

Sociolinguistic and Literacy Study

Mato [NIU]

.....

Morobe Province



Table of Contents

PART 1: SOCIOLOGUISTICS	1
1. INTRODUCTION	1
1.1 BACKGROUND.....	1
1.2 METHODOLOGY	1
2. GEOGRAPHY	1
2.1 SUMMARY OF GEOGRAPHICAL AREA.....	1
2.1.1 <i>Location of Language Group Map</i>	3
2.1.2 <i>Language Area Map</i>	4
2.2 CLIMATE	5
3. STRUCTURES AND FACILITIES.....	5
3.1 VILLAGE MAP – GAMBULANGLUNE.....	5
3.2 STRUCTURES IN THE VILLAGE.....	6
3.3 FACILITIES AVAILABLE IN THE AREA.....	7
3.3.1 <i>Medical</i>	7
3.3.2 <i>Economy</i>	7
3.3.3 <i>Water Supply</i>	8
4. DEMOGRAPHICS.....	8
4.1 POPULATION AND GEOGRAPHIC DISTRIBUTION	8
4.2 AGE AND SEX DISTRIBUTION	9
5. LANGUAGE USE	10
5.1 LANGUAGE REPERTOIRE	10
5.1.1 <i>Surrounding Languages</i>	10
5.1.2 <i>National Languages</i>	11
5.1.3 <i>Dialects</i>	12
5.2 LANGUAGE DOMAINS	12
5.3 LANGUAGE STABILITY	13
6. LANGUAGE ATTITUDES	13
6.1 ATTITUDES TO OTHER LANGUAGES	13
6.2 ATTITUDES TO DIALECTS.....	13
7. RELIGION AND LANGUAGE	14
7.1 RELIGIOUS GROUPS	14
7.2 LOCAL VIEW OF RELIGIOUS GROUPS	15
7.3 ATTITUDES OF RELIGIOUS GROUPS TO SCRIPTURE AND LITERACY	15
7.4 PERCEPTIONS OF LITERACY AND LITERATURE	15
PART 2: LITERACY	16
8. EDUCATION.....	16
8.1 CHILDREN	16
8.2 ADULTS	16
9. LITERACY	17
9.1 EXISTING LITERACY PROGRAMS	17
9.2 AGENCIES AND INDIVIDUALS CONCERNED WITH EDUCATION.....	17
9.3 MOTHER-TONGUE LITERACY.....	17
9.4 LANGUAGE OF WIDER COMMUNICATION LITERACY	18

9.5 ATTITUDE TOWARD LITERACY	18
9.6 PERSONNEL AND EDUCATION RESOURCES.....	18
9.7 LOCAL DEFINITION OF LITERATE.....	18
10. LITERATURE.....	18
11. VERNACULAR LITERATURE.....	19
11.1 VERNACULAR MATERIALS PRODUCED	19
11.2 TITLES PLANNED	19
11.3 MATERIALS AND TITLES WANTED	19
11.4 MOTHER TONGUE WRITERS.....	19
12. PRODUCTION, PROMOTION AND DISTRIBUTION.....	20
12.1 LOCAL MEANS OF PRODUCTION	20
12.2 PROSPECTIVE MEANS OF PROMOTION AND DISTRIBUTION	20
13. ORTHOGRAPHY	20
13.1 EXISTING ORTHOGRAPHS.....	20
13.2 SIMILARITIES BETWEEN LWC AND VERNACULAR.....	20
13.3 COMPLEX LINGUISTIC FACTORS	20
13.4 STATUS OF ORTHOGRAPHY	21
13.5 DEVELOPERS OF ORTHOGRAPHY.....	21
13.6 DISAGREEMENTS OVER ORTHOGRAPHY.....	21
13.7 PROBLEMS WITH ORTHOGRAPHY	21
14. MOTIVATION	21
15. ATTITUDES TO EDUCATION	21
15.1 ATTITUDE OF TRADITIONAL LEADERS	21
15.2 ATTITUDE OF OTHER LEADERS	21
15.3 EDUCATIONAL RESULTS DESIRED BY LEADERS.....	21
15.4 EDUCATIONAL METHODS DESIRED BY LEADERS	22
15.5 LIFE AFTER SCHOOL	22
16. TRADITIONAL METHODS OF TEACHING/LEARNING.....	22
16.1 CONSCIOUSLY TAUGHT TOPICS	22
16.2 STUDENTS.....	22
16.3 TEACHERS.....	22
16.4 PERIOD OF INSTRUCTION.....	22
16.5 TEACHING METHODS	22
16.6 REWARDS OF THE EDUCATOR	22
16.7 ENCOURAGING THE MOTIVATION TO LEARN	22
BIBLIOGRAPHY.....	23

Part 1: SOCIOLINGUISTICS

1. Introduction

1.1 Background

The intent of this paper is to record the sociolinguistic and literacy situation within the Mato language. Scot and Cherie Stober allocated in Gambulangelune village in February of 1997 and thus have been working with the Mato people for nearly two years. Scot is a linguist/translator and Cherie is a literacy specialist. Both are members of the Summer Institute of Linguistics.

The Mato language is located on the northern coast of Papua New Guinea in the Uruwa river plain at the base of the Saruwaged mountains in Morobe province. It is 38 km due west of Wasu, 20 km north of Sapmanga, and approximately 55 km southeast of Saidor. One village is on the beach; the others are inland.

Mato is listed in the 1996 *Ethnologue* as Mato [NIU]. Alternate names given are Nenaya, Nengaya and Nineia. The people call the language Mato which means '(you) come now'. Although I refer to the people as Mato for the purpose of clarity in this paper, they do not seem to have a term they collectively apply to themselves. Further information given in the *Ethnologue* is:

Morobe Province, north coast of Huon Peninsula. Austronesian, Malayo-Polynesian, Central-Eastern, Eastern Malayo-Polynesian, Oceanic, Western Oceanic, North New Guinea, Ngero-Vitiaz, Vitiaz, Roinji-Nenaya. Survey needed. [Survey conducted in 1996] (p. 883)

McElhanon (1978:2) classifies Mato as belonging to the Siasi Family, Vitiazan Sub-family, Island Group, Nengaya. Ross (1988:161) relates the languages in this manner: Proto Oceanic, Proto North New Guinea, Proto Ngero/Vitiaz, Proto Vitiaz, Nenaya.

Indigenous Mato terms in this paper mostly parallel IPA conventions. Note that <x> is [x] word-initial and [ɣ] elsewhere. The digraph <ng> is pronounced [ŋ], the orthographic <a> is pronounced [a] and <y> is [j].

1.2 Methodology

There are 580 Mato, most of whom reside in the language area. It was therefore possible to interview nearly every person in the language area for this report. In most cases the data was reported by the subject, or as in the case of small children or those away at school, the data was reported by a parent or close relative. I compiled the statistics using a database I programmed for the purpose. The data was collected during the first half of 1998 by my wife, Cherie Stober, and myself. On two survey hikes, I was accompanied by SIL Discovery Program participants, Martin Clewis and Roderick Brogan, who aided in collecting data for mapping and the structures and religion sections – data which I later revised or verified for accuracy.

2. Geography

2.1 Summary of Geographical Area

The Mato language covers approximately 220 km² of mountain slopes, plains, and coastal regions on the north coast of Papua New Guinea. It is located at the base of the Saruwaged mountain range in Morobe Province. The Uruwa River, which drains the valley between the Saruwaged and Finnestere ranges, empties into the Bismarck Sea on the Mato coast near Lepsius Point.

The land mass in UTM coordinates ranges from (55M) 477⁶⁰⁰E to 491⁹⁰⁰E and from 9336⁰⁰⁰N to 9354⁷⁰⁰N. The altitude ranges from sea level to 2,126 m. Thus, the ecosystem ranges from savanna to tropical forest. Soil content appears to be mostly volcanic. The savanna is an old coral reef that has long since been raised from the sea. Coral fragments have been located as high as 125 m.

People reside in villages with the exception of a couple of families that live off by themselves. Five of six villages are located on spring-fed mountain streams. The sixth is located on the coast. Three villages are in the savanna, two at the base of the mountains and one on a ridge in the foothills. The villages range in altitude from 15 to 520 m.

Village	Dialect	Latitude	Longitude	Elevation
Baxemanamuya	Bonea	55°48'40.73"E	93°45'13.6"N	520m
Bualu	Bonea	55°48'7.589"E	93°53'39.5"N	15m
Gambulanglune	Bonea	55°48'4.135"E	93°47'33.2"N	100m
Baxuya	Nanaya	55°48'6.953"E	93°44'39.8"N	120m
Bobua	Nanaya	55°48'9.171"E	93°49'32.3"N	25m
Buxaringine	Nanaya	55°48'8.558"E	93°47'8.68"N	50m

Table 1. Village Locations.

