



A Sociolinguistic Survey of Bebeli

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Abstract

From 6–9 November 2009 the SIL-PNG survey team conducted a survey of the Bebeli [bek] language, located to the east of Kimbe in West New Britain Province, Papua New Guinea. Bebeli belongs to the East Arawe subgroup of Austronesian languages (Lewis 2009). The goals of the survey were to determine language and dialect boundaries and evaluate language vitality. Data were collected through individual and group interviews, wordlist elicitation and observation of language use in each Bebeli-speaking village. The Bebeli language is spoken in three villages: Morokea, Mosa and Banaule, and residents of each village speak a different dialect of the language. Speakers reported that adults understand the other dialects well. The ethnolinguistic vitality of Bebeli is currently low.

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References

1 Introduction

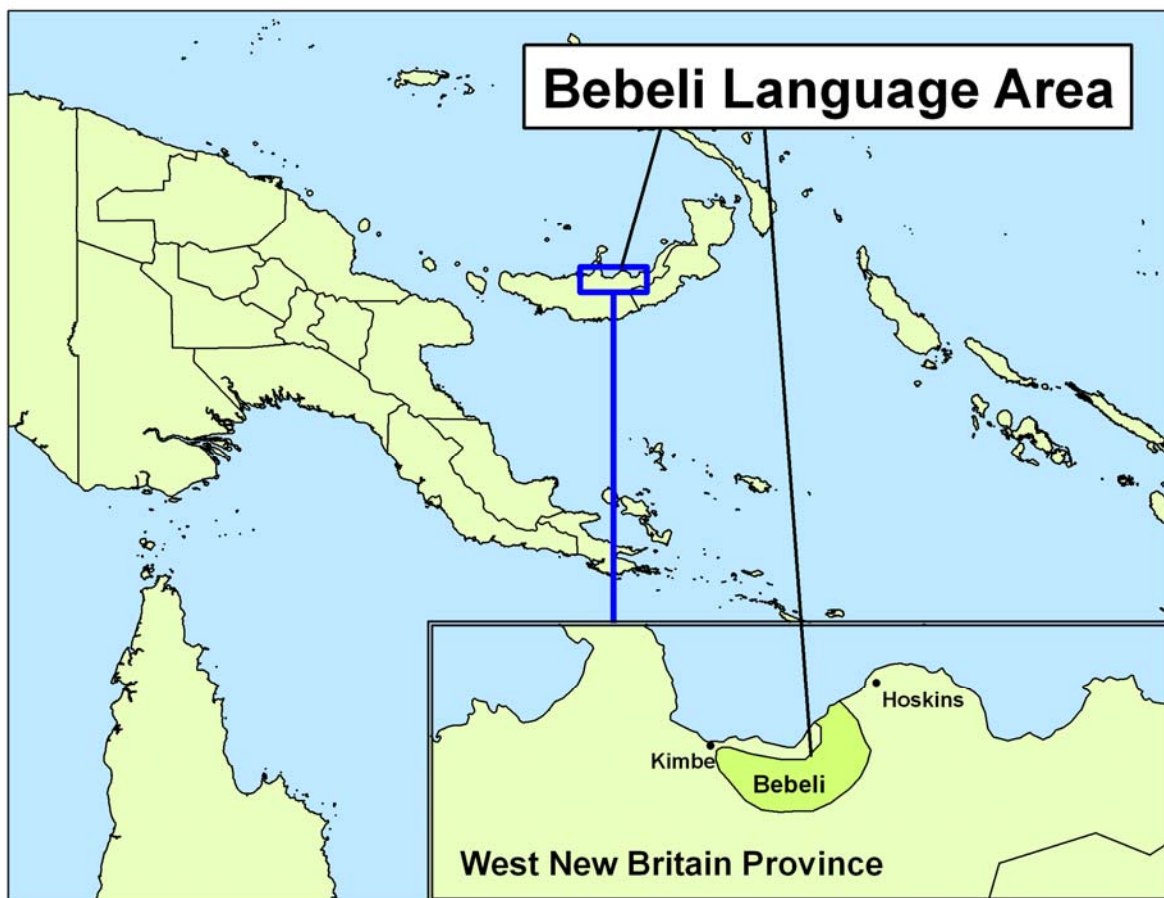
Between the 21st of October and the 10th of November 2009, an SIL survey team consisting of Bonnie MacKenzie, Juliann Spencer, Sara Van Cott and Jacob Bullock undertook a survey of four languages in the Arawe group of West New Britain. The languages surveyed were Ambul [apo], called Apalik in the sixteenth edition of the *Ethnologue* (Lewis 2009); Amio-Gelimi [let], listed as Lesing-Gelimi in the *Ethnologue*; Avau [avb] and Bebeli [bek]. The field work in the Bebeli language area was completed between the 6th and 9th of November. The goals of the survey were to determine language and dialect boundaries and evaluate language vitality.

