the work of Mama groups as important, or that the women see it as important. They often say 'Yupela waistim taim blong yupla.' The women believe that only through respect, customary practices and church-going that their social life will be strengthened. Their Mama group fell apart because of lack of participation from male counterparts. Sports club—Maips sports club. Other groups existed but collapsed.

Housing

No permanent houses, 4 semi-permanent houses, and all the rest are thatch.

Retailing

Four canteens, only three operating, in the village, which sell the basic items they need: kerosene, soap, salt, rice and tinned fish. There are two poultry farms, although there were many others but they broke down from transport problems—like boats not available, impossible to get stock feed, difficulty bringing the feed to the village on foot. Transport difficulties have shut the fourth store down. Labor is K200, customers are 4/5 day. Soap is K1.30, salt is K3.50—all due to transport and labor costs. Chicken projects have been established by two men, but again, they also have transport problems for feed and sales. They sell the chickens for K18.50. The project loan has still not been repaid. Due to business activities, the largest clan has had land shortage problems: smaller clans have had business operations on the land of the bigger clan, and they are forced now to move out.

Transportation

Transportation is their biggest problem: roads and vehicles both. Also it is very hard to get sea transport from Biliau to town. If a speedboat owner agrees to go they will go, otherwise they search through other coastal villages. Very irregular transport. During rainy season the roads are very slippery and difficult to walk. Transport to supply the trade stores is K400-600, or K3 freight per item.

Water supply

If there were a road they would ask for an aid post or health centre in their village and a water supply. During dry season, their source of water dries up and they must walk for several kilometers into the bush looking for water. They collect water from stone holes. It is a two-hour's walk to villages on the hills to get water in the dry season. At one point SIL offered to build a water supply.

Custom

Initiation 'Mulung yong' is performed every year during the Christmas holidays. But people don't follow custom nowadays. Initiates should make payment to the teacher in this process, the 'Mos.' The position of 'Mos' is passed from generation to generation. This is a strong initiation process and needs to be respected and maintained. Female initiation also still occurs, with confinement in a private house. There is concern that these customs will not survive the building of a road. In addition, there are 5 sacred sites that will be destroyed by the construction.

If the road comes

If the road comes, the women want a water supply system, an aid post, and new business projects. They want to be able to market their goods easily, both in town and in Ramu. But they are scared of raskalism and hold-ups on the highway. Many do not want the road to go all the way to Ramu, they fear the rise in crime—and in murder and rape. They would lose their freedom of movement. Most young men would start to drink and cause problems like fighting and rapes, extra-marital relations, and contracting AIDs, they fear. Customary practices would deteriorate, as would church attendance. They women say that when the road comes the whole village will break up and move into their own land boundaries because their village is on land that belongs to one clan only. Women also loom forward to the road as a chance to create businesses, and change their lifestyles for the better. They would buy trucks if they had the money, and have easier access to basic town services like hospital, stores, trading centres.

Recommended that government should establish a coffee mill for the Rai Coast District. They also do not want the road to be built through Maubang village, and that it only be built to Matoko. Relocation will be a big problem. What about the Biliau-Matoko road maintenance? People wish to meet with Governor Yali to discuss the road. Environmental concerns include destruction of sacred sites. They recommend using the Yakai-Rusuang-Ramu Highway. They are afraid for the dissolution of custom, which is not strong at present; it is susceptible to bribery.

E. RUSUANG

Population

Population 266. 39 households. Otapmovi (5), Nuengaro (5), Rusuang (15), Waviote (9), Susure (5). This is ward 22, and their councilor is Samson Lobo. The language is Do (meaning: wanem?)

Clans

3 clans: Rusuang (Makap Utake), Puroto (Tanguri Rombo), and Unging (Tonguva Iengo).

Cash crops

Almost all families have coffee, only 6 families have cocoa. Most people are planting vanilla but haven't yet sold it. Only 3 families have planted rice thus far. Three families are also selling peanuts and earning K5-10. Coffee is the main cash crop, and two coffee machines are operating, provided by the Provincial Government and LLG. Individual marketing is K40-50 per bag; group marketing is K80-100 per bag. But now no more—all has ceased. The cost to transport coffee to Madang was K20 per bag and K40 per person by motorboat, and K10 per bag, K17 per person by ship. In one month they can produce 50 bags. Multiplied by 3 months, coffee season, this is estimated to be bags in a year. Individuals can produce 5-10 bags during coffee season. There are approximately 20,000 coffee trees (500 bags and 40 households).⁵

⁵ Coffee has ceased for transport costs: potential 150 bags x 80 =K12000. Or 39 x 7 = 273 bags x 3 months= 819 bags x 80k =65520. Average of two estimates is K38,760 for the village, for coffee.

Markets

Their markets are at the school, Maibang, and Biliau. The main market goods are taro kongkong, kaukau, banana, fruits and greens. Women earn between K1-5. Selling buai also earns between K10-15. Many women are for a road but would prefer it not go all the way to Ramu. Most people have coffee gardens, which is their main cash crop. There are two government-donated coffee pulping machines, only one in operation; but there is a lack of DPI support. The rates are K50 for individual and K100 for groups. The main problem is transporting the beans from village to town, when the freight costs on a cargo boat is K10 per bag and on a speedboat K25. For a group to hire a boat to carry coffee to town it is K200-250. For Luship, the freight is K5/4 per bag. People can produce 50-100 bags per month, and there are approximately 20,000 coffee trees. The season is June-July. Market prices also fluctuate. Nearly all families have planted vanilla.

Health

No aid post, they walk to Reite's Rapong aid post 2-6 hours, and Biliau one full day. Main sicknesses are malaria, coughs and grille. Their aid posts are in Matoko and Reite. Infant deaths are 2 recently. Most women do not attend the Saidor clinic because it is too far. There are traditional midwives to help with childbirth in many cases. Many infants have died, however, from lack of immunizations. The number of deaths in the village is huge due to sicknesses that cannot be treated with medicine and are related to sanguma.

Education

Nambetoni Community School in Rusuang. 23 children in attendance. In grades 2,3,4 and 5. They have no students at Biliau, none in Raicoast High School and none in any other schools in town, but one student at an Evangelical College. Some children do not go to school due to school fee problems. The fees are K25 per child, which is high for them. Most parents pay bit by bit through the year. There are 15 students, 5 girls and 10 boys, all from Kongo, residing in Rusuang, in their own bush materials dormitory. Before, they used to stay with villagers. The dormitory was built in 2001 with the parents' help. Schools have grades 1-5, and only 2 teachers. They are good teachers but too few of them.

Housing

All houses are bush material.

Water supply

Hard to get water from rivers, as people live on steep ridges, and their sources are 1 and 1.2 hours away to a stream, and in dry season the streams dry up.

Church

One Lutheran church, and the Church leader is Saraku Utake.

6x10x7.50=450 for cocoa. 3x7x50weeks peanuts=k1050. Women earn K300/year markets plus 12/weekx50 buai=600=total K900/year. 39 households x 900=35,100 total market income for village. All incomes: 450+900+1050=2400 household income. expenses K750/household =1650 net income per family/yr after expenses.

Social groups

Their Mama Group broke down this year from laziness and disinterest. There is a sports club, the boys' soccer team called Naniku.

Retailing

Two broken-down canteens. Transportation of store goods is very difficult. The nearest store for basic items is in Maibang. Twelve families have pigs for sale at K100-350; they might sell them at K500 or more when the road comes. Tobacco is sold at 10t and 20t per stick.

When a road comes

They have suffered so long carrying heavy cargo along the road that when the road does come, they hope for an aid post, water supply, schoolteachers, better transport and open markets providing good money. There will be more business opportunities, perhaps even piggeries, farms, poultry projects, for examples. More stores would open. They would sell their coffee and other cash crops, and might restart their social groups. The negative effects would include people coming in from all over and creating social problems, perhaps even prostitution, and adultery, AIDs, marriage break-ups and more. Young people might leave the village for town. Men might be greedy and not think of their family when they start to earn money. Drinking, theft, rape, murder, are all seen as possible. Land disputes are a probability, and the migration of Morobe and Highlands people to their land.

F. SEREMORE-RAMBA-KIAMBOWE II

Population

Ward 22, Member Samposon Rombo. Population Seremore 74; Ramba 95; Kiambowe 95. (Total pop 264). N'du language.

Clans

Seremore five clans: Seremore (Samuel Nanaku, Waniuke Bingai), Oke Tuatiti (Katianga Kotewa), Angiamore (Philip Yewongo), Simiyende (Kadaing Kinging), Maiye (in Ramba village, Sakanai Wonding). Kamba clans: Mus (Kunumbe Tawa), Singuku (Rakita Kowa), Sengondi (Yero Zunari), Mahe (Gaukere Tengorong), Tarue (Toroke Robongai). Kiambowe clans are Numbu (Wanema Numuro), and Wititi (Tim Mula/James Mula).

Cash crops

Most families have both coffee and vanilla gardens. They sold coffee in town before, but now they sell it to local buyers on the coast for between K1.20 and 1.40 per kilo. No vanilla sales as yet. Rice was planted by two families, but no sales as yet. Coffee is the main cash crop, and virtually all families grow it, with some families owning an average of 300 trees. Growers produce an average of 10 bags in a year. It is carried down to the coast by families, where they pay K1.50 per kilo or K150-160 per bag. Freight from Biliau to town is K100 on average. There is one coffee machine, provided by the

government, but they get no assistance from the government otherwise. The problems include crops being destroyed by termites and other bugs.⁶

Markets

The main markets are Nambetomi school, which most women attend, and Maibang, Pateng and Biliau (women mostly carry greens, fruit and betelnut to sell in Biliau). Women go to Biliau, the farthest market, when they want to buy dry coconuts, otherwise they rarely attend. They often find it hard to sell their goods at the local markets because most women market the same goods and there are few customers. When places like Maibang run out of food, they tend to buy a lot, and that's when women can sell their stuffs. The goods are mainly taro kongkong, kaukau, fruits, greens (including cabbage), and betelnut. They earn around K1-3 for vegetables and K5-10 for betelnut.

Health

Aid posts in Reite in Matoko, 3 hours and 4 hours walks, respectively. K2 per year deposit for Matoko aid post, then 50t per medication, and k1 for injections. The main illnesses are malaria and coughs. No one has died from non-treatment of malaria, though. They have died from yellow skin and swollen body sicknesses, where they cannot walk and have no money to be taken to the main hospital in town. One young man died from this some months ago. No mothers they know of have died in childbirth. None of the mothers and expectant mothers go for check-ups, and most of their children are not immunized. They give birth in the village. There are no visits by APO's or doctors to the villages, and Sidor Health Center is too far to walk. Many children have already died on delivery—about 8 infant deaths thus far. There is malnutrition amongst the kids, however.

Education

Nambetomi Community School in Rusuang, and a broken-down tokples school with a building now used for Sunday school activities. There are 12 Seremore and 7 Kiambowe students at Nambetomi Community School. One child left school due to disobedience. One student has gone on to Rai Coast high School, but left school. One is at Mt. Hagen High School, in grade 10. One more is at Begesin top-up living with relatives. Parents pay the school fees through market sales and selling coffee and betelnut. But they also say the students are not learning much because the number of teachers is down. Often the teachers take 2-3 classes together. Their main problem is not earning the fee money quickly enough, and children not attending classes, also disobedience. School fees are K25, which is still high for many parents.

Water supply

Easy access to water, except during dry season.

⁶ Est 33 households (of 8 people ea) coffeex 10 bags @155/bag=1550 per household or K51150/village. Market income K18/wk x 50 weeks =K900 per household x 33 households =29700. Household income 900-750(expenses)=150.

Housing

One semi-permanent house, and all others bush material.

Church

One Lutheran church in Seremore.

Social groups

They have a combined Mama Group from Seki 1, Seremore and Kiambowe, but no current Youth or sports groups. The Mama Group performs 'mercy' activities like providing garden foods for missionaries. Sports club is named Yakimo Sports Club. In Ramba the sports club is Rumsco Sports Club; there is also a Youth Group and a Mama Group, too.