Only paths connect the six villages, all of them easily navigable by foot. Large, fallen trees would prevent the use of mechanized forms of transportation, though a mountain bike would be a possibility on most trails. None of the rivers in the area are navigable due to their shallow depth and huge boulders that serve as obstacles. It may be possible to navigate the Uruwa in a raft within the confines of the Mato borders, but a canoe would be out of the question due to the swift current.

Baxemanamuya										
2.3 km,	1.5 hr	Gambulaglune								
10 km,	4.5 hr	7.8 km,	3 hr	Bualu						
4 km,	2 hr	4.9 km,	1.5 hr	11.9 km,	4.6 hr	Baxuya				
8 km,	3.3 hr	6 km,	2 hr	7.9 km,	2.3 hr	4 km,	1.3 hr	Buxaringine		
9.8 km,	3.5 hr	7.5 km,	2 hr	5 km,	1.5 hr	6.9 km,	2 hr	2.9 km,	.8 hr	Bobua

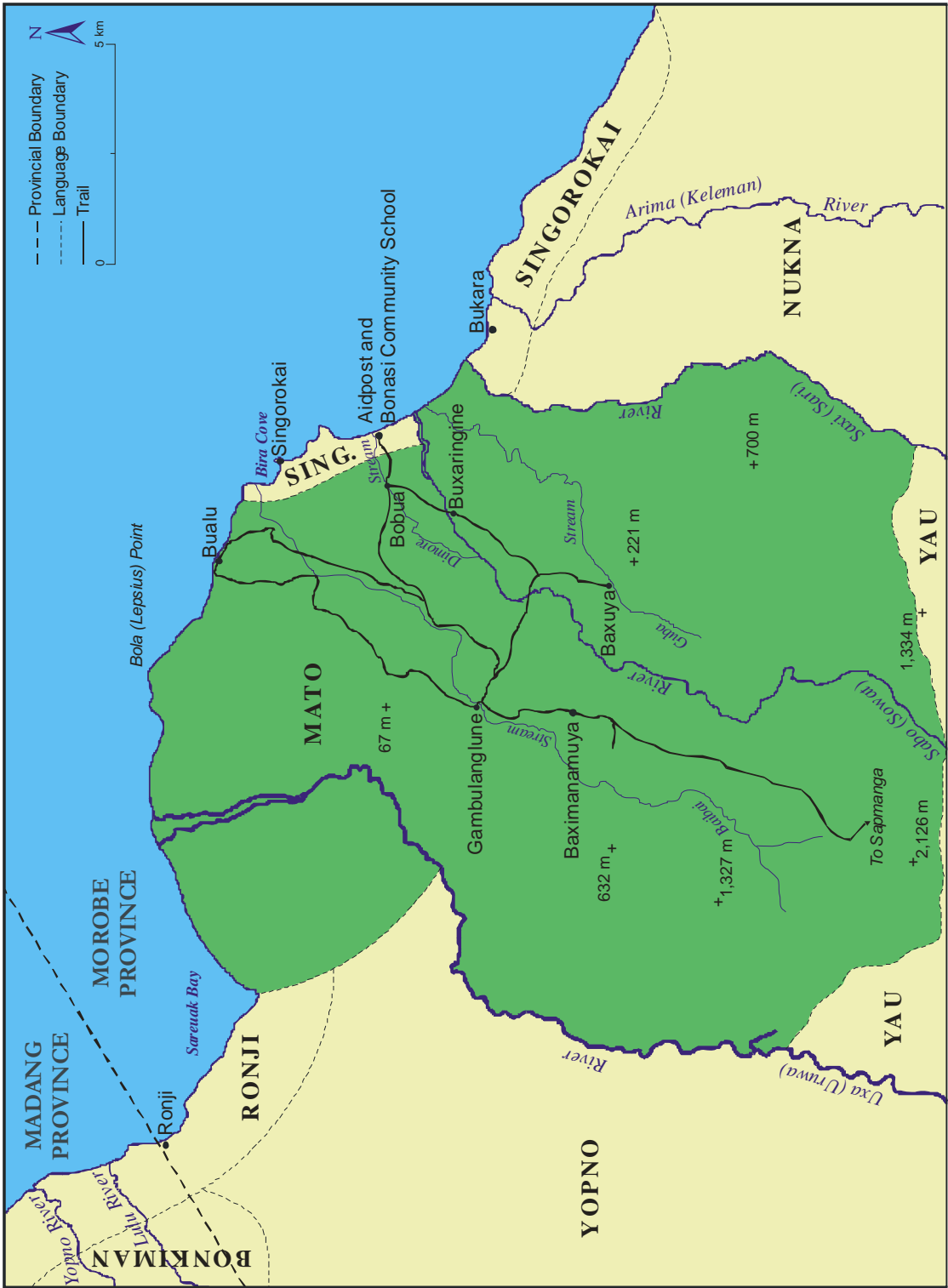
Table 2. Distances and walking times between villages.
(Travel times in wet season which generates swamps near the coast would be longer.)

Travel outside the language group varies. Coastal areas can be reached by dinghy. Each language group has a dinghy given to them by their MP, including the Mato. There are also a couple of dinghies operating out of Singorokai. Inland to Sapmanga is reportedly a rugged, difficult hike of 14 or more hours from Gambulanglune. The people will usually split it into two days going up to Sapmanga, but will make the less strenuous hike down to Gambulanglune in one day.

In the section below – 2.1.2 Language Area Map, rivers are identified by their Mato names with English names in parentheses. Since streams are unnamed on any map available, they are only identified by their Mato names.

The map displays the Madang Province of Papua New Guinea, bordered by the Bismarck Sea to the north, the Huon Gulf to the east, and the Pacific Ocean to the south. Key geographical features include the Mato Language Area, the Saruwaged Range, and the Finisterre Range. Major towns and locations marked include Madang, Lae, and various islands such as Karkar I, Bagabag I, and Longi. The map also shows the Molo River, the Molo River, and the Molo River. A legend in the bottom right corner identifies symbols for provincial boundaries, major roads, minor roads, and 4WD roads. An inset map in the top left corner shows the location of Madang Province within the larger context of Papua New Guinea.

2.1.2 Language Area Map



2.2 Climate

I have recorded some climate data. There is some incontinuity in the readings and they were only taken in Gambulanglune, but should represent an average for the area. The people divide the seasons into rainy and dry season. Rainy season lasts from November to May and dry season is from June to October.

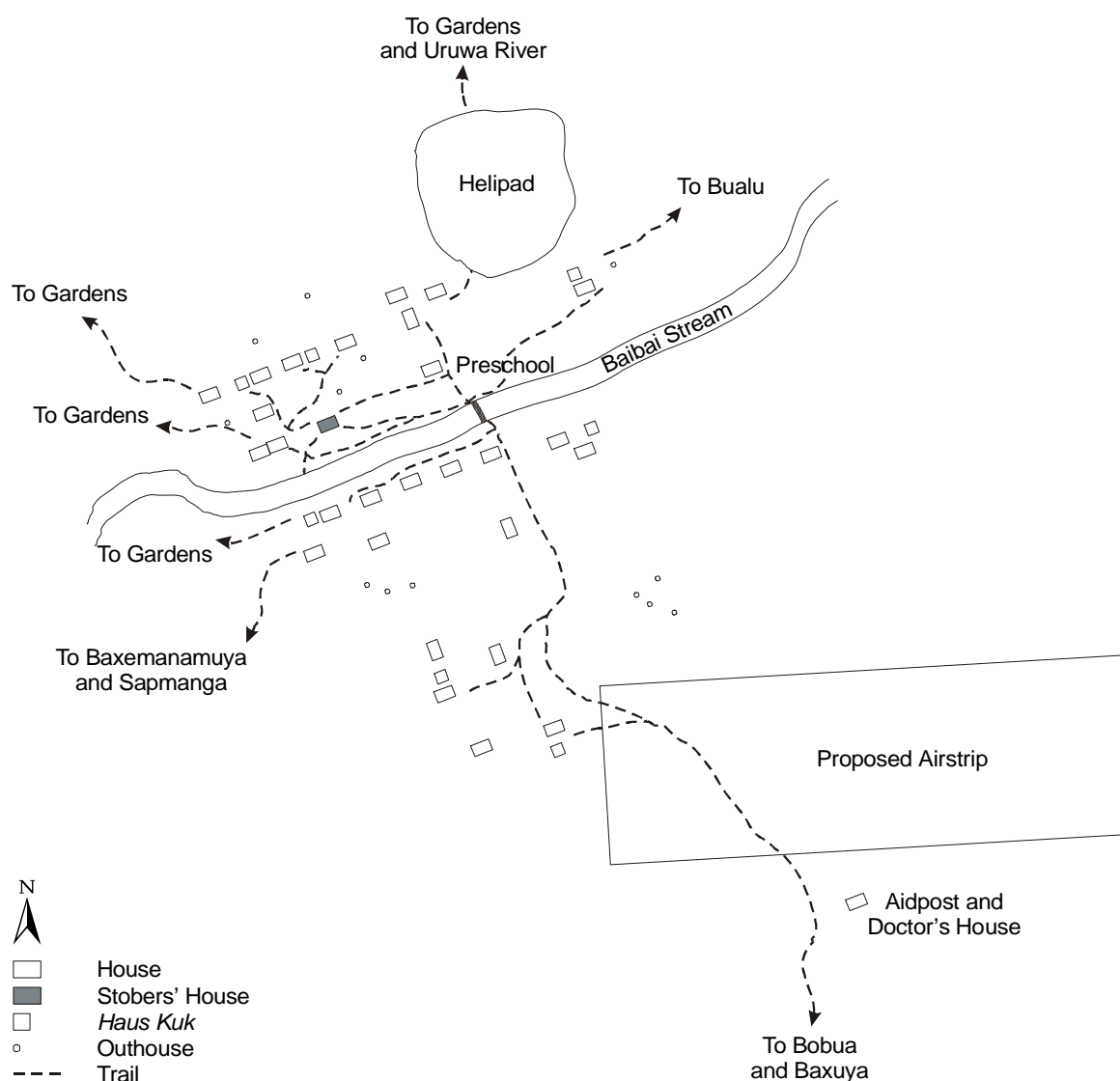
Average rainy season temperatures have ranged from a low of 23°C/73°F to a high of 30°C/86°F. Extremes have reached 22°C/71°F and 34°C/94°F during the rainy season. Humidity readings in rainy season average to a low of 73% during the day and a high of 97% at night.