The survey team wishes to express its deep appreciation for the kind assistance and hospitality of the people in Mosa, Morokea and Banaule villages, as well as the New Tribes Mission in Hoskins. Team members would also like to thank the individuals and groups who took the time to answer many questions about their languages, histories, cultures and communities, and the educators and church leaders who talked with the surveyors about their institutions and the people they serve. Together, they made this survey possible.

1.1 Language location

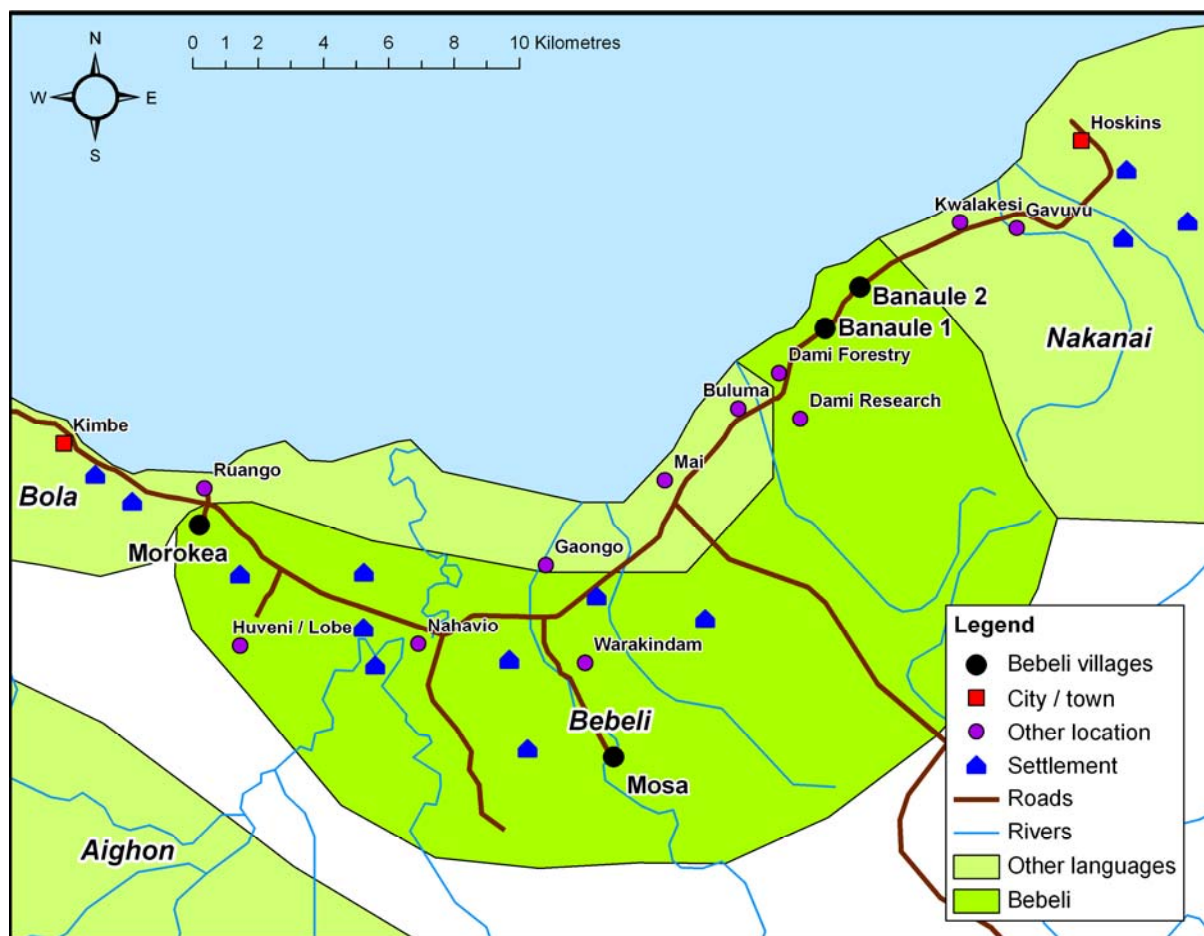
Bebeli is located on the north coast of West New Britain Province, in the Cape Hoskins and Stettin Bay area, between Kimbe and Hoskins. Map 1 shows the location of the Bebeli area within Papua New Guinea.