Retailing

There is one trade store in Seremore, and one in Ramba. They also have pigs to sell for K300-400. Some families sell kerosene (4 in Kiambowe and 1 in Seremore). The basic store items are soap, kerosene, rice and salt. Betelnut is sold for K2 per bunch; tobacco for 20t per leaf.

If a road comes

If a road comes it would make it much easier to sell all these market goods. The women say that if they had road transportation they could sell most of their goods to a wider market, inside and outside the village. They need this road to bring transportation to the village and relieve the heavy burden of carrying goods to market. Most women are happy to have the road come from Biliau to Matoko. But they acknowledge the negative impacts might include migration of Sepiks, Morobeans and Highlanders, and with them raskalism, theft, rape and murder—and a loss of freedom for women and children. Young people might migrate to the cities and use drugs and alcohol; others will sell their land and cause land disputes. But the level of education will rise, and they may get an aid post of their own. They also need a water system, and they look forward to roadside markets, the sale of cash crops in other provinces like Lae and the Highlands, women owning cash crops of their own, and the easy transportation of goods.

G. MATOKO

Population

Population 671. The hamlets are: Sangatiti (77 people), Komputiti (50), Kuhungo (50), Kuremba (52), Tuokakua, Poretungo, Kimatasira (32), Pungeamore (46), Matoko (46), Kombiyo (30), Kifuhung (153), Motiti (73). Ward 23, Councilor Yawang Gara. Language Hio/Kembo.

Clans

Clans are: Sangatiti (Sami Tamayung), Komputiti (Manasupe Managendi), Kuongo (Gasamepe Muneme), Uremba (Urenzio Bam), Tuokakua (Buwapa Kekurengo), Poretungo (Soreme Zeriepe), Kematasira (Mumukau Domunge), Mungoyomore (Nongi Rokongai), Matoko (Gawa Padang/Mesi Gawa), Kombio (Watena Saruaguma), Kitipukuhu (Yongoro Zoringo)

Cash crops

There are about 5 gardens in a family. Separate gardens for taro kongkong, kaukau, and greens, for example. Most young people have their own gardens, and they help their parents in theirs. Main cash crop is coffee, and all families grow it. They can produce 5-6 bags per family per month. But there are no local buyers or markets, and the freight to town to sell is K200. The Singatiti clan has a Coffee Growers Group led by Buka Eme. Each family has about 150 coffee trees.⁷

Markets

Saturday markets are good because they can earn up to K6 , although most earn between K3-6. For betelnut, they earn K10 and up. With money earned they buy dry coconuts, salt, kerosene and soap. Sometimes they trade at the markets instead of selling. A few women who go to Biliau market walk all day and sell light goods like greens, fruit and betelnuts. Only the younger women who can carry loads for a long distance go to Biliau market. The only time they go is when they desperately need basic store goods. In rainy season, these women often sleep halfway along the road to Biliau. Carrying heavy cargo back home they often arrive around 7 PM. Most garden goods are not wasted because they are eaten, marketed or put up for mercy work or given to wantoks in town. Cabbage often spoils quickly, so they give that away first.

Health

Two APO's at their aid post. The main sicknesses are malaria, cough, and diarrhea in children, plus knee aches and pains. They used to have leprosy (one leper), and two cases of TB (not mortal). One cancer patient died in 2000, and one goiter patient died in 2002. Many infants have died for lack of emergency transport to Saidor or town. There are two mothers now with certificates in midwifery.

⁷ 83 households. 5 bags coffee/month x 3 months x 150/bag=K2250/family/year. Minus freight 200=2050. Not being sold. Markets K22/week x50=K1100. Total household income K3350-750 expenses=K2600 with coffee. Without coffee: K1100-750=K350.

Education

Last year there was an Elementary School but now it has broken down. They don't have any teachers and the student attendance is very poor. The Community School is in Rusuang—Nambetomi School, a 4-hour walk, where they have about 10 students schooling. 2 children left school due to the long walk and difficulty in cooking and carrying food to school. 13 students left school from school fees problems. At Biliau school they have one student, at Reite they have 3 (already left), Rai Coast they have 1, at Ramu School they have 2, and in Lae correspondence school there are 2. They want to start up the Elementary School next year.

Church

One Lutheran and one Baptist church (which has 39 members).

Water supply

In 2002 there were 8 pipes installed for their water system by the Lutheran Development Services in Lae. The government provided the pipes and rubber tubes for the installation (during the Stahl Musa/Jim Kas government). Two in Kungo (Matoko 2), one at the aid post, one at the Baptist church, and 4 in Matoko proper. But during dry season the water supply connected from these stone holes usually dries up, and they have to go all the way down the mountains to collect water.

Housing

One permanent, two semi-permanent houses, and the rest are all bush material.

Social groups

Kumang Lutheran Mama Group—membership 110, leader Pitua Sorena, assistant Pone Jukena, Treasurer Mainopo Keni, and Secretary Zongekau Wamayupe. They collect money for the group from working in peoples' gardens, earning up to K30. For carrying cargo they earn up to K150. Membership is very good and cooperative. They also have prayer and Bible study groups, and all are running well. The CDS are planning to build a meeting house for the Mama Group. Before CDS accepted, the Mama Group had drafted a proposal with the help of a village girl working in town. But they could not transport the required materials because the chopper would cost K6000. They are just waiting, hoping that in 2004 they will be able to transport them. This building will be a center for the Mama Group to learn basic household skills as baking, cooking and sewing. Maku Youth Group, and Kuma Lutheran Youth Group. Soccer clubs: Wes Sports club, Kinjo sports club, Kuma sports club.

Retailing

Basic store goods include soap, salt, kerosene, and oil. There are 7 licensed trade stores, 3 operating, in the village, but difficulty in getting goods up to sell there. Prices of trade store goods in Matoko are very expensive compared to Biliau.

If there is a road

The women say that they want and need this road because they are tired of carrying heavy cargo from the coast. They are aware of the negative potential with the road but desperately need it. They need to transport their coffee and other crops to market. With a road, they will have easy access to trade and trade goods, open markets, government services, their community centre, and improved living standards. They also hope to have their own school again, and a higher degree of education in the village. There would also be easy access for pregnant women to hospitals for check up and delivery. The many children living in the village would have a better chance at education, and they might also have a better aid post or health centre. There would be negative impacts such as rising disrespect for traditional from young people, and more social problems and migration to town. There might also be raskalism on the highway, rapes, and insecurity in the village for the women, and the threat of Highlanders controlling their businesses and bribing them to buy the land. People will work for money and forget about church, and even new religious denominations may come to the village. But the ways to limit these problems would be to strengthen the church attendance, show mercy on others, and encourage women married to other areas to move to their husbands' place, and men married elsewhere to bring only their wives in, not other wantoks. They must also strengthen customary values to guide them in the future.

They recommend that if there are hold ups on the road, a diversion should be made to Reite. Also that surveyors work closely with the villagers in this, to avoid going directly through the village. They need public awareness beforehand, and some migration controls against highlands businessmen coming in and buying their land. They want to strengthen existing customs and community cooperation in preparation for the road. The government must also speed up development in the area, with the road. They believe because of 3 rivers, the road will need three bridges. They also need security, police stations along the road in Ramu, Matoko and Biliau. They also need to protect the water supply pipes, and establish communication between the Open Member, LLG Members and community leaders. They also wish to control in-laws moving into the area. They want electricity in the villages, and an Elementary school in Matoko.

Matoko Community School is feeding nearly 18 villages and is the only school for 6 ward areas. It is one of the most remote schools in the inland of Raicoast and to fulfill basic educational needs is very difficult. Road system to the school is the core problem, resulting to major problems as listed above. The teachers, BOM, students, parents, now fully supported the idea of proposed highway—Biliau-Ramu Sugar. This would really help minimize some of the school major problems. (Yero Junare, for the BOM, teachers and headmaster). More than 300 students, serving an area of 10,000 people for 18-22 villages in 6 ward areas. Problems are: teachers are posted but do not come; bad communication (“Plenti toksave bilong edukasen na skul long toktok igo kam ino gutpela tru, bikos nogat gutpela kominikesen”); health services lacking and pupils must walk too far for medicine (Matoko has an aid post with a community health worker for villages in wards 20,21, and 23, poorly supplies and a 4-5 hour walk from Nambe Tommy Primary); transport problems; need for another double classroom; need for hand saw for schoolroom construction; need for top up grades 7-8, as most kids drop out after grade 6.

The school wishes to set up projects such as a trade store, a piggery, a poultry farm, a fish pond, as well as long term projects such as coffee, vanilla, and apple orchards.

H. MUNIANO

Population

Population 234. (Possibly 30 households). Located on a ridge northwest of Matoko close to the Mot River, surrounded by mountains. Ward 19. Member Rimiawo Nuse. Language: N'du.

Clans

Muniano (Meyembure Karungo/Munape Meyembure), Kuhungo (Vavinu Zenzurungo), Shangatiti (Sindima Dendiro), Supondidi (Neni Kungo), Tipu (Wanzio Rihuyo). Owners of the land where road would be constructed in Kiambowe are the Sambo clan, and in Muniano the Muniano, Kubungo, Shagatiti and Supedidi clans.

Clans where the road will be built on: Kumburungu clans: Kumburungu, subclan Winjungo; Sakaneo; Tisaka. Yoki clans: Yitiko, Turingo. Sari clans: Sari, Kondowondo. Bambangu clans: Bambangu, Kasawetiti.

Cash crops

Their first cash crops were cabbage and onions. Coffee is the main cash crop now, and all clans have coffee gardens of 100-1000 trees. They can make 4-5 bags during the coffee season May-July. To transport the coffee to Biliau takes a full day's walk. There are 4 coffee machines, but only two are working (donated by the government). Two are privately owned, and the owners charge no fees to the community. Vanilla is newly introduced, few have planted it and none have sold it yet. Betelnut and peanuts are also sold at the markets—here they can make K6-15/day for betelnut. All clans have coffee (total 100-1000 trees). 12 hour walk (6 to 6) to Biliau to ship it out. They have 4 coffee machines, two private, and two not working (?); most are hand pulping. Beginning to grow vanilla. Buai –big bunches can sell at K10-15, little ones at K5-6. Rice and vanilla newly introduced, few doing it on trial basis. Some crafts: malo, bunara, kundu (k1-5).⁸

Markets

Their markets are with Mawerere, Kiambowe and Matoko, all in Muniano. They also go the markets in Mawerere and Matoko, including the Community School market. Mothers sell taro, greens, fruits, corn, peanuts, kaukau, and other crops. Peanuts make K5-10, taro and greens make K1-2/ day. They also market peanuts, corn, kongkong (10t here, whereas 1 Kina in town), kapiak, passionfruit, sago, kaukau, greens. Village market Saturday. Highlands-type vegetables, English potatoes, kaukau, kongkong, banana, pumpkin, cabbage, spring onions, garlic, carrot, sweet muli, passionfruit, diwai tomato, bata, sugar, all highlands beans. Game: yondo (K60-100—rare), cuscus varieties, rats, pigs. Fish: mausgras, eels, prawns,

⁸ 30 households. Coffee K2250 per household. Vanilla not sold yet. Betelnut K500/year. Markets K16/wk x 50 =800/year. Total income 800-K750 expenses=K50.

Health

No aid post in village, they walk 1-2 hours to Mawerere aid post where there is 1 health worker. But the supplies are irregular. Malaria and scabies the biggest health problems, medicines are carried from Biliau and often stolen. Malaria and pneumonia the main illnesses. No immunization, and maternal deaths a problem. Matoko aid post Ward 20 sponsored the APO at K5000 to be trained at Brown Finch for 2 yr. 3 mos—they have K1092 yet to pay in the fee. Low medicine supplies, high pop to service. No supplies for 3-6 months. People then steal the medicines. It is 5-6 hours to get the supplies from Biliau. 20-50t fees, sometimes they get medicines for free. Annual fee K200. Not everyone pays up.