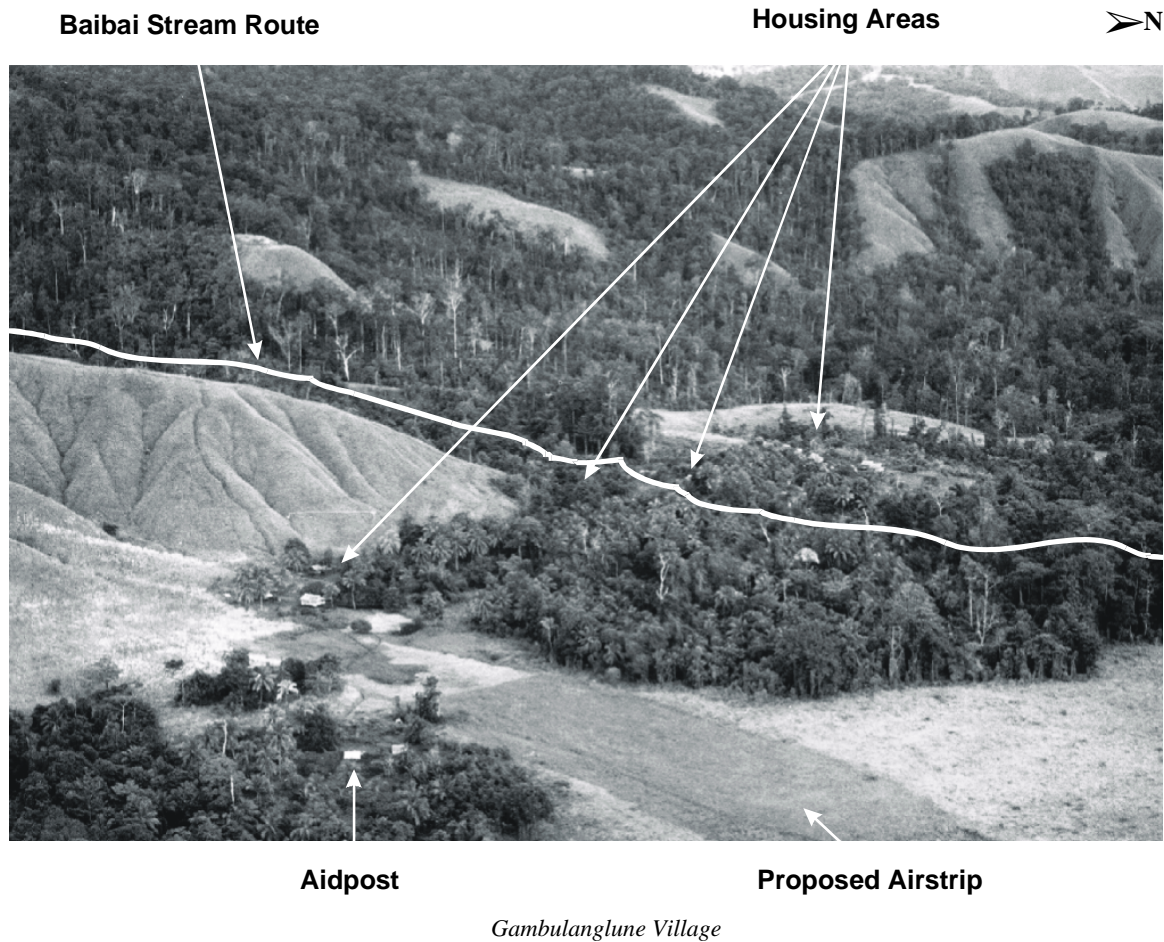
Average dry season temperatures have ranged from a low of 20°C/68°F to a high of 31°C/88°F. Extremes have reached 17°C/63°F and 34°C/93°F during the dry season. Humidity readings in dry season average to a low of 52% during the day and a high of 95% at night. The more extreme temperatures are attributed to the drier air during dry season.

Rainfall readings in the rainy season have averaged 12mm per day. Accurate dry season rainfall readings are unavailable at this time as I have only been in the village during two dry seasons, one of which was a drought. It did not rain the entire two months during my village time that year.

3. Structures and Facilities

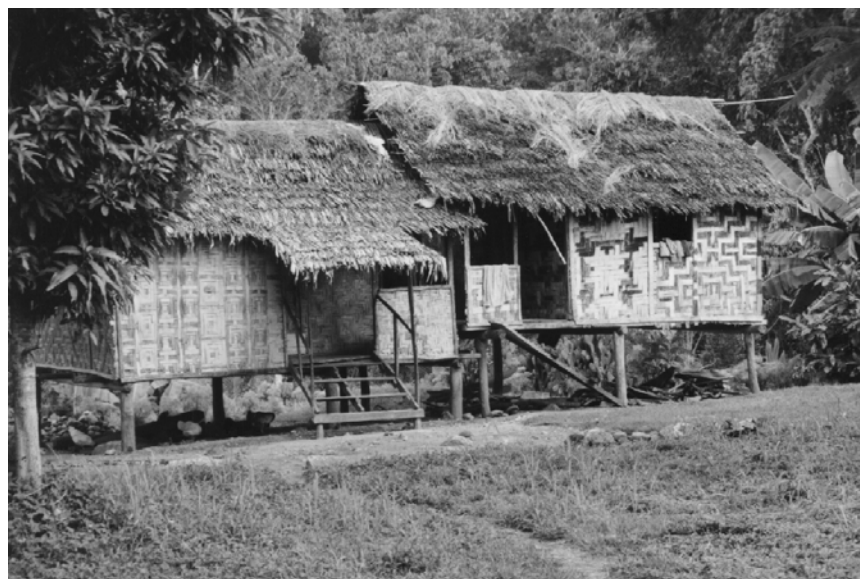
3.1 Village Map – Gambulanglune





3.2 Structures in the Village

Houses in Gambulenglune are constructed of bush materials, with sago thatch roofs, woven bamboo blind walls and machete sharpened timber framing. Nails and the occasional hinge are the only signs of innovation due to the poor economic situation. Tools used in building include hammers, pry bars and machetes. Often timbers, nails and hinges are used again from the old house to the new. The new house built for the anticipated APO has a kunai thatch roof, showing the people are skilled in this type of construction, they just prefer sago thatch to kunai. All the houses are built as one story, up on posts about 1 to 2 meters off the ground. Most have separate cooking houses.



Typical Mato House

Houses in other villages are of similar construction. In the villages of Bualu and Bobua, however, most walls are constructed out of woven parts of the sago leaf stem rather than bamboo as it is more readily available. One house in Buxaringine is sided with hand-hewn planks. There are no corrugated iron roofs on any of the structures in the language group with the exception of one outhouse with a rather old piece from a copra drying shed in the neighboring language. There are two houses in other villages that are two stories. There is a trade store in Bobua which is constructed from bush materials with a thatched roof.

Land is not a significant issue among the Mato. Families do not seem to cluster together. There is little or no argument over clan land due to the low population and large land areas available. In fact, most of the people in Gambulanglune are from clans other than the one on which the site is located. People report building houses next to friends, though I suspect there are deeper issues at play in the selection of a housing site.

Men are responsible for building their own houses. Houseboys are constructed and occupied by males in their teens and twenties. Only elderly people receive help in constructing their own houses.

There is currently one community building in Gambulanglune, a school. It was the church until the roof deteriorated and the people razed it, using salvageable parts to build the smaller school. Church is now held under a stand of mango trees.