Map 1. Bebeli language area



The survey team visited the three villages of the Bebeli language area: Morokea, Mosa and Banaule. Banaule village, on the eastern end of the language area, is about ten kilometres southwest of the Hoskins area. Mosa, the central village, is another fifteen to twenty kilometres southwest of Banaule. Morokea village, on the western end, is about five kilometres southeast of Kimbe. The villages are fairly spread out, located at least fifteen kilometres apart with many businesses, markets, plantations, other villages (all labeled as “other location” on Map 2) and settlements amongst them.¹ The other locations, settlements and all three Bebeli villages are shown on Map 2, along with Kimbe and Hoskins.

Map 2. Bebeli villages²



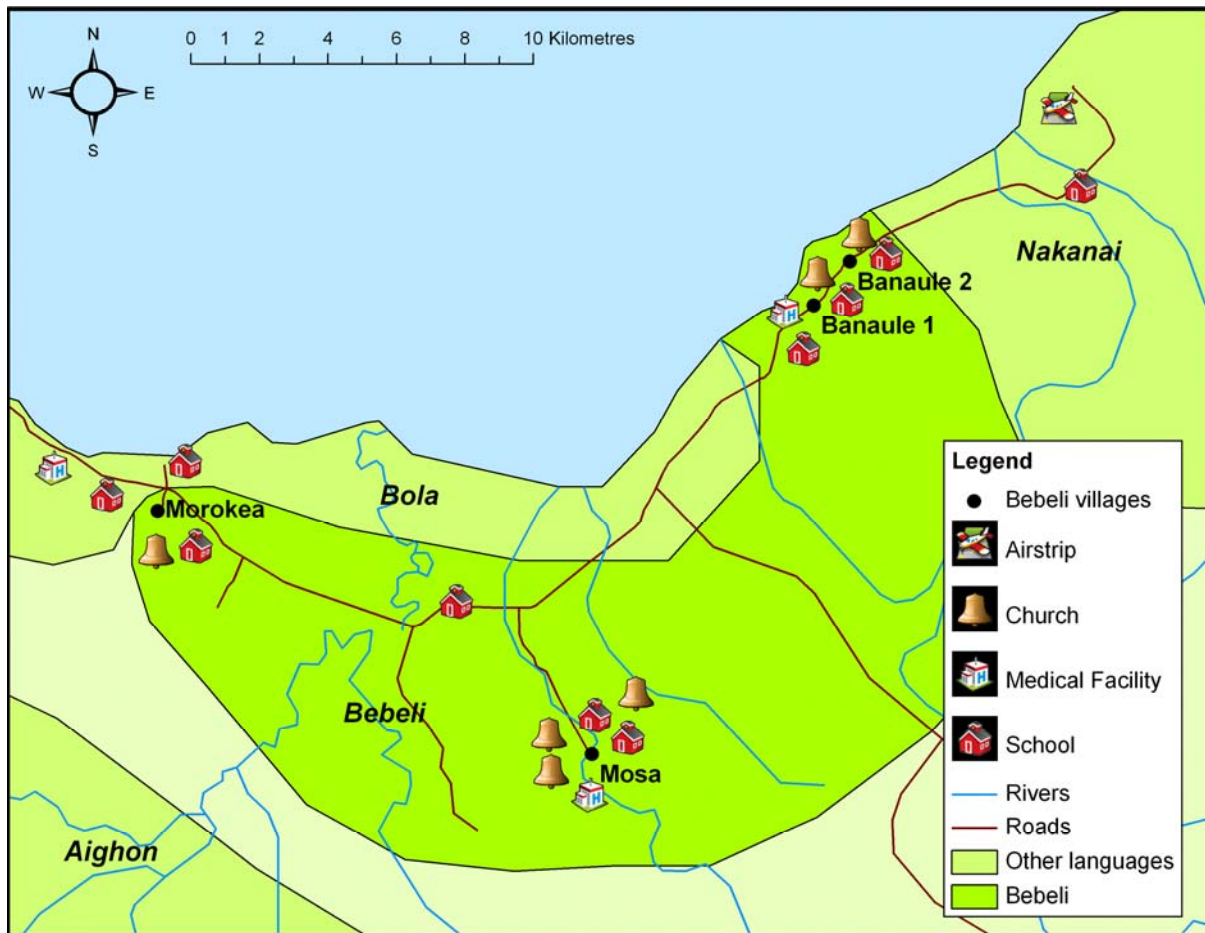
Ruango, Gaongo and Buluma, marked above as “other location”, were described as Bola-speaking villages. Mai is a mission station. Kwalakesi and, most likely, Gavuvu are Nakanai-speaking villages. Bebeli speakers spoke of going to the market in Nahavio, but the survey team did not obtain any further information about Nahavio, Huveni/Lobe or Warakindam.