Education

Matoko Community School, 2-3 hours' walk. Fee is K25, but there is a teacher shortage. School TPS has 53 students, 3 teachers—trained at Helepeg (?) tok ples teachers training, community sponsored. School fee is K500, not everyone paid up, but the community helps by gardening and providing the house. SIL training. 2 attended and it was helpful for them. School fees (Matoko) of K25 problem, 2-3 hr walk to schools, few teachers, very low attendance by students. The road is a problem for teachers posting, as they find it too hard to walk the mountains up to Matoko. Most students stay in village after TPS because the school is not in full operation

Housing

One semi-permanent house, and the rest are bush material.

Water supply

Bamboo pipes are used to draw water from the mountains to the village, but these rot very quickly and cause people to get sick. They have bamboo piping water supply, so no water problems, each household has toilet. They use mamboo to get water to the village. Dry season, water sources dry up; 30 mins-1 hour walk to nearest source.

Church

Lutheran church, leader Vavinu Zenzurungo. Full attendance. But there is no money to pay workers and build a church.

Retailing

There are no trade stores in the village, but individuals sell kerosene at K1 per SP bottle, or K1.20-1.50 for 500 mls. 20 litres of kero for K41. 17 litres for K35. Other sales include pigs sold for K100-400, and a local chicken business. But transport is the constant problem. No trade store. They sell kakaruk. Kerosene prices are double that of town. 3 stores, all not working due to transport problems, and lack of management skills. K5-10 for carrying goods from Biliau up. Clan owned stores.

Social groups

Sports and Youth Groups work as carriers for transporting coffee to Biliau, people are hired for K5 each to transport cargo to Biliau. Groups charge K10 per bag of coffee. Sports group and a Mama Group. Mama groups charge K5-K30 for their work---K2-5 for garden work, helps widows sick—with food and firewood. Cohesion in community:

people help build houses, help elders. They have a youth group, women's group, sports clubs and women's teams. Monday is community day and they have, e.g, road and bridge work; school, church (Lutheran in Kumburungu but Baptist in surrounding villages) aid post work, cleaning toilets, houses and gardens.

The main social problems perceived for the future are prostitution, theft, smoking marijuana, and land disputes.

Village elders like church elders and village committees, use customary ways to solve problems, sometimes nothing is done. Since 1997 marijuana abuse has begun, they grow and sell it for cash to their own markets. Adultery is also a problem, if small; as is theft of garden and game. Land disputes settled by clan leaders. No poison sorcery. Polygamy allowed. Brideprice K1500-2500.

I. KONGO-FUNEYENDE

Population

Population 878. Funiyende 466, Kongo 412. Ward 26. Councilor Wokenu Dawainu. The language is Hio/Kembo.

Clans

Funeyende clans: Korapo (Hepake Sisio), Nokasira (Borepe Nanandia), Sure Wonde (Musa Gemuyengo), Tukufuring (Wokenu Zewainge), Tukoparo (Murongina Wake), Midukp (Tieruka Gusano), Manako (Femente Fekongo), Unioke (Mana Honiringe), Nokasikaving (Yaugere Yauyango), Wotiti (Soseyupe Tiopa). Kongo clans: Kongo (Wumunare Gegendiro), Kuduko (Pange Monomono), Kubutiti (Juwibe Narangai), Moptotaino (Jujusavi Simindai), Gumu (Rupaio Wiawio), Tefuring (Manayiu Nanjarungo).

Cash crops

Coffee trees in Funeyende –1743; in Kongo—3657. Crops sold include betelnut, onion, pineapple, cabbage, passion fruit, oranges. Other cash crops include rice and vanilla. 3 coffee machines in the ward area, 2 in Kongo and one in Funeyende (Provided by the LLG). Sales of buai for one day can raise K2-3.⁹

Retailing

Seren trade stores, 4 operating. The others have closed from mismanagement, and transportation problems.

Health

One vacant aid post, vacant for lack of staff (and lack of transport). The next nearest one is 30 minutes' walk, in Matoko. Denzio Wake, a former aid post worker, started the aid post in the village and it ran from 1964 to 1994. It stopped when Denzio began to suffer from cerebral palsy.

⁹ 100 households. X 20 bags x 150/bag =K3000 per household = K600/yr market=3600-750 expenses=K2850 pr household. Without coffee 0 income.

Education

One tok ples school. The nearest Community School is 5-6 hours' walk to Rusuang.

Church

Six churches in the area, both Lutheran and Baptist. The Lutheran headmen are Somugupe Dawa, Epake Sisio, Femende Pekongko, Kaingau Amike, Findedene Wake, and Rinuka Zawainge, all from Fumeyende. The Lutheran headmen in Kongo are Paratiepe Pengediro, Itinepe Simidawa, Mananjakia Mangnunu, Sungagepe Wendarungo and Fiendu Monomono. In Tefuring, the Lutheran headmen are Manaiyu Nanzarungo and Eritine Somoti.

Housing

There are 13 permanent buildings (3 homes, 6 church buildings, 3 trade stores, 1 aid post).

Social groups

Funeyende Lutheran Youth Group, one Mama Group. Four sports clubs: Brothers Club, Kanas Club, Hino Club, Lus Particles Club. Hiring youth groups and clubs to transport coffee down to Biliau has raised K150-200.

If a road comes

Nearly 97% of the people whose land the road would pass through said they would not claim for compensation since they truly need the road. They suggest that if land disputes were to arise along the proposed road route, then it should be diverted to Reite, where they believe there is already agreement.



Maurere man with the bag of coffee on his back passing through Damoing village heading for Biliau



Part of the community meeting in Maibang



Mr. Kula in front of his run down store in Damoing village—first trade store in the



Gimstone, the victorious grand finalist team of Kunai Soccer Association in Biliau



Looking from Guhungo down to Funiyende



Children of Matoko Community School



Taro garden in Maibang



Moses Angasa pollinating vanilla in Serieng



From Guhungo looking up at Mt. Ambirara (Abilala)



Thomas Warr, member of the researching team walking toward Matoko village



Former APO in Funeyende speaks



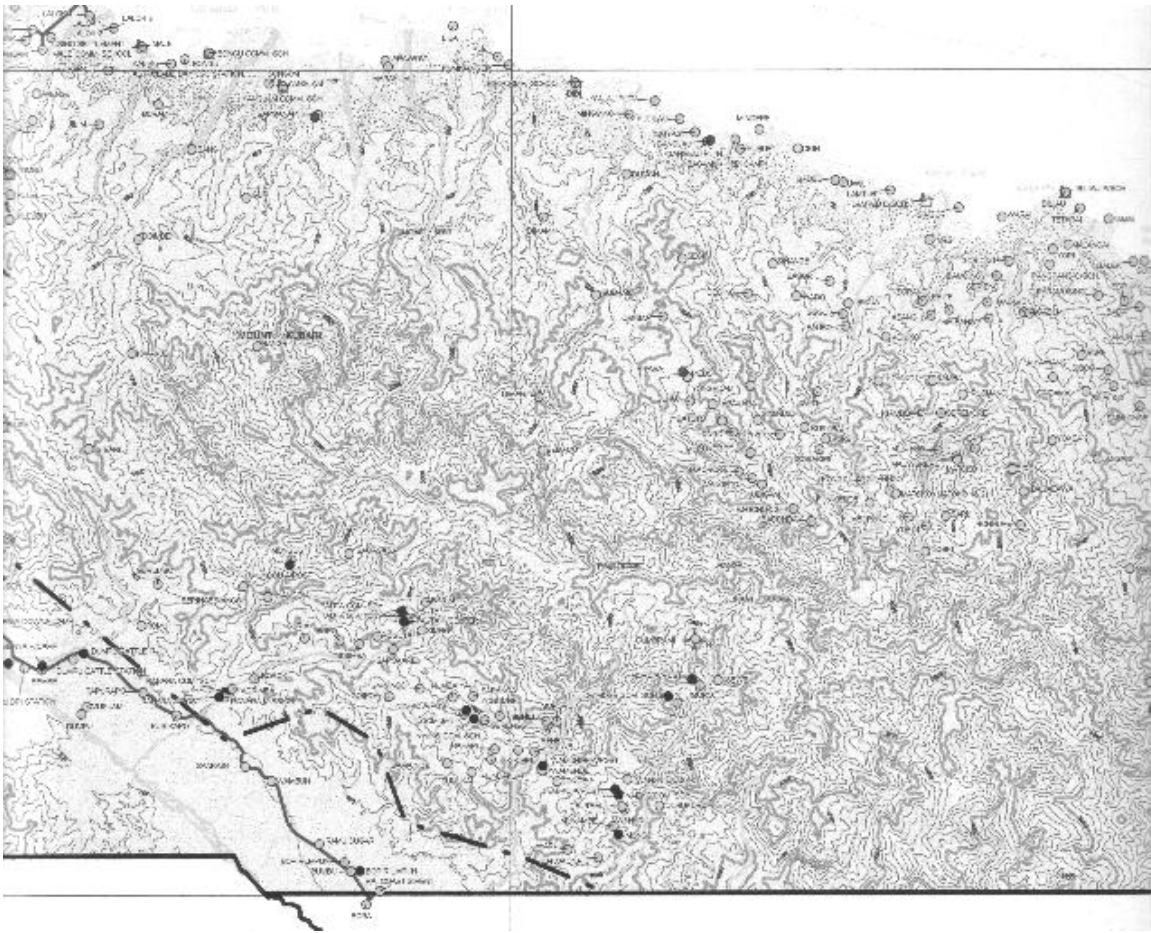
View down to Muniano



Damoing Elementary School



Funeyende Yander River



b. NAHU RAWA

J. NAIKO

Population

The Naiko people have originally come from right up in the mountains of Finisterre Range, from Gumbrami, Moro and Sere villages. Some of the people came from Butemu village. These villages are located at the foot of mount Abilala, and it takes almost one whole day to walk down to the 'First Gate' to catch a trip to Ramu Sugar town or to other centres. Because of the isolation, these people have moved in the last 30 years down to Naiko. Their clan and family ties still link to the above villages. The Naiko speak "Hio" language, also spoken through much of Naiko, Rahu and Raiko areas. People in Naiko Village are originally from Butemu Village, simply because they were looking for basic services. In addition, they left their main village because of a landslide disaster in 1993. Naiko village is located about 15 kilometres from Ramu Sugar town, situated on the bank of Gusap River in the Nahu- Rawa local level Government in Raikos District, on the border of Madang and Morobe provinces. Naiko has a population of 174 people. The number of males and females can not be determined from the latest records. However, the number of males is higher, according to the village Recorder.

“First Gate” is a Naiko Settlement which was settled only in 1993, after a big earth quake disaster that caused great floods which destroyed the people’s houses and property on Naiko. Gimbo and his brother were victims of the disaster, thus had migrated to the land close to the Ramu Sugar In Naiko, the local culture is still intact, as seen in their language, which is still being spoken well widely. There is also strong belief in sanguma and sorcery. In 2002, a man from Naiko was accused of sorcery and his house was burnt down. Much of this man’s property was destroyed including coconuts, betelnut, pigs and his personal belongings. The man fled to a village on the other side of Gusap River, at the border of Madang and Morobe Provinces.

Naiko village is in Ward 17 in the Nahu-Rawa Local Level Government. The councilor is Mike Kusi from Butemu village. The village recorder is Ipai Mansiu and the village court magistrate is Bondenge Liona.

Cash crops

During sunny days, peanut gardens can produce 20 bags of peanuts. This is for a tractor-ploughed field. If a man has manually ploughed the field they can make 5 bags of peanuts. During rainy days they can only produce 11-15 bags of peanuts. They all need the road for access to markets. Naiko people have coffee as their main cash crop. But most of the coffee gardens are in Butemu and other villages like Gumbrami, Moro and Sewe since these are the places from whence Naiko people migrated to get closer to health care, education and transportation.

The Naiko rely on a subsistence economy consisting of garden vegetables, fruits and a few domesticated animals such as pigs and chicken. Garden produce includes yams, banana, potatoes, taro, water crest, aibika and other greens. Peanuts are also grown and sold by most families. Sale of peanut bags (at 50 kg) can bring an income of K50.00 when the supply is high; when supply is low, a grower makes K80.00.