Other community buildings in the language area include a church in Bobua, passenger houses in Baxuya and Baxemanamuya, and a preschool in Baxuya. There is one cocoa drying shed being built in Baxuya as well. I have observed no initiation or men's council houses. They reportedly ceased to exist in the 1960's, done away with by the Lutheran evangelists that visited the area.

Baxuya has special houses near the outhouses where women are confined during menstruation. They are considered to be unclean and must live there until their cycle is finished. These houses existed in the other villages until around 1994 when all but Baxuya discontinued the practice.

Supplies have been delivered for an Aidpost to be built in Gambulanglune. They consist of plywood, corrugated roofing iron, cement, nails, and a chainsaw mill. It will be the first building of its type to be built among the Mato.

3.3 Facilities Available in the Area

3.3.1 Medical

An Aidpost is located on the coast in the Singorokai language near Bonasi Community School. It has been closed due to personnel problems since April, 1998. The Local Government Council allocated funds and sent supplies to build an Aidpost in Gambulanglune. As of this date, it has not yet been constructed. It will be staffed by APO who knows Mato and has relationship ties in the language group.

Currently, we do what we can medically for the people. We consulted with the nurse who staffed the aidpost in Singorokai before commencing with such work and were encouraged to do so. This work occupies 1-3 hours of work a day. This work is especially critical now as there is nowhere else for the people to turn until the aidpost is built.

More serious medical concerns are referred to the Etep District Medical Center near Wasu. This involves a hike to the coast and a three hour dinghy ride (depending on sea conditions) to Wasu and another hour walk to the Medical Center. Anyone requiring hospitalization has to travel by boat to Brown Medical Center in Finschhafen, though two people in 1998 were evacuated there by helicopter.

3.3.2 Economy

There is one trade store in the area, run by a man in Bobua. Usually he sells tin fish, tin meat, salt, tea leaves, laundry soap, matches, processed cigarettes and noodles. Occasionally he stocks sugar, rice, batteries, body soap, bleach, Twisties, biscuits and newspapers. The market area near Bonasi Community School is not currently operating. All other supplies are purchased in Wasu, the subdistrict station or, on rare occasions, in Madang or Lae.

Income is generated mainly by selling copra. The coastal villages profit the most from this. A person in Bobua can bag an average of 15 bags of copra a year, yielding K375 in 1998 (K25/bag). There is a large copra drying shed near Singorokai. Copra is sold in Madang at the Copra Marketing Board. Once a year for two days, a ship will anchor off the coast of Singorokai in a sheltered area called Bira to load copra.

Otherwise, it is transported to Wasu at a cost of K100 for a whole dinghy or K10 per passenger. There is a port at Wasu that is serviced by Lutheran Shipping traveling back and forth between Lae and Madang.

Another profitable crop is betelnut. While it is freely shared within the language area, it can be sold at the market in Wasu. This has been done not only individually, but on a community-wide basis to support the preschools.

Other cash crops include cocoa and coffee, but are very small in scale. The people in Baxuya are getting a cocoa drying shed that should aid in production. Income is reported to be K75/kg of dried cocoa. The local subdistrict agricultural agent established a cocoa nursery (about 800 plants) in Gambulanglune in August, 1998. The plants will begin to produce in two to three years. Baxemanamuya has drying bins and two hand-operated coffee shelling machines. Yield appears to be about 1 bag per family there. There is a coffee mill in Wasu.

Some people in Bualu earn income from the sale of trochus shells. The are collected from the ocean and sold in Madang.

Gold, copper and silver mining are being explored south of Sapmanga. People in Bobua, Teptep, Gambulanglune and Singorokai anticipate employment if anything develops. The survey is reportedly finished, with building expected to commence in about a year. The Malaysian company plans to build living quarters to house employees.

In summary, the area has seen little development in the past. Basic things like sugar and tea are rarely observed in the villages. Money is mostly earmarked toward school fees. However, there is potential from current plans to vastly improve the economic situation.

3.3.3 Water Supply

The sole source of water for the villages of Baxemanamuya, Buxaringine and Baxuya is from streams and rivers. Only the villages of Gambulanglune and Bobua have access to springs along the river banks which the people use for clean water during the rainy season. Otherwise they drink from the river. People in Bualu obtain water from a shallow creek that drains the swamp they live in. There are no other water collection systems in use.

Location of water supplies is important. The old village of Dingania was moved to Baxemanamuya due to its proximity to the only water source nearby, a mountain spring. Most of the people in the Bonea dialect were born in Dingania, but later moved to Gambulanglune where a mountain stream flows through the middle of the village. When asked about relocation, most people respond that it is due to the availability of water. Most houses in Gambulanglune, Baxuya and Bobua line the banks of the streams for easy access to water.

4. Demographics

4.1 Population and Geographic Distribution

Previous data has placed the Mato population near 325. According to the 1980 National Population Census, the Nanaya dialect had a population of 200 and the Bonea dialect had a population of 144. McElhanon (1978:4) estimated the population at 315.

My own investigation shows there are 567 people living in six different Mato villages and 13 native Mato living in areas outside the language group yielding a total population of 580. I personally interviewed the Mato people in each village to obtain this data. Those living outside the language area were interviewed when they visited, or the data was reported by family members. The numbers below are organized according to residence. Dialect populations will be discussed in the Language Use section. Bonea and Nanaya totals are given in order to record the data as the government would report it.

Native Mato people are defined as those born in the area, speaking Mato as their mother tongue. Non-native Mato have most often married in from the nearby language areas. Those Mato living outside their native land include five in Sapmanga, two in Singorokai and one each in Malalamai, Ronji, Bukara, Etep, Popondetta and Port Moresby. Reasons for leaving the area are marriage, adoption and work. Those temporarily living outside for purposes of schooling have been recorded as residing in their respective Mato village.

Resident Village	Native Mato	Non-Native Mato	Totals
Baxemanamuya	59	7	66
Bualu	51	1	52
Gambulanglune	135	2	137
<i>Bonea Totals</i>	245	10	255
Baxuya	73	11	84
Bobua	161	5	166
Buxaringine	62	0	62
<i>Nanaya Totals</i>	296	16	312
Resident Total	541	26	567
Percentages	95%	5%	
Other Outside Areas	13		13

Table 3. Population and Geographic Distribution.

The data shows that the population is stable concerning movement to and from the area. This area is still quite isolated, and people are as yet untrained in work that would draw them out of the language group.

While the younger generation reports their village of origin to be the village they currently reside in, the older generation have shifted from their original villages. Historically, the Mato lived on clan lands in widely dispersed hamlets of very few families. In the years of Australian rule, the patrol officers gathered most people into villages. This resulted in the village of Gaxikia for the Nanaya dialect, and the village of Dingania for the Bonea dialect. The Gaxikia site was located on the trail between Gambulanglune and Baxuya, just east of the Sabo River. Dingania was located 1 km south of Baxemanamuya. After Independence, there was somewhat of a dispersal, resulting in the six villages now in existence. The coastal people seem to be drawn to there due to availability of transport to markets. Another factor is that there are high water tables nearer the coast which provide protection of peoples' gardens in case of drought. People were drawn to Gambulanglune due to a good water supply. There are hamlets somewhat removed from the main villages in Bualu (the eastern hamlet is Guma and is closer to the available water supply) and Bobua (the western hamlet is Banebane and appears to be developed along family lines). One elderly man lives with his family about 2 km east of Gambulanglune at a place called Moxalangina (*snake stream*).

4.2 Age and Sex Distribution

While gender is an easy factor to ascertain, age is quite difficult to determine in PNG societies. Many have lost or destroyed their health or census cards, and the data is only available from memories. In such cases where hard data was not available, the subject's age was determined from what age they were in relation to certain events such as World War II, Independence, or age mates who had records.

Up to age 6, the children stay at home. Beginning at age 7, some attend vernacular preschool. Thus, I have broken the age groups to reflect these status changes.

Data regarding status was also obtained. It shows that marriageable age among the Mato begins near 20 and after 40 there are no single persons who never married. The five who are married below 20 are all women. It should be noted that polygamy is not currently practiced among the Mato. At present, there are no polygamous relationships, although they have existed in the past. One of the divorced persons is from a broken marriage of this type.

Age	Male	Female	Totals	Single	Married	Widowed	Divorced
0-6	65	62	127	127	0	0	0
7-12	53	39	92	92	0	0	0
13-19	49	44	93	88	5	0	0
20-29	61	50	111	52	57	1	1
30-39	53	31	84	5	77	2	0
40-49	17	16	33	0	30	3	0
50-59	9	14	23	0	12	10	1
60+	1	3	4	0	1	3	0
Totals	308	259	567	364	182	19	2

Table 4. Age, Sex and Status Distribution for Mato residents.