¹The survey team did not obtain information about all of the settlements shown here. Generally, in Papua New Guinea settlements are locations where people have moved away from their traditional village, often outside of their language area.

²There are more roads in the area than are shown on the map.

Map 3 shows airstrips, churches, medical facilities and schools in the Bebeli area. The placement of these facilities has been done for illustrative purposes only and is not intended to be geographically accurate.

Map 3. Bebeli facilities



1.2 Language name and classification

According to the *Ethnologue* (Lewis 2009), Bebeli [bek] may also be referred to as Banaule, Benaule,³ Beli, Kapore or Yangura.

³Banaule is one of the three Bebeli villages; Benaule is an alternate spelling for Banaule village.



Figure 1. Classification of Bebeli

1.3 Population

Table 1 shows the population of the villages in which Bebeli is spoken, as given by the 2000 national census (National Statistical Office 2002a). According to the census (National Statistical Office 2002b),

the average annual growth rate for West New Britain Province between 1980 and 2000 was 3.6 percent. The projected 2009 population based on this growth rate is also shown for comparison.

Table 1. Bebeli village populations from 2000 census

District	LLG	Ward	Village	Census Households	Census Population	Projected 2009
Talasea	Hoskins Rural	Kwalakesi	Banaule	137	796	1094
	Mosa Rural	Laheri	Mosa	141	764	1050
	Talasea Rural	Nalabu	Morokea	152	741	1019
			TOTAL	3	430	2301
						3163

In each Bebeli village a surveyor asked people to estimate the population of their village; she also attempted to count the number of houses in the village. The resulting data is shown in Table 2. The number of houses counted in each village has been multiplied by 5.7, the average household size for the three villages (National Statistical Office 2002b), to show the current population based on the number of houses.

Table 2. Recorded Bebeli village populations

	Households counted	Population based on households	Reported population
Banaule	142 ^a	809	1500
Mosa	130	741	1000
Morokea	150	855	625
TOTAL	422	2405	3125

^a82 houses in Banaule 1 and 60 in Banaule 2.

The reported population and the 2009 projected population are both very close to 3100, so this is likely to be an accurate figure for the total population of the Bebeli area. The number of households counted on the survey is also very similar to the number of households reported in the 2000 census. The population based on the number of counted households and 2000 average household size is therefore closer to the 2000 census population than it is to the reported or projected population figures. An increase in the average household size in the Bebeli area would account for the discrepancy between the population figures based on households and the reported and projected population figures.

1.4 Goals

The goals of this survey were to determine language and dialect boundaries and to evaluate language vitality. Language boundaries have been suggested by previous research, but have not been confirmed, and it was not known whether there were any dialect differences within the Bebeli language area. Nothing was known about language vitality.

2 Methodology

2.1 Tools

Language and dialect boundaries were determined based on previous research, reported language and dialect boundaries and lexicostatistic data. Language vitality was evaluated by conducting group and individual interviews and observing language use within Bebeli communities.

Group interviews regarding language use were conducted in all Bebeli villages, and information collected during these interviews addresses both language vitality and language and dialect boundaries. These interviews were guided by the standard SIL-PNG language use interview.⁴ When possible, the interviewer tried to obtain the opinions of both males and females from varying age categories: young, middle-aged and older.

The 170 words and twenty phrases contained in the standard SIL-PNG wordlist (1999 revision) were elicited in each village. These three Bebeli wordlists were compared with each other and with wordlists from the Aighon, Aiklep, Ambul, Amio-Gelimi, Avau, Bola, Gimi, Mangseng and Nakanai languages, using the lexicostatistic comparison method described by Blair (1990:30–33). This comparison was used along with other data to determine language and dialect boundaries.⁵

Group interviews regarding immigration, emigration and cultural practices were completed in every village. Individual interviews with school staff and church leaders yielded information regarding language use and attitudes within schools and churches. All of these interviews were guided by standard SIL-PNG questionnaires, with the goal of assessing language vitality.