Vanilla is a newly introduced cash crop in Naiko, and most people have very small gardens. None of the growers is harvesting and selling vanilla. Rice is also a very recent crop in Naiko, and only one person has harvested his rice. There is no nearest rice mill in Ramu Sugar town so the man took his rice to Markham in Morobe Province where the rice is milled.

Pigs are also sold in Naiko village, their price depending on size. (No pig is sold under K100.00.) Four people raise chickens, which they sell for K18.00 each. Betelnut and daka are sold at markets in Ramu Sugar town and Markham. A plastic bag or basket of betelnut brings in about K50. Bilums or string bags are sold in the markets for K50.00 to K60.00, depending on size and the design. Peanut bags are also sold, and a 50-kg bag brings in about K120. For a family, 6 to 7 bags can be produced in a year, depending of the size of the garden. A big garden produces 15 to 20 bags of peanuts.

Markets

Garden crops are the main things they sell at the market. Peanuts are planted and sold at Ramu Sugar market. They can make K45-85 by selling peanuts alone. The average

amount mothers make at the market is K2-5—this is because the Highlanders occupy the market space and sell most of their crops. Thus there is competition within the single market. The Naiko attend Ramu Sugar town market, and the Markham markets. In these markets the women sell vegetables, fruits and meat and make an estimated average of K3 daily. Nowadays, with the cash economy, traditional barter and food exchanges seldom take place between women from different villages.

Health

Clinic sites: In this village, they have no aid post. They go to Gusap Health Centre in Ramu Sugar, a 3-hour's walk. The people from Naiko go to Gusap Health Centre in Ramu Sugar Town. It takes about an hour's walk and 30 minutes drive. When there is no car, then it takes 3-4 hours walk all the way from Naiko to Gusap Health Centre. The out patient fees at Gusap Health Centre are K2.00 on weekdays, and K10.00 on the weekends. During weekends if the people go to the Health Centre at Ramu Sugar, they are charged K10. Their main health problems are malaria, asthma, typhoid and birth complications.

Or, they go to Wavivi aid post. Wavivi is a village on the boundary of Morobe Province. It takes one and a half hours to walk to Wavivi aid post on the other side of Gusap River. While at Wavivi Aid post, the daily out patients' fee is K1.00. The common sicknesses in Naiko includes malaria, common cold and influenza, pneumonia, diarrhea, pigbel (swollen stomach), and pregnancy complications. One baby died in 2003, at birth, excluding some babies who died in the past.

The aid post in Wauvivi has only one staff. The supplies of medication often run out, causing inconveniences for the sick. The sole staff member often travels to Lae to collect medical supplies and/or salary. He is usually out for two to three weeks, during which time people rely on bush medicine. But for serious or emergency cases, the people go all the way to Gusap. In such cases as pregnancy complications, mothers are carried on stretchers to the nearest road for a car. Otherwise, the mothers are carried all the way to Gusap Health Centre, which takes about 3 to 4 hours.

Education

All the children attend Naiko Community School, which is 2-3 hours' walk away. There are 4 teachers in 2003 with grades 1 to 6. The school has no close water supply. Because of road problems, teachers do not want to teach there. During rainy days, students do not attend classes, for fear of floods, landslides and falling trees. Prior to 1993 earthquake and flood disaster, the school was located in Naiko village. Though most children attend school, a number of them have left due to lack of school fees, and lack of teachers. In 2003, the fees were K50 per student. Parents have cash crops but find it very hard to transport and market their produce, thus are unable to pay for their children's fees. In 2003, the school had six grades, with four teachers and two vacancies. Teachers simply do not want to go to remote bush schools. Currently at Naiko, three teachers are local men from Nahu and Raikos areas, and one is from the Highlands. However, according to the community, two of the teachers move in and out of the school most of the time,

leaving students without instruction. The lack of road access and the rugged terrain discourage teachers from coming to Nahu-Rawa area.

Church

The one church here is Lutheran. The congregation president is Bonny Boyio, and the evangelist is Zongerara Europe, who is assisted by four (4) church elders.

Social groups

The social groups in Naiko include Nawamo women's group, and the chairperson is Mana Alex. There is one youth group, Finisterre youth group. The Chairman is Nathan Gimbo. There are two sports clubs. The community's main social problems include hold ups of mothers on the way to and from Ramu Sugar; fights and arguments over women; and land disputes. They settle problems through village elders, church leaders and magistrates.

Housing

All houses are made of bush materials. There is only one permanent house, with other semi-permanent buildings including trade stores and the Lutheran Church. All households have toilets. The village is generally in the good in condition. The rubbish is dumped in specific areas. There is quite a number of dogs and pigs, however, which make the village look unhealthy.

Water supply

Naiko village has easy excess to cooking, washing and drinking water. It comes from nearby mountain streams. The people also use the big Gusap River, except it is dirty and the current is strong most of the time. One system draws water in bamboo pipes. There is only 1 water tank, and it is a private one.

Transportation

Transportation in Naiko includes a road which runs 7 kilometres up from the Ramu Sugar Town to a Naiko settlement called "First Gate". The only car that operate services between First Gate and Ramu town is owned by a Naiko man named Gimbo. Otherwise most transportation is walking. All the crops such as coffee, and garden food for the markets in Ramu, Markham or Kainantu are carried on foot down the banks of Gusap River to the First Gate where the men and women wait for Gimbo's car, an L200 white Mitsubishi Ute, to transport the crops to Ramu Town. The passenger fare to Ramu Sugar Town is K1.00 one way. For women going to the market with their garden produce, the fare is K2.00 one way. K0.50 freight is charged on store cargo, and K2.00 on coffee bags. Hire within the Ramu sugar area is K100.00, while other areas are calculated by distance.

Retailing

There are currently three trade stores in Naiko, and only two are operating. One of the stores is not operating mainly due to transport difficulties. Store cargoes are carried on foot, and often the youth and women groups are hired to carry the cargoes. Currently, a packet of rice costs K3.00 and a small RD Diana Tuna costs K1.90. The estimated profit in one month is K200.00.

The Lutheran Development Services initiated a village financing scheme called 'Putim na Kisim' in Naiko. The scheme operates like a village bank. The members pay a K20.00 registration fee, then put their money, and if they borrow money, then the money is repaid with some interest depending on the amount. This scheme was started only in 2003, it has already 25 members, and 20 of those are women. The chairperson is Orogete Koi.

Social issues

The main social problems in Naiko include stealing and hold ups along the Gusap River, especially mothers and men who come back from the market or after selling their crops in Ramu Sugar town.

Other social problems include marital and sex- related problems such as adultery, divorce, and wife beating. Also common are disputes over land ownership and distribution due to the growing demand to use land for business activities such as growing coffee, vanilla and peanuts. Marijuana and homemade beer "Yava" is an increasing social problem in Naiko, especially among the youth population.

The process of dispute settlement follows established institutions in the village by village elders, church elders, councilor, village court Magistrate and committees in the village. When the problems/disputes are beyond the village level, especially for serious cases, the matters are referred to the higher courts- the District Court at Ramu Sugar or to the National Court in Madang Town. Otherwise, most of their disputes are settled through mediation at the village level.

In Naiko there has been no government official patrols since the 1980s. According to the people no officers from commerce, business development or social development has ever visited their place from the Madang Provincial government, except one or two officers from Morobe Province.

Based upon their entire social and economic situation, the Naiko people say they need the road. Some of the reasons they gave include:

- They have long awaited a road, since independence, and transportation remains a major hindrance to social and economic development in the Nahu-Rawa area;
- The old people have difficulty with, and the young are tired of, carrying crops and goods on foot up and down the mountains 3 to 4 hours to the nearest road;
- The people want to be exposed to other people, places, markets and ways of doing things;
- Women say they need a road to expand and improve on their existing socio-economic activities such as gardening, marketing crops, and organizing themselves in women and sports groups;
- The Biliau-Matoko-Ramu road on the Nahu-Rawa side will benefit people from both Madang and Morobe provinces, since it will run along the border of the two provinces.
-

Some of the recommendations made by the people from Naiko include:

- An awareness team should go into the area to prepare the people prior to road-building concerning problems associated with raskols, drugs, alcohol, migration and inter-marriages, as well as business activities;
- The people are ready to assist in any way to build the road; they are ready to remove whatever coffee trees, houses, and fruit trees that are standing along the proposed route, and will not claim compensation for any property that may be destroyed or damaged by the road.

K. MUNAMBE

Population

Munambe village is about two hours walk from Naiko village. It has a population of 165 people.

Clans

There are three clans including Naramore (whose leader is Bufunge Koyopa), Mungo (leader is Amba Soporio) and Benara (leader Ringi Mumbango). Munambe is in Ward 17. The village court magistrate is Gedeon Zukepa, and the village recorder is Aaron Itine.

Cash crops

Coffee, the major cash crop and source of income, cannot be sold due to difficulties with transportation and lack of access to suitable markets. There are about 16 000 to 20 000 coffee trees, as such each person has over 1000 coffee trees. There is only one coffee machine, but it is currently not operating. The villagers now use stones and other local technology to mill/pulp coffee. Vanilla is a newly introduced cash crop.

Markets

Gardening is a major economic activity, and most of vegetables are taken to the markets in Ramu Sugar Town and the Markham. A woman makes between K5.00 and K10.00 at the high end, and between K1.00 and K5.00 at the lower end

Health

There is no aid post at Munambe. However, people go to the nearest aidpost at Wavivi on the border of Morobe Province, a walk of about 4 hours. The common sicknesses in Munambe are to like that of Naiko: malaria, common cold and influenza, pneumonia, diarrhea, pigbel (swollen stomach), and pregnancy complications.

Education

The nearest school is Naiko community school, which is only five minutes walk from the village. Most of the children go to school, except for those who cannot afford the school fees.

Church

The people are Lutherans. There is a Lutheran Church in the village. The senior President is Pastor Bufunge. People have active participation in church activities.

Social groups

The social groups in Munambe include the Mama Group (chairperson is Yupemu Sesemo) , Nasa Sports Club (Chairperson is Thomas Wenduo).

Housing

In terms of housing, there is only one permanent house, while all houses are made of bush material. All households have pit toilets.

Water supply

The access to water is quite difficult, so the people in Munambe have used bamboo pipes to pipe the water all the way from the mountain to the village, a homemade water supply.

Retailing

Like in Naiko, there is very little cash flow in the village. There are two trade stores and both are operating. The goods are taken from Ramu Sugar. A packet of Roots rice cost K3.00.

The main social problems include marital and sex related problems, land disputes, sorcery and sometimes stealing. The major problems include lack of transportation, stealing, hold-ups along the road, and the inability to cross flooded rivers during heavy rains. Most of the other information is similar to that of Naiko village. In terms of the road project, all those interviewed stated that they need a road. Thus people are ready to prepare and support the government in building the road. The people stated that they would not claim for compensation for any thing that may be destroyed by the road development.

L. HARIMBE**Population**

Harimbe is located 3 hours walk from “First Gate” where road ends.

Harimbe has a population of 103 people. The number of men and women can not be determined. Harimbe people have migrated to the present location only in 1993, after the earthquake and flood disaster. The people originate from Butemu, Gumbrami, Moro and Dana areas up in the Finesterre Mountains. Harimbe is within ward 17. Milce Kusi is the Councilor. The magistrate is Bondenge Riona.

Clans

There is only one clan, Kumba Clan, which leader is Jenny Saki.

Cash crops

In terms of the economy, the main cash crop is coffee. Harimbe has 16 000 coffee trees. In a year, the village produces about 16 to 20 bags of coffee. When coffee prices are high, the growers earn K100.00 to K120.00 for each bag. However, they make K80.00 to K90.00 when prices are low. The overall sales in 2003 for Harimbe village totaled K15 000. 00. The main problems with coffee include lack of transport and lack of access to suitable markets. Vanilla is a newly introduced crop. The local economy is sustained by gardening, predominantly vegetables and fruits, which are produced for own

consumption and also sold in local markets in Ramu Town and at Markham. The other things sold include pigs, chickens, bandicoots and tree kangaroos. All pigs are sold for over K100.00.