Age	Male	Female	Totals
0-6	1	1	2
7-12	0	1	1
13-19	0	1	1
20-29	1	2	3
30-39	2	1	3
40-49	2	1	3
50-59	0	0	0
60+	0	0	0
Totals	6	7	13

Table 5. Age and Sex Distribution for Mato persons living outside the language area.

5. Language Use

5.1 Language Repertoire

Of the 567 Mato residents, 550 are fluent in Mato, five more can speak it on some level, and six are able to understand it when spoken. Only six residents reported not understanding it.

5.1.1 Surrounding Languages

The Mato are surrounded by both Austronesian and Papuan languages. The languages that the Mato have most contact with are Yau to the south, Ronji to the west and Singorokai to the east (see geographical map of language area).

Ronji is the language with the most similarities to Mato. The languages are 67% cognate. Aside from the cognate similarity, there is a regular phonological substitution of /p/ in Ronji for /h/ in Mato (there is no /h/ in Ronji). Many Mato speakers report knowledge of Ronji. In fact 71 or 12.5% of the Mato residents can at least understand Ronji and have had the contact to exercise that knowledge. When spoken to in Ronji, a Mato generally responds in Mato. Likewise, when spoken to in Mato, a Ronji generally responds in Ronji. When an impasse occurs, the speakers will switch to Tok Pisin.

It was contact with the Yau that sparked interest in Mato preschools and vernacular Scriptures. The Yau New Testament was dedicated in June of 1997. The Uruwa Community school in Sapmanga currently draws about 25 youths from the Mato language group. Those Mato residents claiming to know Yau to some degree number 49 or 9%. Of those, 29 are fluent, 10 speak it in some degree, and 10 can only understand it. Two claim to be literate and have been observed reading the Yau Scriptures. Another 19 are semi-literate.

Language	Fluent	Speak	Understand	Totals
Ronji	4	3	64	71
Yau	29	10	10	49
Singorokai	6	3	13	22
Kâte	4	5	8	17
Ono	10	0	1	11
Apalap	3	0	4	7
Yopno	4	0	0	4
Kalam	1	1	0	2
Kobon	1	1	0	2
Gedaged	1	0	0	1
Komba	1	0	0	1
Nomu	1	0	0	1
Karkar	1	0	0	1

Table 6. Reported Fluency of Indigenous Languages.

Singorokai is the closest village to Bobua (the largest Mato village). There is much interaction here as Bonasi Community School resides on Singorokai land. The Mato children from the more remote villages that attend this school either live in Bobua or Singorokai with relatives. Only 22 Mato reported some knowledge of Singorokai.

Other nearby language groups that the Mato people have exposure to include Ono, Apalap and Yopno. Some of these people have married into the language group. Seventeen people reported having some knowledge of Kâte, a church language that once dominated the area. It is not currently well known; the median age of those reporting knowledge of it is 42. The languages reported known by one or two people are due to it being the mother tongue of an outsider. The pastor (a Mato native) studied Gedaged in seminary.

5.1.2 National Languages

Mato people have exposure to two of the national languages of Papua New Guinea: Tok Pisin and English. Tok Pisin is the language of wider communication, used in communicating with the government, the aid post, and non-Mato speakers. It is not learned until the children are primary school aged, and is not encouraged between Mato speakers in any domain except reading of the Scriptures which the Mato only have access to in Tok Pisin and when non-Mato speakers are present and are perceived to need to be included in the conversation.

English is learned in school and confined to this domain. Due to the low rate of formal education, the people's knowledge of English is very limited, with no one being fully fluent.

Language	Fluent	Speak	Understand	Totals
Tok Pisin	185	49	171	405
English	0	8	93	101

Table 7. National Language Fluency.

Age	Fluent	Speak	Understand	No Knowledge
0-6	1	2	15	109
7-19	50	21	72	42
20-49	129	21	68	10
50+	5	5	16	1
Totals	185	49	171	162
0-6	0.8%	1.6%	11.8%	85.8%
7-19	27.0%	11.4%	38.9%	22.7%
20-49	56.6%	9.2%	29.8%	4.4%
50+	18.5%	18.5%	59.3%	3.7%
Totals	32.6%	8.6%	30.2%	28.6%

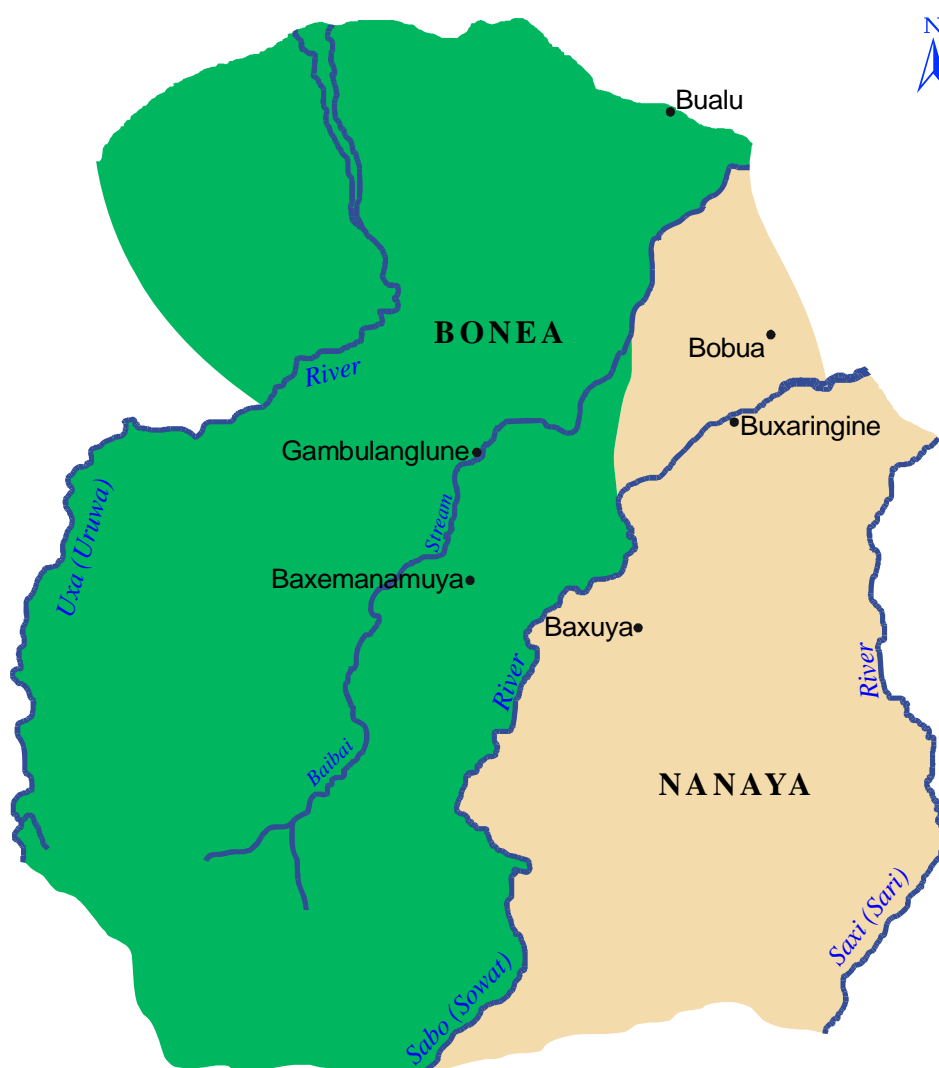
Table 8. Tok Pisin Fluency by Age Group.

5.1.3 Dialects

There are two dialects of Mato: Bonea and Nanaya. Neither one dominates the other. The dialects are 97% cognate and include one regular phonological variation where /x/ (realized as [x] in voiceless environments, [ɣ] in voiced) in the Bonea dialect is replaced by /ʔ/ in the Nanaya dialect (only one phonetic form). The Bonea villages are Baxemanamuya, Bualu and Gambulanglune. The Nanaya villages are Baxuya, Bobua and Buxaringine. There is little intermarriage between the two dialects. Population figures for the villages were given above. Numbers of dialect speakers are noted here.

Dialect	Speakers
Bonea	252
Nanaya	309

Table 9. Mato Dialect Speakers.



Mato Dialect Boundaries.

5.2 Language Domains

Mato is used in all domains between Mato speakers. Only in church when Scripture is read is Tok Pisin used in a homogenous setting. The sermon, prayers and announcements in church are all done in Mato when the speaker is Mato which is the norm. Children have only been observed being scolded in Mato. Only Mato was reported as being used when family members are angry at one another. A few people have been

observed minimally mixing Tok Pisin with Mato in casual conversation, mainly to flaunt their contact with the outside world. This type of practice is not well accepted.

Tok Pisin is used between language groups and in dealing with the government or at the aid post. When a *kaunsel* from another language group mediated a community disciplinary meeting, it was conducted in mixed Mato and Tok Pisin, translated for the *kaunsel* when necessary. This shows a strong sense of identity with the vernacular.