In every village members of the survey team observed which languages were being spoken, by whom and to whom, and recorded these observations. Language use observations gave valuable insights into language vitality.

2.2 Sampling

The survey team collected data in all three of the villages where Bebeli was reported to be spoken: Morokea, Mosa and Banaule.⁶ These villages and the length of time spent in each are shown in Table 3.

Table 3. Work schedule

Dates	Village
6–7 November	Morokea
7–8 November	Mosa
8–9 November	Banaule

For group interviews respondents were chosen based on availability. In an effort to gain the opinions of all demographic groups, everyone who was in the village at the time was invited to participate. For individual interviews respondents were chosen based on their position in the school or church. Headmasters, catechists and pastors were interviewed when possible, or, if they were not available, someone else in a position of leadership was chosen. Spokespeople for the wordlists were chosen by the community, but were required to have been born and raised in the village under consideration. Data collection was completed by Bonnie MacKenzie, Juliann Spencer and Sara Van Cott.

⁴Potter et al. (2008:66–69) published a copy of the standard SIL-PNG language use interview.

⁵See section 3.3 for more information on the methodology of the lexicostatistic comparison.

⁶The 2000 census showed a village named Mosa, as well as seven other census points labeled Moka 1 through Moka 7. While in the area, the survey team asked about these census points and were told that they were not Bebeli villages. They most likely represent settlements in a geographic area loosely termed “Mosa.”

2.3 Critique

During the course of the survey, the Ambul, Amio-Gelimi, Avau and Bebeli wordlists were all elicited by Juliann Spencer, but the Aiklep, Gimi, Aighon, Mangseng, Nakanai and Bola wordlists were obtained by other linguists at different times. Even though Spencer sought to be consistent in the methodology used for the wordlists she elicited, it is probable that there were differences between her methodology and those of the linguists who provided the other wordlists. These differences may have had an effect on the results of the lexicostatistic comparison between Bebeli and neighbouring languages. Comparison of wordlists elicited by different linguists tends to be inconsistent and affect the reliability of the results.

For example, the Aiklep and Gimi wordlists used in the lexicostatistic comparison were written phonemically, rather than phonetically like the rest of the wordlists. This discrepancy could have an impact on the results of the comparison. For the comparison, the symbol 'ng' was interpreted as the phone [ŋ] and the symbol 'y' was interpreted as the phone [j].

In addition, surveyors do not have time to become very knowledgeable about the language; consequently, they will produce a less reliable list than one obtained in a survey situation by a linguist who knows the language well.

Reported language use data are often subjective, because the villagers' perceptions of their language use may differ from their actual language use. However, the fact that the reported and observed language use data are generally consistent gives greater credibility to both sources of data. See section 4.2.5 for a summary of reported and observed language use.

3 Language and dialect boundaries

Previous research (Johnston 1980) suggests that the Bebeli language is spoken in three villages: Morokea, Mosa and Banaule. Recognizing that there are numerous factors, both linguistic and social, which may affect how one defines a dialect or language, the survey team sought to establish such boundaries in the Bebeli area on the basis of reported identification, reported comprehension and linguistic similarity. These areas were examined in a group interview guided by the SIL-PNG language use interview schedule to learn about language attitudes and reported comprehension and identification, and by using the SIL-PNG standard wordlist (190 items) to elicit words and phrases for comparison of linguistic similarity.

In addition to the three points identified above (identification, comprehension and similarity), the team also researched language and dialect attitudes i.e. investigating what attitudes are held by the different groups towards each other. Attitudes were investigated through the language use interviews.

It was not the goal of the survey team to be able to identify the precise geographical boundaries between languages or dialects, nor should any resulting maps be considered an indication of land ownership by the speakers of the language or dialect.

3.1 Previous research

Very little previous research has been done regarding the Bebeli language. Raymond Johnston (1980:124) writes that Bebeli "has not been studied to date." Johnston lists Morokea, Mosa and Banaule as the only three villages within the Bebeli language area but gives little information regarding the classification of Bebeli, apart from stating that Bebeli and Mangseng are more similar to each other than to the other languages in what he refers to as the Whiteman family, which also includes the Kaulong, Sengseng and Miu languages (1980:123–124, 227). Johnston also provides a list of Bebeli phonemes, some limited grammatical information and a Bebeli wordlist. These can be found in *The Languages and Communities of the Kimbe Bay Region* (Johnston 1980:122–126, 144–151).