Health

In terms of Health Services, Harimbe people go to Marambi aidpost. There is only one staff, and the aidpost is one-hour walk. Sometimes the people run out of supplies. The fees include K0.8 0 for tablets, and K1.00 for injection. The common sicknesses are similar to that of Naiko and Munambe. When the supplies run short, the people walk for 3 hours to the nearest road and from there find transport to Ramu Sugar Health centre.

Education

In terms of education, there are two community schools that the children attend. Masambu community school is one-hour walk, while Naiko community school is two hours walk. The school fees at Naiko were at K50.00 in 2003 for each student. While at Masambu, the fees were at K40.00 for each student. Many parents find it difficult to pay their school fees due to very low cash flow in the village.

Social groups

The Social Groups include a Youth group (its leader is Johanes Saki) and a Mama Group (whose leader is Ache Saki). The main problems in the village are similar to those experienced in Naiko and Munambe, and they are settled by committees, magistrates and elders.

Housing

All houses are made of bush material, like Naiko and Munambe. All households have toilets.

Water supply

The people have easy access to water, from a homemade water supply from bamboo pipes. The water is piped down to the village from the nearby mountain streams. While the nearest water is about 10 minutes walking distance.

Retailing

There is only one trade store, but it is not operating, mainly due to transport problems. Harimbe people have a simple village banking system 'Putim na Kisim'. The current savings amount to K900.00, and the chairperson is Gambi Saki.

M. WANIRU

Population

Waniru is two kilometers from Harimbe village. It has a population of 126 people. The Ward 17 Councilor is Mike Akus, and the Village Magistrate is Pontangu.

Clans

There is only one clan, Basaro Bongu is the clan leader.

Cash crops

In terms of the economy, the people have 2 530 coffee trees. During coffee season, each family can produce 9 to 10 bags. However, the main problems are similar to that of other villages previously mentioned. Like in other villages, the current status of the economy is maintained by gardening, especially vegetables and fruits.

Social groups

The social groups in Waniru include a youth group and a mama group. These groups are currently not operating, however, mainly due to internal problems, and also due to lack of support from the government, churches and other organizations.

Housing

All houses in Waniru are made of bush material, and all have toilets. The people have easy access to water, from a home. Made water supply made from bamboo pipes.

In terms of social problems, there are seldom instances of problems and disputes among the people. According to the village court magistrate, the youth planted some marijuana, but the leaders have forced them to destroy the plants, but he is not sure there could be more.

N. BUTEMU**Population**

Butemu is four hours walk from the nearest road at the First Gate settlement. It has a population of 526 people. Waniru clan has migrated to another location, and has developed into a new village (see above). All villages' officials are the same as Harimbe and Waniru.

Clans

There are four clans including Toroken (leader is Inus Nare), Saumi (leader is Ipai Manziu), Usekarapase (leader is Damengo Durio) and Waniru (leader is Basero Bongu).

Cash crops

In terms of the economy, coffee is the major cash crop. There are over 7 000 coffee trees. During the coffee season, a family can produce 9 to 10 bags. The whole village can produce over 200 bags in a year. The main problem is the lack of transportation, and lack of access to suitable markets. Vanilla remains a newly introduced cash crop. Only six people planted vanilla, currently there are an estimated 500 vanilla sticks.

Markets

Much of the economy is currently supported by gardening, mainly vegetables and fruits. So the women take their produce to the markets in Ramu Sugar town and in Markham. The local economy in Butemu is mainly dependent on subsistence gardening, mainly vegetables and fruits – cabbages, onions, potatoes, peanuts, cucumbers, bananas, oranges, and other locally produced garden food. There is one person growing eleven (11) apple trees. People also sell domesticated animals such as pigs, chicken and tree Kangaroos.

Social groups

The groups in Butemu include a youth group, a sports club, and a mama group. The only group currently operating is the sports club. The chairperson is Alex Akebe. Other groups are not operating due to problems within, as well as lack of support from government, churches and other organizations.

Housing

There are three permanent houses, while all others are made of bush material. All households have toilets.

Retailing

There are three trade stores, all of them are not operating. Likewise in Butemu, there is a bottleshop but it is not operating. That is mainly due to lack of transportation, and increase in wholesale prices.

Recommendations

Everyone interviewed stated that all the people need the road, and that they are willing to assist the government in its introduction. They also said they would not claim any compensation for any damages done to their property or land as the result of the road's development.

The people further recommended an awareness team be sent to prepare the people about the problems associated with the road prior to the actual construction. The government should arrange for the saw-mill to cut down and saw whatever timber that will be destroyed by the road, so to ensure the trees are not wasted.

O. GUBRAMI, MORO AND DANA**Population**

Gumbrami, Moro and Dana villages are in Ward 19. The Ward Councilor is Bondo Gawa. The village recorder is Bagate Bondo. There are two village court magistrates serving these villages, Rewo Ronare and Awi Simon. These villages have a total population of 688 people.

Clans

Gumbrami has two clans. Gumbrami clan (leader is Raune Wikepe), and Haika clan (leader is Honenzakia Wandau). Moro has two clans including Moro (leader is Bafinuo), and Sonokate (leader is Gurunonge Kokone). Dana has the only Dana clan (leader John Muyunge).

Cash crops

The cash economy is sustained by coffee as the main cash crop. In all of the three villages, there are a total of 37 000 coffee trees. Each family produces about 7 to 11 bags during coffee season. Coffee is mainly transported on foot, which take about two days to Ramu Sugar town. The people have also arranged with the coffee buyers in Kainantu who charter planes to Gumbrami to buy coffee. There are 11 coffee machines in total in all the three villages, and all are operating well.

Apple was a recently introduced fruit crop, namely the councilor Bondo Gawa's own initiative. He planted apples just for a trial, and now he has 1200 apple trees. There are no markets yet identified for the apples. The red juicy fruits are quite large as compared to the ones sold in supermarkets in Madang town. To date there have not been any assistance from the government officers to assist in farming and marketing of the apples.

Markets

The economy is mainly based on subsistence farming of vegetables and fruits, some of these are sold in markets in Ramu Sugar and in Markham.

Health

In terms of health services, there are two aid posts, one in Gumbrami and the other in Moro. Both have one staff each. The Lutheran church runs the one in Gumbrami, while the government runs the other in Moro. The outpatient fees for those not registered are K2.00, and K0.30 for those registered. The supplies in these aidposts run out most of the time, due to difficulties with transportation and finances. The common sicknesses in these villages include malaria, cold and influenza, pneumonia, pigbel, and pregnancy complications.

Education

In terms of schools, there is one community school, Gumose community school. It has grades one to six. In 2003 there were only two teachers. Children from Dana walk three hours to school, while children from Moro walk about two hours. The school is at Gumbrami village. The main problem is with transportation, especially difficulty in accessing roads. The school fees for 2003 were at K40, which not all parents were able to meet due to very low cash flow in the village. Thus, many children do not go to school. The local communities are very supportive of the school, such as building classrooms and clearing the school grounds and keeping it clean.

There are also tokples schools in all the villages, which were stated in 1999, as an initiative of the Summer Institute of Linguistics based in the area. The other activities by the SIL include language translation, building of the airstrip in 1984, and a proposed building of the Training Centre.

Church

There are four churches in these villages including Lutherans (majority), Evangelical Bible Church, Baptist and Church of Christ. The Lutheran church elders include Konoyu Nusisi (Gumbrami), Tiepe Bafinuo (Moro) and Muroro (Dana). The Baptist church elder is Sesino Buiwe (Moro). The Church of Christ elders are Ninipero Kunzi (Gumbrami), and Moinbanu Fuane (Moro). The people actively participate in church activities.

Social groups

In terms of groups, each village has a mama group. Gumbrami has four youth groups, two each for men and women. Moro has three groups, one for the women and two for the men. Dana has one youth group. There are ten sports clubs in all these villages. Gumbrami has four, Dana has two and Moro has four. There are two sports fields, one at

Gumbrami and the other at Moro. The sports people are usually engaged in are soccer and basket. The sports coordinator is Boni Rawa.

Transportation

These villages are located right on the foot of Mount Abilala. The temperatures are quite low, at 8 to 10 degrees. The mountains are covered with mist and fog most of the time.

The current foot roads to these villages are quite dangerous, especially for the new comers and for those carrying heavy loads. There are roughly two major tracks, one goes through the mountains through Butemu village. This route takes one-day walk from the main highway at Ramu Sugar.

At the head waters of Gusap River, the terrain is very rugged, so the current track goes through some of the dangerous areas, such as deep and steep clips, deep dark trenches, which people walk or climb through wooden bridges. Some of these areas have bare rocks that a passer-by has to carefully from one end to another. The research team has to turn back at one of these spots.

The other track follows the Gusap River. This route is one-day walk from the nearest road in Ramu Sugar. This route is quite dangerous. It goes through some areas where the people walk or crawl along rocks and stones, and across very small wooden bridges across the Gusap River. The river is quite big with strong regular currents. While we were at Butemu, a young man dislocated his shoulder while trying to build a bridge across the river. While the village recorder of Gumbrami was nearly drowned trying to swim across.

At Gumbrami, there is an airstrip built in 1984, and it is still being used today. The airstrip is in good condition, and it is looked after by the Ward 19 councilor. As such the airstrip is normally cleared during community days. Flights are done normally on charters, especially by the Summer Institute of Linguistics based at Gumbrami. The freight charge is K0. 90 per kilo to Ramu Sugar Town, and the airfares to Ramu at K91.00. Now trade store cargoes are carried on foot all the way from the nearest road in Ramu Sugar, and youth groups are hired for K200.00 to carry cargoes.

Housing

Moro has two permanent houses, and Gumbrami has five permanent houses. While all of the other houses are made of bush materials.

Communications

There are three two-way radios, one is at Gumbrami, the other is at Moro and other is at the SIL centre.

Retailing

There are six trade stores, all operating, four in Gumbrami and two in Moro. A packet of one-kilogram Roots rice is sold for K3.70, and a big Besta tin costs K5.00. The goods traded in stores are mainly cheap low quality goods. The problems with trade stores

include transport difficulties, low customer demand, and very high prices according to rural standards.

There is one mobile chain saw operating in the area, and it was hired in by the Lutheran Health Services to build a sub-health centre at Gumbrami.

According to the councilor, a community development scheme project proposal for a mini-hydro is only in the process of being funded. That will supply power to the villages, the health centre, school and to the SIL linguist in Gumose station.

P. SEWE

Population

Sewe is a big village with a population of 560 people. The village is in ward 20 and the councilor is Jack Dawa.

Cash crops

There are an estimated 46 000 coffee trees.

Health

The nearest aidpost is also three hours walk to Gumose.

Education

The nearest school is three hours walk to Gumose.

Retailing

There are five trade stores, all operations are on and off.

IX. TOPOGRAPHICAL CONSIDERATIONS

There are topographical constraints to the route the road must take, especially in the rugged pass between Gumbrami, in the Nahu Rawa Division, and Kumburungu-Funeyende, on the Rai Coast side. Villagers on both sides have been clearing and widening a track for the engineers and surveyors expected to come. Some, however, believe the crossing of Mt. Abilala's steep peak will be impractical, and suggest that a detour be plotted west of the Yangda River. Further down toward the Rai Coast, the issue is not so much steepness of terrain as it is river crossings, and the need for bridges. Clearly, the hope would be to keep bridge construction to a minimum, and with this in mind, many villagers have suggested that moving the route west of the Mave River more, toward Reite, would be a reasonable alternative. They also suggest an alternate road from Singon to Matoko to Ramu Sugar.