5.3 Language Stability

All of the above point to a very stable language situation. This is mostly due to the remoteness of the language group and lack of development. There are no roads and the nearest government station is three hours by dinghy (a highly unreliable form of transport).

The only appreciable change in the language during recent years has been the introduction of *tokples* preschools which only serve to further vitalize the vernacular. Barring outside influences such as a road or mining, the language will continue to be viable for many years to come. This is the view of the people as well as the researcher.

6. Language Attitudes

6.1 Attitudes to Other Languages

The Mato people have a prestigious view of their language. They rate it higher than any language they have contact with. This is born out in their actions as well. Recently, on their own initiative, they organized a trip to the neighboring Ronji and Singorokai language groups. During this trip, they explained to the people their desire that Mato would become a local area *lingua franca* so that everyone in the neighboring languages could read the Bible and other literature in Mato and school children could learn in it.

While the people see the benefit from learning other languages, it is clear that they do not view this knowledge as more prestigious than command of the vernacular. The small number of people learning other languages bears out this point. Tok Pisin is a language of convenience, learned best by men since they are the ones who travel to outside areas and need to be conversant in it.

The most telling factor relating to language attitude is that the Mato started their own *tok ples* preschools without the initiation of outsiders. They yearn for the development of the written language to complement the spoken word.

At one time, Kâte was learned by the Mato, as the Lutherans once operated a Kâte school in the area. But this church language has been cast aside in favor of the vernacular. Very few of the younger generation even know Kâte, and the older generation has forgotten much of it. Readings are done in Tok Pisin to reach a wider audience, but prayers, sermons and announcements are conducted in Mato.

6.2 Attitudes to Dialects

It is difficult to discern the attitudes concerning the two dialects, Bonea and Nanaya. The people speak to each other in their own dialect, with no intelligibility problems. There is no switching between dialects among the people to reflect some value of speaking the other dialect.

The Bonea people especially prefer their dialect and find the Nanaya pronunciations humorous. They do not wish to learn the Nanaya dialect. The Nanaya people have stated that the Bonea dialect is more prestigious. However, there is no push to learn it; they retain their own. The researcher's contact is mostly with the Bonea people and as more time is spent with the Nanaya people, truer feelings of dialect preference may emerge.

The question of acceptance in written form of a dialect is not regarded as a difficult problem. The biggest difference is the regular phonological change stated earlier. One letter representation, pronounced differently in either dialect, should be sufficient for both dialects to read fluently. This theory is just beginning to be tested in depth.

7. Religion and Language

7.1 Religious Groups

Aside from traditional religion, there is only one organized church in the Mato language area, that being Lutheran. There is some outside influence exerting pressure to adopt the New Apostolic church, but the language group is still resistant. Other religious groups the Mato have had exposure to include the Catholic church in Gali (the other Ronji speaking village), and the Baha'i which are operating in Sio. Nearly all Mato would consider themselves to be Lutheran. Those not claiming to be Lutheran practice traditional religion. There is also the possibility of some cargo cult influence, though this researcher has not been able to pierce denials of activity of this sort at this time.

Most traditional religion was purged from the area by the Lutheran missionaries who entered this area in the 1950's. Fetishes were all burned publicly during this time. Initiation ceremonies for boys into manhood are but a memory to most of the Mato. They have all heard the stories, but the design of ceremonial objects is being lost to those in the older generation.

The New Apostolic church has taken hold in Ronji with a small congregation. Some people in Gali also adhere to this faith, though in both areas, the practice is met with disapproval. These people have proselytized the Mato people on an individual basis when someone from Mato visits those in Ronji, but the Mato are wary, and not willing to accept this form of religion now. The fact that their church system is homogenous promotes unity and community harmony, which are highly valued in this type of society. The introduction of other sects and cults to the surrounding language groups has produced many problems (mostly relational) that the Mato do not wish to bring upon themselves.

The people in Singorokai appear to be mostly animistic, preferring to cast aside Christianity in favor of traditional religious beliefs. This was evident on an evangelistic tour some Mato and Yau did on which the Singorokai told them as much. The people in Bukara prefer the Lutheran church, however, and one of them is even a Lutheran evangelist.

The local Lutheran parish includes churches in the Bonea village of Gambulaglune, the Nanaya village of Bobua, and the villages of Singorokai and Bukara in the Singorokai language group. The assigned pastor is an elderly man from Madang Province who lives in Singorokai and does not travel much anymore. He makes it to Gambulaglune maybe once or twice a year. He ministers in Tok Pisin as he does not speak Mato or Singorokai. However, there is a young man from Baxemanamuya, Muraroc Galek, who recently finished seminary at Finschhafen and was just ordained in a ceremony at Sio. He is currently awaiting an assignment from the Lutheran church. The Mato people wish him to reside at home and minister to them in *tok ples*. He performs various duties, mostly evangelistic and teaching work, but including preaching from time to time in the Gambulaglune church. The church is self-supporting, and is unable to participate in activities outside the Parish due to transportation difficulties. The Parish is part of the Ulap Circuit.

There is currently only one church building, in Bobua. The people in Gambulaglune tore their church down as it was in disrepair and used the salvageable materials to build a preschool. Church in that village is currently held under a grove of mango trees.

People attend church according to dialect (which mostly match the clan divisions). Those residing in Baxuya, Buxaringine and Bobua attend the Nanaya church in Bobua. Those residing in Baxemanamuya, Bualu and Gambulaglune attend the Bonea church in Gambulaglune. Often, however, the people in Baxuya will worship in their village at the preschool to avoid the two hour hike to Bobua. Likewise, the people in Bualu will either worship in their village or walk to Singorokai to worship there (about 45 minutes).

	Bonea	Nanaya	Singorokai
Church	Lutheran	Lutheran	Lutheran
Building	No	Yes	Yes
Year Started	ca. 1950	ca. 1950	ca. 1950

Table 10. Churches in the Area.

Each church elects a *sonang* or church leader who looks after the affairs of the church. These change periodically when the leader wishes to relinquish his duties or the people perceive he is not performing well.

Within the Mato churches, Mato is used whenever possible. This includes prayer, teaching, preaching, singing and announcements. Scripture reading is the only domain in which Tok Pisin dominates. Sometimes, however, one of the two fluent Yau speakers will read from their Yau Bibles in the Gambulanglune church. Within the Mato church, I have never heard a prayer uttered in Tok Pisin, unless there were several outsiders present. When the preacher or teacher is Mato, and the audience is Mato, the medium of instruction is Mato. Announcements, likewise are done in Mato. Until recently, singing was done in a variety of languages, none of them Mato. The people would mostly sing in Tok Pisin, though sometimes they would choose a song in Yau or Kâte. No one felt comfortable enough to compose Mato songs. After I encouraged them to do so, however, they began singing in Mato. The recent church services I have attended have featured mostly Mato songs with Mato words adapted to existing traditional music.

As stated earlier, the people are resistant to other religions, sects or cults coming into the area. The researcher experienced this on the initial language survey when the SIL team was questioned extensively by disgruntled villagers believing we were there to start a new church. Once they understood SIL's aim, they were very receptive to our offer of help in translation and literacy.

7.2 Local View of Religious Groups

The Lutheran church is seen as a local institution, sustained with local resources. The people prefer it to be staffed with a local pastor (who speaks Mato). Expressed desires for help from the outside are in the area of training, funds and Bible translation.

7.3 Attitudes of Religious Groups to Scripture and Literacy

Everyone in the language group responds positively to the idea of vernacular Scriptures and literacy, especially the leaders. It is supported not only by the Mato leaders, but also by the Parish pastor in Singorokai (a non-Mato). Response to Writer's Workshops has been disappointment due only to the fact that we are unable to teach everyone now. The people wish to be involved and learning literacy. However, the language program is not to the point of full-time literacy activities yet. We are not fully functional in the language.

7.4 Perceptions of Literacy and Literature

Literacy is seen as a definite advantage among the Mato. Their understanding of the Tok Pisin Scriptures is limited and unclear (especially with the younger and older people). Literacy and vernacular literature are not things thrust upon the Mato from outsiders, but rather something that the Mato initiated on their own. This shows a strong desire and prestige associated with vernacular literacy. As everyone is Lutheran, it exhibits endorsement by the local church.

Part 2: LITERACY

8. Education

8.1 Children

There are three community schools in the area that local children attend: Bonasi, Hamelingan and Uruwa. High schools include Heltspat and Drega near Finschhafen and Welowelo and Wasu near Wasu.

Bonasi Community School is located within the Singorokai language group, only a half-hour walk from Bobua. Most of the Mato children attend this school (about 50). Bonasi was originally located in Ronji in 1974, but for various reasons the school did not function well there and was moved to Singorokai in 1992. This school serves the Malasanga, Mato, Ronji and Singorokai language groups. The teachers are from Kavung, Madang, Malasanga and Sio. None of them know Mato. The medium of instruction is technically English, but students report using Tok Pisin in grade 1, with a mix in grade 2. It has been reported that disciplinary measures are taken against grade 3 students and higher who use Tok Pisin in school.