3.2 Reported language and dialect boundaries

In all three villages it was reported that the Bebeli language is indeed spoken in Morokea, Mosa and Banaule villages. Reports indicate that each of the three villages speaks a slightly different variety of Bebeli, and no two villages were consistently grouped together as speaking the same dialect. People in Morokea said that Mosa and Banaule both speak the same variety, which is different from that spoken in Morokea. Respondents in Banaule said that Mosa and Morokea speak the same variety, which is different from their own variety. In Mosa, however, the people reported that two different varieties are spoken in Morokea and Banaule, both of which are different from that spoken in Mosa. People in Mosa said that Banaule residents mix in some Nakanai words, while Morokea residents mix in some Bola words.

Respondents in Mosa said that the variety spoken in Mosa is the purest form of the language, since the other two villages are close to other language areas. They reported Morokea to speak the second purest variety. People in Banaule said that the variety spoken in Mosa and Morokea is the purest, and those in Morokea said that no village speaks a variety that is purer than the others.

In Banaule it was reported that both children and adults can understand the varieties spoken in Mosa and Morokea. In those two villages, however, people said that adults can understand the varieties in other villages, but children can only understand some of other varieties. However, given children's limited use and comprehension of the Bebeli language (see sections 4.2.1, 4.2.2 and 4.3.1), these reports may reflect a limited understanding of Bebeli in general rather than difficulty understanding the varieties spoken in other villages.

3.3 Lexicostatistic comparison

All three villages in the Bebeli language area share at least 81 percent lexicostatistic similarity, but not more than 84 percent, indicating that each village speaks a unique variety of Bebeli, which aligns with reported data. As reported, Morokea is slightly more similar to Bola than are the other two Bebeli villages, and Banaule is slightly more similar to Nakanai than are the other two villages.

3.3.1 *Methodology*

In each of the three Bebeli villages the same member of the survey team elicited 170 words and twenty phrases in the Bebeli language, using the standard SIL-PNG 190-item list. In addition, thirteen words not on the standard list were elicited in some villages but were excluded in the comparison. These additional words are included in the wordlists given in Appendix D. In all three villages the words were elicited from a Bebeli speaker whose parents were from that village and who had been born and brought up in that village.

The words elicited in each village were compared using the lexicostatistic similarity method described by Blair (1990:31–33). When possible, affixes were excluded and only the roots were compared. Some items were excluded from the comparison for these reasons: it was believed that the wrong item was elicited, the word given was a Tok Pisin word or the item contained only morphemes that had already been compared in other items.⁷ Similarity percentages were then calculated using the WORDSURV computer program (Wimbish 1989).

Following the same procedure, the Bebeli wordlists were also compared with one Aighon wordlist, one Aiklep wordlist, four Ambul wordlists, four Amio-Gelimi wordlists, six Avau wordlists, one Bola wordlist, one Mangseng wordlist and one Nakanai wordlist. More information regarding the sources of these wordlists can be found in Appendix C.

⁷See Appendix C for a list of excluded items.

3.3.2 Lexical similarity comparisons and interpretation

The three Bebeli villages share between 81 percent and 84 percent lexicostatistic similarity and have much lower percentages with other neighbouring varieties, indicating that there are dialect differences among the villages, but that they can be considered the same language. Mosa and Morokea are slightly more similar to each other, at 84 percent, than either is to Banaule, with which they both share 81 percent, but they are still different enough that they can be considered different dialects.

The Bebeli wordlists were also compared with wordlists from the Aighon, Aiklep, Ambul, Amio-Gelimi, Avau, Bola, Gimi, Mangseng and Nakanai languages. Bebeli shares an average lexical similarity of 31 percent with Avau, 23 percent with Amio-Gelimi and less with the other languages in the comparison.

People in Mosa reported that residents of Banaule use some Nakanai words, while residents of Morokea use some Bola words. Based on the lexicostatistic comparison, Bebeli villages have a very low similarity to either Bola or Nakanai. However, Banaule is, indeed, slightly more similar to Nakanai than are the other Bebeli villages, and Morokea is slightly more similar to Bola. Table 4 shows the similarity between the Bebeli villages and Bola and Nakanai.

Table 4. Percent similarity between Bebeli villages and Bola/Nakanai

	Morokea	Mosa	Banaule
Bola	16	14	13
Nakanai	10	9	11

3.4 Conclusions

Previous research indicates that there are three villages within the Bebeli language area: Morokea, Mosa and Banaule. Reported language boundaries and the lexicostatistic comparison both confirm that these are, in fact, the villages in which Bebeli is spoken. Both reported data and the lexicostatistic comparison indicate each village speaks a distinct variety of the language so that Bebeli may be said to have three dialects corresponding to the three villages. Adults in all three villages and children in Banaule are reported to understand the other dialects, while children in Mosa and Morokea have partial understanding of the other dialects. However, in light of children's limited use of Bebeli, their limited comprehension of the other dialects may reflect limited proficiency in Bebeli in addition to differences between the varieties.