X. ANALYSIS OF THE DATA

Current social constraints:

- Lack of teachers
- Lack of school materials
- Lack of school fees

- Low staff performance
- Poor community participation in school
- Difficult terrain for walking
- High cost of sea and road/carrier transport
- Irregular aid post supplies
- Lack of health workers
- Insufficient number of aid posts
- Theft of medical supplies
- Church participation moderate
- Lack of government support for social groups
- Low cash flow throughout the entire area
- Few markets
- Lack of market access
- Lack of competition
- Insufficient human resources, skills

Possible negative impacts of the road:

- Increased security risks
- Increased marital and domestic problems
- Traffic problems
- Increase church denominational divisions
- Immigration into the area
- Destruction of physical environment
- Land disputes
- Loss of traditional values
- Introduction of diseases, STDs, AIDs
- Introduction of prostitution, drugs, yawa
- Relocation costs

Possible positive impacts of the road:

- Better access to markets
- More markets
- Increased production of goods
- Increased cash flow
- Local and outside investment, retail and manufacturing
- Increased competition
- Elevated skill base
- More materials for improved water supply and general standard of living
- Possible new schools and clinics
- Improved attendance in school
- More cash for school fees
- Better access to schools, more teachers
- Decreased rural-urban drift
- Improved supplies to aid posts

- More aid post workers
- Improved church facilities, and attendance
- Strengthened social groups

RAI COAST DIVISION

Rai Coast Community Meetings' Views on the Proposed Road

Everyone interviewed stated that all the people need the road, and that they are willing to assist the government in its introduction. They also said they would not claim any compensation for any damages done to their property or land as the result of the road's development.

Analysis

For the Nahu-Rawa Division, the impact of this project is almost entirely beneficial. Notwithstanding the hidden benefits of living in isolation (mainly having to do with a conservation of traditional culture), the need for a link to the rest of Madang Province, to the Ramu Sugar markets and Morobe Province, is overwhelming. There is a real danger in allowing isolated communities like these to remain outside the communicative and material changes taking place throughout the rest of the province (not to mention the country). It is in remote, under-administered and under-funded locations like these that foreign investors, timber and resource 'pirates,' find their most receptive audiences. Everywhere basic services have been denied—for lack of access---people are more than willing to sell up their birthright for quick cash. More importantly, it is in these remote places that corruption and antisociality breeds best, away from the watchful eye of media or the law. This is where young people are more likely to grow marijuana, distil home brew, establish a level of lawlessness that survives unpunished, and generally cow their elders into wholly uncustomary forms of social control. In weighing the social costs, therefore, that places like Biliau may suffer with this road, we must add the festering costs of isolation that Nahu-Rawa continues to pay. Not only is their potential economic and social pay-off to be greater, but the cost to the entire province is perhaps much higher if this projects does not eventuate and the area is left in isolation.

Recommendations

1. The people recommend an awareness team be sent to prepare the people about the problems associated with the road prior to the actual construction.
2. The government should arrange for the saw-mill to cut down and saw whatever timber that will be destroyed by the road, so to ensure the trees are not wasted.
3. One or more police stations should be established along the road, at Biliau and/or Matoko.
4. Portions of the road may need to be moved westward, closer to Sorang/Reite; they also suggest an alternate road from Singon to Matoko to Ramu Sugar.
5. A land tenure study should be commissioned prior to surveying or construction.
6. The survey team must work closely with landowners.
7. Villagers who need to relocate should have government assistance.
8. Community policing should be introduced by local leaders.
9. Local people should be sponsored through school as teachers and health workers, to ensure their permanent residency in the area.

10. LLG Development plans should be drawn in light of the new access to be gained to other parts of the province.

NAHU-RAWA DIVISION

Nahu-Rawa Community Meetings' Views on the Proposed Road

1. The people in the area are aware the proposed road would have both positive and negative impacts. However, they desperately need it, and in their judgement the possible positive impacts of the road outweigh the possible negative impacts. They see that the construction of the road would alleviate most of the social and economic problems in the area.
2. Prior to the construction of the road, they suggest, there should be plenty of community organization so as to get the maximum benefit of the road.
3. As with any development, they are also aware of the environmental destruction the road may cause. They see that the destruction that caused by the road would not be as bad as other development projects.
4. All the people whose lands the road would go through would cooperate in all possible ways to see the road gets made. They also made it clear that they would not demand compensation at all since road is a great requirement.
5. Villagers are also aware that any problems the road would bring would be the responsibility of both the local people and the government to address.
6. All the people who attended the meeting and whom we spoke were very supportive of the road construction. None opposed the proposal.
7. The people on both sides of the two provincial borders, of Madang and Morobe, would work cooperatively to see that the plan goes through.

Analysis

1. The road on the Nahu side would go through more rugged terrain than the Biliau-Matoko side, where the road would be built along the ridge. It will require engineering and the planning of several bridges before the construction could begin.

1. Some years back, a feeder road was built by the Provincial Government, from the main highway to Munambe village. Unfortunately that road was washed out by floods in 1993, the same floods that washed away the Gusap bridge on the main highway. The new proposed road would go through an area where landslides occurred in the same year, causing plenty of relocation and disruption in the villages. It is our opinion that this would be quite risky, not to mention costly. It would also be likely that the construction of the road would cause similar natural disaster. To avoid that should there be any other chances of redirecting the road.

2. The number of coffee trees grown in the area is more a hundred thousand if the figures given to us are quite exact. Unfortunately, it is sad to see that most of these coffees are not sold because of the transportation problem. The construction of the road should in many ways alleviate this problem and thus it would boost the rural economy. They are eligible starting up a company engage in the business with the support from the government.

3. There is a potential that apple would contribute towards sustaining the local economy. There is about a total of 1,200 trees growing and it is promising that the produce would be of high yield. Support in terms of expertise and technology from outside would see to the full development of the project. It is already attracting the surrounding villages and it would be added to the list with coffee and vanilla as the primary sources of cash income. The people of Matoko on the other side of Finisther are also interested in the project.
4. There seem to no politics regarding the road since everyone in the area has long waited for such a development. If it is built they would get maximum benefit out of the development. The problems the road would bring about should not be a problem since they are already talking about it and finding possible ways how to go about handling these problems.
5. The people of that part of Rai Coast have access to the main highway linking the main centers like Lae, Madang, Goroka and other Highlands centers despite the fact that they walk for Sereral hours prior to reaching it. The fact that Ramu Sugar's townships about 45 minutes drive from where the feeder road is accessible they are able to get/buy the necessities like soap, kerosene etc...more cheaply in terms of time and money.

Recommendations

1. Security should be provided by the government. There should be highway patrols by the police.
2. An awareness team to carry out awareness on the possible impacts of the road.
3. The survey team and the company constructing the road should work closely with the landowners.
4. Community policing should be introduced and empowered by the government.
5. Morobe Provincial Government should commit some funds towards the road construction since the villages along side the border would directly benefit should the road be built.

XI. THE POTENTIAL IMPACT OF A BILIAU-RAMU ROAD

A. Social implications

There are significant social risks involved in the construction of a roadway from Ramu Sugar on the Madang-Lae highway all the way through to the coastal village of Biliau on the Rai Coast. At the Rai Coast end, villages all fear the in-migration of Morobeen and Highlands peoples who will dominate their markets and perhaps even move into their land. A pacific and generous people, the Rai Coast communities are all too aware that they will be less likely to resist than to accommodate the outsiders, following an ethos of hospitality that runs deep here. The door open to outsiders will also mean gradual erosion of traditional values, the increase of inter-marriages, and a rise of lawless and/or anti-social activity. What will the next generation be like? How will customs survive? they wonder. There is no way to know, really. But much of the projected detrimental effects may be offset by the benefits that will surely come from having a greater cash flow and

easier access to markets with the road. It is true that isolation tends to reinforce customary values, and that the cash economy often erodes them. But what is also true is that an uneven or insufficient involvement in the cash economy can do at least as much harm to traditional values as a surfeit of money and development. When parents cannot pay school fees, and young people have no career options; when women die in childbirth and babies remain un-immunized; when families invest hundreds of hours and divert subsistence gardens to raise cash crops that will die on the vine; when a small minority of villagers get rich from vanilla and the rest get nothing; when young women have fewer and fewer marriage options; and when mothers carry the burden of household expenses by selling garden produce and neglecting their own gardens---this is when cultural values suffer most. With the promise of vanilla plants coming to fruit in the next couple of years, and the guaranteed markets that will open up with the introduction of this road, all these communities will enjoy a healthy injection of cash. And with this injection will come the revitalization of custom along with the introduction of new ways. Harvest feasts will be made, bride prices paid, affinal and mortuary payments made—along with new trade stores, radios, secondhand clothes, a better diet, better medical care, new teachers and classrooms, and so forth. It is hard to weigh the social costs and benefits into anything near a balance---all the benefits far outweigh the costs here.

B. Cultural implications

Culture is not preserved in desperation, and a healthy standard of living is the best guarantee that a people's values and mores will be passed from one generation to the next. If anything, the economic security promised by this road is a guarantee of cultural conservation in both the Rai Coast and Nahu-Rawa Census Divisions.

C. Economic implications

The greatest benefit posed by the road project is economic: with transport will come markets, human resources, medical and educational supplies, and a level of cash that has not been seen before. After the rush of vanilla profits, expected in the next few years, this cash flow should normalize into a steady and prosperous foundation for Rai Coast and Nahu Rawa peoples, allowing them to enjoy the pleasures of rural life with many of the conveniences of town life as well.

D. Political implications

The primary political effect of this road will be the integration of these remote areas of Madang Province into the greater provincial and national body politic. In Nahu Rawa especially, where communities are overshadowed by Morobe and Highlands neighbours, villagers will enjoy greater autonomy and the additional support of Saidor and Madang town administration. They will, for the first time, be able to host regular visits from their LLG and provincial representatives, to whom they can voice their concerns and direct representation at the provincial and national government level.

E. Environmental implications

While the environmental implications of this project fall outside our area of expertise, it should be noted that nowhere will this road enter primary rainforest or disturb the habitat of endangered flora or fauna in the province. Even across the treacherous Mt. Abilala pass,

there are well-established footpaths already, and villagers at both sides of the mountaintop have cut already-familiar tracks in anticipation of the road to come. Further down both sides of the mountain, there are already disused feeder roads and well-tred walking paths on the route expected to be taken. Villagers throughout are in agreement about allowing this road to enter their community boundaries, and nowhere will it be diverted to deep bush. The expected environmental impact is therefore minimal.

XII. INTERPRETATION OF DATA

RAI COAST DIVISION

The Rai Coast Division villages that would be directly effected by road construction exhibit a continuum of need—from moderate to extreme, running from the coast to the inland heights. While the coastal villages of Biliau, Warai and Teterai, for examples, have their own development needs, and these are not to be downplayed, they are not the same kind or Sererity as those experienced by the inland villages of, for example, Matoko, Feneyende and Kumburungu. The inland villages suffer most from their isolation, and virtually all their needs follow from the lack of transport to and from their communities and the provincial centres of Saidor and Madang town. Our survey attests most firmly to the close correlation of transport and development: proving that a lack of transport alone can deprive communities of a full range of infrastructural, medical, educational and economic base requirements. The farther you are from a road, the more underdeveloped your village will be. Furthermore, the farther you are from a road, the lower your cash flow, and the greater your expected gain from a road construction project. Thus, it is not surprising that the coastal village of Biliau is where we recorded the strongest reservations about the road. This is where people feel they have the most to lose, where they least require a road link to towns, and where they foresee the most limited benefits from the project. These are valid reservations, and may well be borne out by the project in time. But they do not reflect a range of long-term and indirect benefits that will certainly accrue to Biliau, along with all other villages along the projected road route. These include the introduction of new ideas and technologies, the increased entrepreneurial opportunities, the flow of foodstuffs from across the Finesterres, and the improved educational and medical resources that are guaranteed to come with the new road.