Hamelingan Community School is near Apalap in the mountains to the southeast. There are five children from Baxuya who attend this school.

Uruwa Community School is located in Sapmanga and primarily serves the Yau language group. Initially, it offered the closest community school option for Mato children. The Mato have parents residing in Sapmanga to watch over the children (approximately 25, all from Baxemanamuya or Gambulanglune) attending this school. This school has been in operation since 1973 and the medium of instruction is English.

There is no vernacular component in these community schools since they are attended by a mix of children and the teachers do not know Mato. However, the people reported that at Bonasi there is a cultural instruction period in English once a week in which the students form groups according to vernacular and work on their own *singsings* and learn how to make and use *kundu* drums in addition to traditional clothing, canoes, plates, combs, bows and arrows, and decorations.

Formal education statistics are low for the Mato. While slightly over half of those 9 years old and over have entered community school, only 18.5% have actually completed grade 6. No one has completed grade 12 and only three people have gone on to complete some sort of tertiary education (seminary and vocational school).

Grade	Male	Female	All
Entry	68.6%	33.7%	53.2%
3	59.4%	20.4%	42.2%
6	27.1%	7.7%	18.5%
8	3.5%	0.0%	2.0%
10	1.3%	0.0%	0.7%
12	0.0%	0.0%	0.0%
Tertiary	0.9%	0.0%	0.5%

Table 11. Education Levels for Mato Residents 9 Years Old and Over.

8.2 Adults

Every village in the Mato language group speaks almost exclusively Mato. Exceptions occur when speaking to outsiders, such as visitors, or those who have married into the language group and do not yet know the language. In these situations, Tok Pisin would be used unless both speakers knew Singorokai or Yau.

The following tables show literacy levels for adults (15 years and older) among the six Mato villages. For these statistics, I actually tested those who said they could read on some level in English, Tok Pisin and Mato. Less than 50% are literate on some level, and only 18% of women are either semi-literate or literate. The highest literacy rates occur among those in Baxemanamuya and Gambulanglune (who were closest to the community school in Sapmanga when it began in 1973).

Village		Baxemanamuya	Baxuya	Bobua	Bualu	Buxaringine	Gambulanglune	All
Adults		43	46	92	33	31	71	316
Illiterate		42%	63%	50%	67%	65%	49%	54%
	Men	20%	41%	32%	53%	47%	21%	33%
	Women	72%	83%	74%	86%	92%	90%	82%
Semi-Literate	English	35%	13%	33%	6%	23%	28%	25%
	Tok Pisin	5%	4%	5%	3%	3%	4%	4%
	Mato	49%	22%	29%	0%	23%	21%	25%
	Other	33%	17%	2%	3%	3%	1%	9%
Literate	English	2%	0%	0%	0%	0%	0%	0%
	Tok Pisin	51%	28%	45%	30%	32%	45%	41%
	Mato	0%	2%	3%	0%	0%	13%	4%
	Other	2%	2%	2%	0%	0%	4%	2%

Table 12. Adult Literacy Levels (15+ Years Old).
Other languages include Kâte, Yau and Yopno.

Village		Baxemanamuya	Baxuya	Bobua	Bualu	Buxaringine	Gambulanglune	Total
Adults		20	16	34	16	14	36	136
Illiterate		55%	63%	53%	81%	64%	53%	59%
Semi-Literate		5%	13%	6%	0%	0%	6%	5%
Literate		40%	25%	41%	19%	36%	42%	36%

Table 13. Adult Literacy Levels (25-40 Years Old).

9. Literacy

9.1 Existing Literacy Programs

There are no current formal adult literacy programs in existence. SIL has conducted an informal Writer's Workshop and plans more in the future. The Mato preschools are the vehicle of vernacular literacy education among the children (see §9.3). The literacy program should begin in earnest in 2001.

9.2 Agencies and Individuals Concerned with Education

There are two agencies interested in the education of the local population: SIL and the government. A full scale literacy program will be undertaken by SIL in the near future. The Officer-in-Charge in Wasu has expressed interest in aiding the program by assisting with funds for school buildings and supplies when the language program is ready for stepping up to *tok ples* elementary schools. The local government council there wishes to see the program succeed.

9.3 Mother-Tongue Literacy

As stated before, the interest in vernacular literacy prompted the Mato people to start their own preschools. These have been in operation since 1996, when the first school began in Gambulanglune. Bona Giniong and Liwangguna Waingging attended the Yau teachers' training courses near Sapmanga and were the first Mato teachers. In 1997, a school was added in the Mato village of Baxuya.

Interest is so high that the neighboring language group Ronji asked for Mato schools to be placed in their villages of Ronji and Gali which were begun in 1996 and 1997, respectively (Mato is the medium of instruction). Thus, there are four Mato preschools currently in operation. There has been some talk of the Apalap people wanting a Mato preschool in their area as well (even though it is a Papuan language and unrelated). This indicates that the area as a whole is interested in vernacular education.

There is evidence of reading and writing in Mato in the villages. Most letters are begun and ended with Mato greetings and the body is in Tok Pisin. This is mostly due to the lack of education regarding literacy in the vernacular. It is anticipated that once the people are literate in Mato, it will be used exclusively within Mato circles.

In our quest to elicit texts, we have made some texts available in booklet form with one copy going to the storyteller, one to the artist, and one to us. These booklets have been well-read by the adult men. Most women do not have the literacy skills in Tok Pisin to transfer to Mato in order to read it. But they are excited about the prospects of learning.

9.4 Language of Wider Communication Literacy

There is no interest in learning Kâte. Only the older generation has knowledge of it and then only on a limited basis. Tok Pisin literacy is desired in that most available materials are in this language. Very few people are literate in English, even though the community schools use this as the medium of instruction. Although the people express a desire to learn English, it has no practical benefits in their culture. If isolation were not a factor with the Mato, learning English would offer a way to a better standard of living. But as it is, English is of no benefit and there is no sociolinguistic domain that calls for it outside of school.

9.5 Attitude Toward Literacy

Most everyone in the Mato community desires to learn to read and write in the vernacular. People have inquired quite often when they can attend a Writer's Workshop or some other literacy course. The only resistance is amongst some elderly people who feel they are too old to learn these skills.

9.6 Personnel and Education Resources

Though enthusiasm for vernacular literacy is extremely high, personnel and education resources present the challenges of the Mato language program. Education levels among the Mato are very low, meaning that the burden of training will fall upon SIL and the government. In addition, income is scarce in this isolated place, and funding will require outside resources.

Local people can and should be trained to run the literacy program. I hope that the enthusiasm level will make up for the lack of education, meaning training of indigenous literacy personnel can occur, but will take extra effort on the part of the SIL trainers. Currently, there are no local trained personnel. However, the people are planning on sending someone to a provincial teacher's training course in Finschhafen. This will provide a test case to see how well the present schools respond to the training this person receives.

Currently, fees for a school term in the vernacular preschool are about K8 (quite a lot in the Mato economy). It should be noted that the school board has been saving some money from grants received from the government and has shown good stewardship of its limited resources. This is a positive sign.

There is no equipment available at the present time (save a couple chalkboards). Schools are constructed entirely out of bush materials. We have a gestetner that we plan to train the people on once we have a translation and literacy office in the village (sometime in 2000). The Officer-in-Charge in Wasu has expressed interest in seeing Local Government Council funds being used to aid in the construction of a vernacular elementary school when the program approaches that stage.

9.7 Local Definition of Literate

In my initial attempts to ascertain literacy levels, I only asked whether the subject was illiterate, semi-literate or literate in the language in question. This resulted in many semi-literate responses. However, I then began testing reading skills with materials in Mato, Tok Pisin and English. Literacy levels dropped one level when testing was introduced. Most people who claimed to be literate were only semi-literate and those claiming to be semi-literate knew only a few words or were once semi-literate and have forgotten how to read. Therefore, the local definition of literate would be anyone who can read on any level, no matter how poorly.

10. Literature

Interest is high for reading. This includes both the vernacular and Tok Pisin. At the moment, the stock of vernacular literature is quite low, but read over and over. I have loaned out devotional books in Tok Pisin,

only to have them come back well-worn, showing evidence that they were read and studied many times. English literature is not highly valued as few have the education to read it.

The only books the researcher has seen apart from Bibles and the few Mato primers are magazines that some of the vernacular preschool teachers have. The financial resources to invest in books are very limited.

There are a grand total of three cassette player/receivers in the language group: one in Bobua, one in Buxaringine and one in Gambulanglune. Beside listening to Tok Pisin music tapes, the radios are used to listen to PNG radio stations, in particular Radio Morobe, the local Provincial radio station.