4 Language vitality

Lynn Landweer (2006:213–214) has identified three themes that impact ethnolinguistic vitality: opportunity for contact with other language groups, actual language use and language attitudes. The data presented in the following three sections, which address these three themes, were collected with the goal of assessing language vitality.

4.1 Opportunity for contact with other languages

Contact with other languages is an indicator of potential language shift. “As a shift in language allegiance can not occur without contact with an alternative code or codes, evidence of such contact, or lack thereof, can indicate the potential stability of a given language as the preferential code for a given group of people” (Landweer 2006:214). The less contact speakers of a language have with speakers of other languages, the more vital their language is likely to be. Bebeli speakers have extensive contact with outsiders, which is a negative factor for the vitality of the Bebeli language.

4.1.1 *Immigration and emigration*

Immigration and emigration can have an impact on language vitality, because they can lower the ratio of speakers of various vernaculars living in the language area (Landweer 2006:193). According to Landweer (1991), immigration is less likely to negatively impact language vitality when immigrants are proficient in the local language of their new home and no more than ten percent of the population is composed of immigrants. Immigrants make up about thirteen percent of the population and only half of them are reported to speak Bebeli. Forty percent of all marriages in the Bebeli area involve an immigrant, although seventy percent of children of immigrants are reported to speak Bebeli. The threat of immigration on the vitality of the Bebeli language is great, because of the high percentage of immigrants and the fact that only half speak Bebeli.

There are 240 adult immigrants living in the Bebeli area (143 men and 97 women), who make up approximately thirteen percent of the adult population of the Bebeli communities.⁸ Immigrants to Bebeli come from many areas of New Britain (the Bola, Nakanai, Muduapa, Uneapa and Kuanua language areas, and the Arawe region in south New Britain) as well as from all over Papua New Guinea (New Ireland, Manus, Bougainville, Central, Madang and Morobe Provinces, the Sepik and the Highlands).

All immigrants to the Bebeli area have come because they each married a Bebeli person. People from Mosa and Morokea reported that both male and female immigrants move to their villages for marriage, because of their close proximity to Kimbe. Because of this, nobody from Mosa or Morokea has emigrated for marriage. There are approximately 1203 married people living in the Bebeli language area.⁹ Of these 601 marital unions, approximately forty percent involve an immigrant.¹⁰

Fifty-one percent (122 of 240) of all immigrants speak Bebeli. More female than male immigrants can speak Bebeli, as sixty percent (56 of 97) of female immigrants are reported to be able to speak Bebeli, while less than half¹¹ (66 of 143) of male immigrants can speak Bebeli. Some of the immigrants who cannot speak Bebeli are able to understand it, although they respond in Tok Pisin.

Children of most immigrants were reported to know Bebeli. Of 206 immigrant parents for whom there is data, children of 145 (seventy percent) were reported to speak Bebeli, but these reports seem unlikely, given that few children of Bebeli speakers are reportedly able to speak Bebeli and children were rarely observed using Bebeli.¹² Children of an additional twelve immigrants were reported to understand Bebeli, but reply in Tok Pisin.

Fifty-three Bebeli adults have emigrated from the Bebeli language area,¹³ which represent approximately three percent of the adult population.¹⁴ Twenty-one of these emigrants have left the area to work.¹⁵ The other thirty-two emigrants (all from Banaule) have married people from other areas¹⁶ and moved there. People reported that emigrants from all three villages return to visit occasionally. Emigrants from Morokea and Mosa speak both Bebeli and Tok Pisin with their friends and family upon their return, while emigrants returning to Banaule use only Bebeli when they are visiting. Children of emigrants speak only Tok Pisin when they are visiting the Bebeli area. Only children of people who have emigrated to Banaule from Morokea or Mosa are reported to speak some Bebeli along with Tok Pisin

⁸Percentage of immigrants living in Bebeli communities = Immigrants / (Bebeli population, projected to 2009 * adult percentage of population) = 240 / (3163*.587) = .129

⁹Married people living in Bebeli communities = (Bebeli population, projected to 2009 * adult percentage of population) * Percentage of married adults in Bebeli communities = (3163*.587) * .648 = 1203.13

¹⁰Marriages involving an immigrant = Immigrants / (Married people living in Bebeli communities / 2) = 240 / (1203/2) = .3990

¹¹46%

¹²See sections 4.2.1 and 4.2.2.