NAHU-RAWA DIVISION

For the Nahu-Rawa Division, the impact of this project is almost entirely beneficial. Notwithstanding the hidden benefits of living in isolation (mainly having to do with a conservation of traditional culture), the need for a link to the rest of Madang Province, to the Ramu Sugar markets and Morobe Province, is overwhelming. There is a real danger in allowing isolated communities like these to remain outside the communicative and material changes taking place throughout the rest of the province (not to mention the country). It is in remote, under-administered and under-funded locations like these that foreign investors, timber and resource ‘pirates,’ find their most receptive audiences. Everywhere basic services have been denied—for lack of access---people are more than willing to sell up their birthright for quick cash. More importantly, it is in these remote places that corruption and antisociality breeds best, away from the watchful eye of media or the law. This is where young people are more likely to grow marijuana, distil home

brew, establish a level of lawlessness that survives unpunished, and generally cow their elders into wholly uncustomary forms of social control. In weighing the social costs, therefore, that places like Biliau may suffer with this road, we must add the festering costs of isolation that Nahu-Rawa continues to pay. Not only is their potential economic and social pay-off to be greater, but the cost to the entire province is perhaps much higher if this projects does not eventuate and the area is left in isolation.

XIII. SUMMARY AND CONCLUSION

The Rai Coast and the Nahu Rawa Districts are very separate and different environments, socially, geographically and economically. While the entire Rai Coast is remote and disconnected from the provincial centre of Madang, there is a much greater need for communication and transport upgrading on the south side, or Nahu Rawa side, of the Finisterre Range, and in particular, of Mt. Abilala. If, for no other reason, than to bring these communities into the provincial fold and provide the political access they deserve, this road is vitally important. Virtually no one on that side of the Range objects to this road, and everyone will dramatically benefit from its construction. Whatever objections to its construction that exist to the road on the Rai Coast side of the project area rise incrementally toward the coast, to the relatively accessible and fortunate village of Biliau at the coast. It is in Biliau that people fear the loss of autonomy and safety most of all. Due to their location, they have less to gain, and therefore see the social costs as greater. Villagers want a road, but would prefer it end in Matoko, so as to prevent migration of people and crime into the area and the exodus of their land and meager incomes in the other direction.

In general, however, the economic impact of this road is potentially enormous. Both sides of Mt. Abilala have suffered from dashed hopes and wasted investments of time and labor in a series of cash crops that never found their way to market. Indeed, the ripple effect of these disappointments is considerable. The human costs of carrying enormous weights of vegetables, coffee, cocoa and whatever else is brought to market over rough terrain and many hours of walking, is inestimable. Aid posts all note body aches as a major complaint, but what is not recorded, perhaps, is the higher mortality rate of a population that must endure these burdens, and the lower birth and higher infant mortality figures that may also result.

In the Rai Coast region, lack of transport has been the cause for failed coffee, cocoa and rice projects that can never be brought to market. Sales of garden produce at the village markets, which remain the basis of family cash income, are at a depressed standstill for lack of customers and competition. Their ability of women to send their produce from the interior to the coast, and from the coast to Madang, is the linchpin to the region's economic stability. Only when this becomes possible, will there be enough cash income for school fees, aid post fees, trade stores and small retail and manufacturing projects. On the Nahu-Rawa side of the Range, women's markets are also stymied by their isolation. Where there are customers, down at Ramu Sugar and its surrounding markets, there is also extreme competition from Highlands settlers and their garden produce, in particular, peanuts.

But it is vanilla that has revolutionized the Rai Coast economy. Injecting as much as K30,000 (or more) into individual households, creating consumerism from subsistence farming, and providing the stability for extended relations to send their kids to school, to visit the aid posts, and in general maintain their standard of living during a cash crop crisis—when it is no longer worthwhile to pick or transport coffee, a major Rai Coast crop, to market—vanilla is the godsend of today’s Rai Coast. It’s success relies, not coincidentally, on the fact that it bypasses all the major handicaps of cash cropping in the region: so light, so easily transportable, it does not rely on vehicles, innumerable carriers, and/or the soaring price of fuel. It makes its way to market more often than not in one container with more than one bodyguard, as precious a cargo as gold nuggets or uranium.

Using rough calculations of population, cash crop prices, transport costs, market sales and so forth, we have been able to estimate the 2003 average household income for the twelve villages on the Rai Coast side of the project to be K1792. This represents an averaged income across these villages, some of which have sold vanilla this year and some not, minus an averaged household expenses of K750. Were these villages able to sell their most important cash crop, coffee, the average household income would be K2673. Were these villages able to transport and sell all their cocoa, coffee copra and betelnut, it might well be double this figure. Add to that the income soon to be generated from ripened vanilla vines in the next two to three years, and the cash potential locked in this remote region is considerable. The operative word here is ‘locked,’ because this is precisely how the economic potential of these villages must be viewed, so long as cash crops and human resources cannot be transported to markets, and basic medical and educational supplies and services cannot make their way to the villages. Unlocking this potential depends entirely upon the construction of this road.

The road is necessary for the present and future economy of the area. At present, while people rely heavily on gardening, fishing and hunting to survive, this semi-traditional way of life still requires cash. It is necessary for school fees, health care, transport, clothing, and basic household needs. And it is also necessary for custom: for death ceremonies, compensation. Claims, and brideprice—which runs from K1500-2500 in the area. Polygamy is also customary, which puts additional strains on a household income.

When the road is established, household income is estimated to jump 150% by the sale of coffee alone. With the additional sale of vanilla, when the area’s vines come into fruit, this income will rise at least 550%, to a (very conservative) estimate of K10,000 per annum. With this amount of cash moving through the villages, long-defunct trade stores will be able to re-open, and all the kakaruk, kerosene and piggery projects will have the chance to thrive again. Vehicles will eventually join the transport businesses, as will more motorboats, and perhaps even another provincial shipping vessel, to supply increasing demand. There will be roadside markets and customers for a wider range of garden and small-scale manufacturing goods, like homemade clothing and baked goods. Supplies will reach the aid posts sooner, and the movement of materials from Madang and Morobe into the area will make it possible for construction of all kinds, from kit houses to meeting halls, churches, water projects, school buildings and health centres.

Villages will soon get generator sets and enjoy electricity, allowing stores and cottage businesses to work longer hours, earn more money, and so forth. Indeed, the snowballing effects of a new road and the income from vanilla promises to jolt the Rai Coast into a prosperous twenty-first century. Ideally, Rai Coast villagers will be able to enjoy the mobility and entrepreneurial freedom that makes village life in Papua New Guinea amongst the best in the world: still dedicated to gardens and customary social routines, able to generate enough cash to enjoy basic comforts, send children to school, get medical care when needed, draw clean water and sit by lamps at night, villagers will have the best of both worlds. More importantly, they will overcome the daily struggle just to get by. Children will be immunized, babies will be born healthy to healthy mothers, schools will have teachers, books and desks, mothers will have cash to pay school fees, husbands and fathers will have trucks and motorboats, crops for market, and money to fulfill affinal obligations. Rather than undermining traditional values, a steady and sufficient stream of cash afforded by opening up markets to transport can revivify the culture of Rai Coast, and guarantee that mortuary ceremonies are performed appropriately, bride price is paid, feasts are organized and young men have the incentive to stay in the village, marry close to home and raise the next generation on family land. We project a 150% increase in household income *at the minimum* with the new road, and a 550% increase when local vanilla hits the market. Added to this are the unquantifiable quality of life gains in medicine, education, housing, church and worship, sports and Mama Groups. New crops will be planted for market and consumption, boosting the nutritional value of the local diet and suppressing sickness caused and exacerbated by malnutrition. The arthritis, muscle and joint pain and bruising, that comes from long walks to and from market will be reduced, as will the terrible risks of women and children traveling treacherous and ill-graded mountain roads.

The reverberated effects of this road project will reach Madang town as well as the Ramu Sugar and Morobeen border on the Nahu-Rawa side of the Finisterres. But, whereas the Rai Coast region will enjoy prosperity, it is important to remember the Nahu-Rawa region will be the real beneficiary---finally receiving the basic communications, materials and emergency services virtually all other districts in the province take for granted. It is the Nahu-Rawa people who will be catapulted the greater distance, from an unserviceable mountain backwater to a viable and connected contributor to the provincial economy. They will now be able to market their peanuts, apples, and cold-weather vegetables in the Rai Coast markets, where they will no longer be swamped by Highlands competition but provide the much-needed variations from the coastal garden produce. Coffee can make its way from the far side of the range out to Madang, and the Nahu-Rawa planters can begin to add cash crops, like vanilla, to their gardens, with the confidence that these will make it to market.

We cannot ignore the possible negative impacts of building this road, and throughout the patrol villagers were conscious of these dangers. The idea of a highway calls to mind images of Highlanders and Morobeens flooding into the area and muscling out local trade stores and business enterprises, even pressuring vulnerable villagers to sell/rent their land to these strangers. Worse yet are the fears of raskalism entering through the back door—of a gradual loss of security for all the women on the north side of the Finisterre, a time

when people will have to lock their doors and young girls will not be able to walk the roads freely. Even on a more benign scale, there are worries that outsiders will come to dominate the local markets with their produce, wiping out the gains Rai Coast women expected to enjoy with the new road. These are very real considerations, and not to be taken lightly. But there are a number of reasons *not* to be so greatly alarmed. First, the road over the Mt. Abilala pass is going to be a difficult and rough connection, hardly the ‘highway’ of people’s imagination. Certainly there will be cargo and passenger vehicles traveling it regularly. But the idea that people would journey across this pass for a lark, or for a day trip to the market, is unrealistic. Short of an enormous infusion of aid money, the road will remain a basic emergency route for some time, not a multiple-line highway. It will offer a lifeline to the remote people of both sides, and no easy entry to wandering raskal gangs. Villagers along the Rai Coast side of the divide would prefer, of course, that their road stop at Matoko, and not crest the pass. For safety’s sake, they would prefer the benefits of mobility to be contained within the province. But to ignore the greater need of Madang peoples living on the far side of the ridgetop, where there is virtually no direct connection to Saidor or Madang, and where dangerous footpaths are their only link to the rest of the province, would be to violate the best intentions of the project as well as undermine some of the real benefits for both sides of the Finesterres. A major benefit for Rai Coast people will be the introduction of highlands produce into their markets, where they will be sold without competition from highlands producers and be of real nutritional value to villagers. By the same token, yams, taro, tulip and fruits from the Rai Coast will make their way into the Nahu-Rawa markets and add diversity to their diets as well.

Some of the suggestions made by villagers in both regions are important to heed, and have become part of our recommendations here. Police posts should be established at more than one point along the road. The lurking problems of marijuana and home-brew, which exist in the most remote villages on both sides of the range, will be diffused by the bright lights of law enforcement. Road blocks and anti-social activity that flourishes in isolation will have no chance to establish themselves. Church leaders should be encouraged to strengthen social group activities, especially Youth Groups, before the road opens; and Mama Groups and Sports Groups should all be assisted as a way of reinforcing community bonds before the road opens. A study should be made that focuses on land tenure in all the villages to be effected, so that, in the future, should migration become a problem, these details are on record. Ward Members and local leaders must draft clear development programs so that change does not occur haphazardly, and money is wasted on matters of low priority—like taverns or gambling clubs.

It is some measure of the neglect these communities have long felt—and the disappointments they have experienced in raising cash crops that never get to market—that virtually everywhere on our patrols villagers acknowledged the risks of bringing in a road, but agreed, without hesitation, that the benefits will far outweigh them. We commend the villages all along the proposed route for their courage in taking on the risks and embracing the responsibilities of living beside this road. They know they will be the first to pay a social price as well as the first to benefit from the project. But the lack of a road has left them in a development purgatory that has far greater long-term costs. Everyone now looks forward to the new road.

XIV. RECOMMENDATIONS

Everyone interviewed stated that all the people need the road, and that they are willing to assist the government in its introduction. They also said they would not claim any compensation for any damages done to their property or land as the result of the road's development.

- The people recommend an awareness team be sent to prepare the people about the problems associated with the road prior to the actual construction.
- The government should arrange for the saw-mill to cut down and saw whatever timber that will be destroyed by the road, so to ensure the trees are not wasted.
- One or more police stations should be established along the road, at Biliau and/or Matoko.
- Community policing should be introduced and empowered by the government.
- Portions of the road may need to be moved westward, closer to Sorang/Reite; they also suggest an alternate road from Singon to Matoko to Ramu Sugar.
- A land tenure study should be commissioned prior to surveying or construction.
- The survey team must work closely with landowners.
- Villagers who need to relocate should have government assistance.
- Community policing should be introduced by local leaders.
- Local people should be sponsored through school as teachers and health workers, to ensure their permanent residency in the area.
- LLG Development plans should be drawn in light of the new access to be gained to other parts of the province.
- Morobe Provincial Government should commit some funds towards the road construction since the villages along side the border would directly benefit should the road be built.
- Feeder roads to Matoko should be rehabilitated and maintained. People would also like to see small jetties built at the coast and bridges on the feeder roads.