11. Vernacular Literature

11.1 Vernacular Materials Produced

There is very little vernacular literature. Two primers were produced by the SIL linguist working in Yau in 1995, but they have deteriorated and are no longer in use. Only about five copies each were produced. There is no permanent record of these primers. Since then, one primer has been produced with an updated orthography. Some short booklets containing folk tales have also been produced as well as a collection of short stories resulting from a Writer's Workshop.

Title	Published	Producer	Available	Purpose	Orthography	Revision Needed
Bowa Xailongina	Jun 1997	SIL	No	Primer	Trial	Yes
Naxuyanga Xailongina	April 1998	SIL	No	Writer's Workshop	Trial	No
Gep	May 1998	SIL	No	Reading Material	Trial	No
Xanam	May 1998	SIL	No	Reading Material	Trial	No
Gumbak	May 1998	SIL	No	Reading Material	Trial	No

Table 14. Vernacular Materials Produced.

11.2 Titles Planned

There are no titles currently planned for production, though many will be produced when the literacy program is begun in earnest.

11.3 Materials and Titles Wanted

Aside from Scripture, the people desire many materials in the vernacular. These include primers (reading and math), folk tales, song books, health related topics, and devotional books.

11.4 Mother Tongue Writers

There are few active writers in the language group, due to there being no production facilities available. There are a few people who have presented me with written material to examine. The people's expressed desire for more Writer's Workshops indicates a strong desire to learn good writing techniques. They appear to be awaiting a forum.

12. Production, Promotion and Distribution

12.1 Local Means of Production

Currently, there are no local means of production. During the first Writer's Workshop, we introduced a silk screen, but its poor showing resulted in apprehension toward the medium. The stencils did not cut well when written upon. We hope to resolve this problem in the next workshop, and further train the people in the production of books and materials.

In the future, we hope to introduce a Gestetner duplicating machine to the people, on which the bulk of production will be done. When the literacy program is operating fully, this should provide an adequate level of quality and production for this size language group.

12.2 Prospective Means of Promotion and Distribution

An adequate means of promotion and distribution would be announcements in church and maybe some visits to villages. Since the Mato population is so small, word gets around rather quickly and materials pass from hand to hand.

13. Orthography

13.1 Existing Orthographies

The current orthography was developed by my wife Cherie and myself. It provides a few changes over the previous, short-lived orthography.

/	ɑ	b	d	e	g	h	i	k	l	m	n	ŋ	o	p	r	s	t	u	w	x	j	/
<	a	b	d	e	g	h	i	k	l	m	n	ng	o	p	r	s	t	u	w	x	y	>
<	A	B	D	E	G	H	I	K	L	M	N	Ng	O	P	R	S	T	U	W	X	Y	>

*Table 15. Phonemic and Orthographic Inventory
(Line 1 is phonemic, line 2 is small orthographic and line 3 is large orthographic).*

The initial orthography was developed by Urs Wegmann, the Yau translator, after a weeklong visit to the area. In this orthography, the velar fricative /x/ was represented as <ch>. Further research has shown that the Nanaya dialect pronounces /x/ as [ʔ]. This factor, coupled with the simplicity of using a single letter versus a digraph led to the decision to write <x> for /x/. It is noted here that in Kâte (the original church language), the glottal stop /ʔ/ is written <c>. However, very few people in the language group now know Kâte.

The trigraph <ngg>, presumably for /ŋg/ (no evidence has been found of prenasalization), also shows up as part of the initial orthography. However, it was judged to be superfluous, with <ng> and <g> already being part of the orthography, and thus deleted.

The velar nasal /ŋ/ is written <ng> as in the neighboring language Arop-Lokep and national languages Tok Pisin and English.

13.2 Similarities Between LWC and Vernacular

The Mato and Tok Pisin orthographies are very similar. The phonemic inventory is simpler in Mato. Hence, Mato has fewer orthographic letters. The convention for using <ng> to represent the velar nasal is the same. The only phoneme in Mato not existing in Tok Pisin is /x/.

Syllable patterns in Mato fall into a subset of Tok Pisin. Patterns in Mato are: V, CV, VC, CVV, CVC. Although Tok Pisin has consonant clusters, there are none in Mato.

13.3 Complex Linguistic Factors

Mato is phonologically simple. There are no complex linguistic factors affecting the orthography. Tone is not a distinguishing factor and there is no nasalization apart from predictable patterns that are consistent with Tok Pisin.

13.4 Status of Orthography

The current orthography is in the trial stage as developed by SIL. It has met with acceptance by the Mato people and an Organized Phonology Description is on file in the Linguistics Section of the Technical Studies Department of SIL.

13.5 Developers of Orthography

The current orthography was developed by SIL translator Scot Stober and SIL literacy specialist Cherie Stober in close consultation with the Mato people. An earlier orthography was developed by SIL translator for the Yau people, Urs Wegmann (see §13.1), in consultation with about five men who went to his village to produce the two initial primers.

13.6 Disagreements over Orthography

There are no open disagreements over the current orthography.

13.7 Problems with Orthography

The orthography presents one noticeable problem among the limited number of people using it. The Nanaya writers tend to write <'> or nothing at all for <x>, even though it is phonemic in their dialect, just a substituted phoneme (/x/ in Bonea for /ʔ/ in Nanaya):

Bonea Dialect	Nanaya Dialect	Orthographic Form	Observed Variation	Gloss
['mo.ʔa]	['mo.ʔa]	moxa	mo'a or moa	'snake'

14. Motivation

The people are very motivated. In particular, they wish to learn to read the Scriptures in order to build a better relationship with God. Most sincerely want to serve Him. In addition, they have seen the benefits generated by vernacular literacy in the neighboring language Yau. They desire the head start that the children would receive by learning first in the language they understand best, Mato.

Letter writing, while a factor, is not a driving motivation. The people live close enough together that messages are generally delivered in person. However, desire has been expressed to write in the vernacular to each other (I have received letters written in Mato and had to have some portions translated as I do not have a complete grasp of the language yet).

15. Attitudes to Education

15.1 Attitude of Traditional Leaders

The traditional leaders are behind the push for education. They attend most meetings on the subject and are involved in the process. As the preschools developed in the area on their own, the traditional leaders were the ones who initiated the move toward vernacular education. This attitude extends to adult education as well.

15.2 Attitude of Other Leaders

The national Parish pastor who lives in Singorokai is behind the idea of education in the vernacular in both domains of child and adult education. This is also true of the Mato pastor living in Gambulanglune.

15.3 Educational Results Desired by Leaders

Results from educational efforts involve two areas: vernacular literacy, especially as it relates to the Bible, and improved performance/learning motivation in the community and high schools. The leaders wish to see Mato used according to government standards, which currently prefer three years of vernacular education before the student migrates to an English community school.

15.4 Educational Methods Desired by Leaders

The method for educating children should be through the school system. Adult education seems to be accepted in an informal, workshop level setting.

15.5 Life After School

Currently, little of the education acquired in school is put to use. Literacy in Tok Pisin seems to last as there is literature for the reader to use his or her skills with. One possible use of education is in the area of community development. If the development currently under way leads to more development, skills in carpentry, engine mechanics and agriculture could be put to good use for the good of the community.

16. Traditional Methods of Teaching/Learning

16.1 Consciously Taught Topics

Consciously taught topics include housebuilding, mat and basket weaving, and carving *kundu* drums. Preparations for *singsing* decorations and the actual *singsing* itself is another topic that is consciously taught.

16.2 Students

Young people up to manhood and womanhood are most often the ones taught by conscious methods. Younger people do not usually teach older ones and teaching is usually done within genders when the student is no longer a child.

16.3 Teachers

Teachers are usually parents or family members concerned with the contribution the person can make to the family or clan. Mothers teach their young girls how to garden in order to contribute to the workload. Fathers teach their sons how to hunt and build houses in order to establish their manhood.

The *singsing* learning session observed included older and middle aged women teaching the younger girls and middle aged men teaching the younger boys.

As my wife, Cherie, is the literacy specialist, I inquired on the survey of the people's attitudes toward a woman teaching men literacy. The response was unanimously favorable. The one Writer's Workshop conducted was successful and thus showed the people's response was sincere (all seven attendees were men and Cherie was the teacher). This may be due to the latitude they give westerners. We expect to train women wherever possible to teach adult women.

16.4 Period of Instruction

Teaching is usually done in a short time. The *singsing* was observed being taught in one night. However, housebuilding has been taught over the course of a few months whenever the youths' interest arises. Teaching is usually done in the mornings before the heat of the day becomes more conducive to sleeping than learning.

16.5 Teaching Methods

Traditionally, consciously taught methods involve informal settings in which the students learn in a hands-on environment.

16.6 Rewards of the Educator

Rewards are usually intangible for the educator. These would include satisfaction and emotional rewards as the educator sees the learner develop.

16.7 Encouraging the Motivation to Learn

Motivation to learn usually emanates from the educator's willingness to teach the topic.

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