XV. BIBLIOGRAPHY

- Blong, R. J. 1982 *The Time of Darkness*. Canberra: Australian National University Press.
- Burridge, K. 1954 *Cargo Cult Activity in Tangu*. *Oceania* 24:241-254.
- 1960 *Mambu: A Study of Melanesian Cargo Movements and Their Ideological Background*. London: Methuen.
- 1967 *Social Implications of Some Tangu Myths*. In *Myth and Cosmos: Readings in Mythology and Symbolism*, ed. John Middleton, 27-46. New York: Natural History Press.
- 1969 *Tangu Traditions*. Oxford: Oxford University Press.
- Counts, David R. n.d. *Namor from Arop*. Unpublished Tok Pisin transcript, told by Aisapo of Kilenge.
- Counts, Dorothy A. 1978 *Christianity in Kaliai: Response to Missionization*. In *Mission, Church, and Sect in Oceania*, ed. S. Boutilier, S. Tiffany, and D. Hughes, 355-394. Ann Arbor: University of Michigan Press.
- 1980 *Fighting Back Is Not the Way: Suicide and the Women of Kaliai*. *American Ethnologist* 7 (2): 332-351.
- Counts, Dorothy A., and David R. Counts. 1974 *The Kaliai Lupunga: Disputing in the Public Forum*. In *Contention and Dispute: Aspects of Law and Social Control in Melanesia*, ed. A. L. Epstein, 113-151. Canberra: Australian National University Press.
- 1976 *Apprehension in the Backwaters*. *Oceania* 46:283-305.
- Finsch, O. 1996. *Archipelago of the Contented People, Madang (Freidrich Wilhelmshafen) in 1884* (trans.) Christine Harding. Madang: Kristen Press.
- Fortes, M. 1984. 'Foreword.' In *The Garia* by P. Lawrence. Melbourne: Melbourne University Press.
- Hannemann, E. F. 1948 *Le culte de cargo en Nouvelle-Guinée*. *Le Monde Non-Chrétien* 8:937-962.
- 1949 *Village Life and Social Change in Madang Society*. Typescript. Copy stamped "Bibliothek des Museum für Völkerkunde, Basel" in possession of Thomas G. Harding, Santa Barbara, California.
- Harding, T.G. 1967. *Voyagers of the Vitiaz Strait: A Study of a New Guinea Trade System*. Seattle: University of Washington Press.
- , 1985. *Kunai Men: Horticultural Systems of a Papua New Guinea Society*. (University of California Publications in Anthropology, 16). Berkeley and Los Angeles, California: University of California Press.
- Harding, T.G., Counts, D.R. and Pomponio, A. 1994. 'Introduction'. In 'Children of Kilobob.' *Pacific Studies* 17 (Special Issue No.4) December 1994.
- Hermann, E. 1992. 'The Yali Movement in Retrospect: Rewriting History, Redefining "Cargo Cult".' *Oceania* 63 (Special Issue [1]): 55-71.
- Kristen Pres. 1996. *The Story of Kain, Friend of Maclay*. Madang: Kristen Pres.
- Lawrence, P. 1955. *Land Tenure among the Garia*. (The Traditional System of a New Guinea People.) *Social Science Monographs*, No.4. Canberra: Australian National University.

- 1964. Road Belong Cargo. Melbourne: Oxford University Press.
- 1965. 'The Ngaing of the Rai Coast.' In *Gods, Ghosts and Men in Melanesia*, (eds) P. Lawrence and M. Meggitt. Melbourne: Oxford University Press.
- 1967 (1955), 'Land Tenure among the Garia.' In *Studies in New Guinea Land Tenure*, (eds) P. Lawrence and I. Hogbin. Sydney: Sydney University Press.
- 1970. The widening political arena in the Southern Madang District. In *Politics of Melanesia; Papers Presented at the 4th Waigani Seminar, Port Moresby, May 9-15*. Ed, Marion Ward, Port Moresby: University of PNG and ANU, pp 85-99.
- 1984. *The Garia. The Ethnography of a Traditional Cosmological System in Papua New Guinea*. Singapore: Melbourne University Press.
- Lawrence, P. and Hogbin, I. (eds) 1967. *Studies in New Guinea Land Tenure. Three Papers by Ian Hogbin and Peter Lawrence*. Sydney: Sydney University Press.
- Leach, E.R. 1956. 'Review of Lawrence (1955).' *Man* 56 (32).
- Leach, James. 2—2. *Creative Land*. New York and Oxford: Berghahn Books.
- Lipset, David. 2003. 'Two Brothers': Geography, Male Agency and Austronesian Hegemony in North Coast Cosmology, Unpublished Manuscript.
- LiPuma, Edward. 1999. The meaning of money in the age of modernity. In *Money and Modernity, State and Local Currencies in Melanesia*, eds. David Akin and Joel Robbins. Pittsburgh: University of Pittsburgh Press. Pp.192-213.
- Lutkehaus, Nancy. 1995. *Zaria's Fire, engendered moments in Manam ethnography*. Durham, NC: Carolina Academic Press.
- Morauta, L. 1974. *Beyond the Village. Local Politics in Madang, Papua New Guinea*. London: Athlone Press.
- Olson, Fred L. and Tim T. Kan, 1998. The fisheries resources of Papua New Guinea. In *Modern Papua New Guinea*, ed. Laura Zimmer-Tamakoshi, Kirksville, MO: Thomas Jefferson Univ Press, pp.133-146.
- Reiner, Hermann. 1986. Beginnings in Madang: The Rhenish Mission. In *The Lutheran Church in Papua New Guinea. The First Hundred Years 1886 –1986*. Eds. Reiner, Hermann. and Wagner, Herwig. Adelaide: Lutheran Publishing House, pp.99-140.
- Reiner, Hermann and Wagner, Herwig. (eds) 1986. *The Lutheran Church in Papua New Guinea. The First Hundred Years 1886 –1986*. Adelaide: Lutheran Publishing House.
- Siming. Aksim. 2002. Welcome. In *Culture and Progress, The Melanesian Philosophy of Land and Development in Papua New Guinea, Madang*: DWU Press, pp3-4.
- Steinbauer, Friedrich. 1979. *Melanesian Cargo Cults, New Salvation Movements in the South Pacific*, trans Max Wohlwill. St. Lucia, Qld: University of Queensland Press.
- Worsley, P. 1957. *And the Trumpet Shall Sound: A Study of 'Cargo Cults' in Melanesia*. London: McGibbon & Kee.
- Zimmer-Tamakoshi, Laura. 1983. Rural-urban relations and the Impact of urban remittances on the rural community. *Research in Melanesia* 7(1&2): 23-62.
- 1993. Bachelors, Spinsters and Pamuk Meris. In *The Business of Marriage: Transformations in Oceania Matrimony*. Ed by Richard Marksby. Pittsburgh: University of Pittsburgh Press, pp. 83-104.
- 1995. The Women of Kobum Spice Company: Tension in a Local Age Stratification System and the Undermining of Development, in *The Politics of Age Differences*

Among Women in Papua New Guinea and Tiwi of Australia. Ed by Jeanette Dickerson-Putman. Special Issue of Pacific Studies 19 (4): 71-98.

-----1998. Women in Town; Housewives, Homemakers and Household Managers, in Modern Papua New Guinea. Ed. Laura Zimmer-Tamakoshi. Kirksville Missouri: Thomas Jefferson University Press, pp 195-210.

XVI. APPENDICES

A. EXPRESSION OF INTEREST

The Saidor and Nahu-Rawa sections of the Saidor District of Madang are covered with complex river systems running off the north and south sides of the rugged Finesterre Range. The amount of bridges required to create easy road access across this Range, as well as within the District, makes a comprehensive roads project unfeasible. But at present, there is no road access whatsoever across this Range, connecting the Nahu-Rawa side to the Saidor side and the administrative services at the District Headquarters. The airstrips are not well-serviced and provide negligible transportation services to the public. Health and education services suffer both directly and indirectly from this lack of transportation, not just in reaching the public, but in receiving supplies. Of critical importance is the economic well-being of the district, and the fact that cash crops, materials, and workers are unable to travel across this roughly 50 sq. kilometre area. A road connecting the coastal Saidor road to the Lae-Madang highway would directly benefit up to 40,000 people and raise the quality of life for the entire Rai Coast area. Nancy Sullivan Ltd. proposes to conduct a Social Impact Study of the full range of the proposed roadway.

The proposed road intends to:

- a. Raise the standard of health and human services on the Raicoast*
- b. Raise the economic standard across the Raicoast and the Madang Province*

Improvement of health and education services in the rural districts is the National and Provincial Governments' main priority in social and economic development. But the direct benefit of this project will be linking the entire Raicoast and Nahu-Rawa region to the greater Provincial and National economy, and engaging these remote villages in the cash economy more consistently and successfully.

*The Social Impact Study will involve four stages. The first is a survey of the Raicoast side of the District, including the route passing through **Biliau, Serieng, Maibang, Rusuang, and Matoko villages**. The second stage will begin at **Gumbarami on the south side of the Finesterres and continue to the Ramu Sugar station at the Lae-Madang road**. The third stage is the government and anthropological research in preparation to the final report; and the fourth stage is the completion of the report, incorporating all the fieldwork and research data.*

The Raicoast of Madang Province is remote and largely inaccessible by road. The south side of the Finesterre Range suffers even greater problems of access to markets and basic services. This Social Impact Study will assess the benefits, and possible costs, of constructing a road from Biliau at the coast through the Finesterres to the Ramu Sugar Project on the Lae-Madang Highway, linking this section of Madang Province with services along the Lae-Goroka Highway, as well as the Saidor road to and from Madang.

B. QUESTIONS FOR RESEARCHERS IN SOCIAL IMPACT STUDY OF THE BILIAU-RAMU ROAD

How will the project benefit/impact these communities?

How many (rough percent) of women have garden produce to market?

How many market this produce locally and might market it more distantly if a road existed?

What percentage of children in Primary, Top Up, High School, have been prevented from regular schooling by lack of transport?

What schools would these children attend?

In the past year, what illnesses have been untreated for lack of road access to the Aid Post?

Where are the Aid Posts in relation to each community, and how would a road change their access?

How many families are planting cash crops?

Which crops are planted, and how many have come to market?

What crops have not been planted due to lack of road access?

Are there marketing strategies in place for new crops (copra, cacao, vanilla, coffee, tumeric buyers?)

Who are the LLG members, clan councilors, kukurai?

Who owns the land that has been allocated to the road project?

Are there questions of ownership and location?

Are there questions of security or migration in building a road?

Do the churches desire road access?

Will the young men flee to town? Do they hope to?

Are the young women happy to see a road come? Are they worried in any way?

Which sector of the community will most directly benefit?

Which sector of the community will require the most adjustment?

What sort of lifestyle improvements do they anticipate?

In each community, a rough census of adults and school age children should be drawn. Calculate costs for establishing commercial activities based on the new road: Investment in a trade store; regular (bi-monthly?) resupply costs, including transport costs (with estimates of PMV prices on the proposed road); secondhand clothing business (how many bales might sell in a 6 month period); cash crop sales (deducting transport costs to market).

Who would access a road over the Finesterres? What advantages would such a road have for Raicoast people? Who has relatives in Lae, for example? Would there be travel to the Ramu Sugar Project? What markets in Lae or on the Lae-Madang road would be exploited? Who would access the road to travel to Goroka, and for what reason? What are the concerns regarding traffic from the south side of the Finesterres? Will this put

pressure on the infrastructure, schools, health services and resources of the Raicoast District?