¹³See Table 5 for a breakdown of work immigrants.

¹⁴Percentage of Bebeli emigrants = Emigrants / ((Bebeli population, projected to 2009 * adult percentage of population) + emigrants - immigrants) = 53 / ((3163*.587) + 53 - 240) = .0317

¹⁵See section 4.1.3 for more information about work emigrants.

¹⁶For example, West New Britain Province, East New Britain Province, Sepik regions, Morobe Province, Central Province and Bougainville.

when they return to Banaule. The low percentage of emigrants in the Bebeli language area and their language use patterns indicate that emigration is not likely to have a significant impact on language vitality.

4.1.2 Transportation

Landweer (2006:174–177) has pointed out that the language vitality of communities with easy access to a population centre where they are likely to mix with speakers of other languages on a regular basis is at greater risk than the vitality of communities with less access to large population centres. People in the Bebeli area have easy access to Kimbe town, where they interact with speakers of many languages. Speakers from other areas also have easy access to the Bebeli area via the Kimbe-Hoskins highway. This level of contact between Bebeli speakers and outsiders is a major risk for the vitality of the Bebeli language. The distance and relative difficulty of travel between Bebeli villages also have a negative effect on language vitality, as the Bebeli villages are spread out and interspersed among people speaking many other languages.

Road Travel

All three of the Bebeli villages are near the Kimbe-Hoskins highway. The road goes through the middle of Banaule; Morokea is less than one kilometre from the road; and Mosa is about five kilometres from the road. People from Mosa and Banaule reported that many people travel to Kimbe once every other week via public transportation. People from Morokea reported that they sometimes travel to Mosa, Banaule, Hoskins and Talasea, while those from Banaule reportedly travel farther to the Talasea area,¹⁷ Bialla,¹⁸ in East New Britain, Gasmata and Amio.¹⁹

People from each village have easy access to public transportation, and many were reported to use it on a regular basis. Most people travel to Kimbe at least once every two weeks. At the time of the survey, travelling from Mosa to Kimbe on public transportation cost three kina,²⁰ and travelling from Banaule to Kimbe cost four kina,²¹ so the cost of travel is not prohibitive. Many public motor vehicles regularly travel from Mosa and Banaule to Kimbe and Hoskins and back. People in Banaule own two public motor vehicles and one private car; those in Mosa own two private cars, which are often used for public transportation; and people in Morokea have one vehicle.

Air Travel

When the Bebeli people travel by air, they use the Hoskins airstrip, a thirty-minute drive east from Morokea and a ten-minute drive from Banaule. People reported that they often travel by air to Port Moresby, Rabaul, Buka, Lae, Kavieng, Kerema and Mt. Hagen. People reported that many people from all three villages have flown to these places in the past. Young people often fly back and forth to school in Rabaul or other places. People also occasionally fly to the south coast of New Britain to visit relatives or take care of business matters.

¹⁷In the Bola language area, west of Bebeli.

¹⁸In the Nakanai language area, east of Bebeli.

¹⁹Gasmata and Amio are located on the south coast of West New Britain Province. There are a few former logging roads that run from the north to south coast.

²⁰Approximately US\$1.14

²¹Approximately US\$1.52

Trails

People in the Bebeli area use trails to walk to other villages. Since the language area is geographically spread out, people in each village use different trails. People in Morokea live so close to Kimbe that they walk there, instead of going by car. They reported that to walk to Kimbe from their village takes from five to ten minutes. Those in Morokea also walk to Ruango, a Bola village about one kilometre north, and Morokea Village Oil Palm (VOP).²² People in Mosa reportedly walk only to Gaongo, a Bola village on the main road. People in Banaule reportedly walk to Buluma (supermarket and village), Mai Mission and other nearby places.

Water Travel

Although the Bebeli area is relatively near the coast, people do not often travel by water. People in Mosa and Banaule reported that they never travel by water. Those in Morokea reported that they sometimes travel to Talasea, Kombe or Bali Island by dinghy or to Bali Island, Rabaul, Buka, Lae or Kavieng by ship. It costs 140 kina²³ to travel by ship to Rabaul, and 250 kina²⁴ to travel by ship to Buka. People in Morokea and Banaule reported that they sometimes use canoes to go fishing in the ocean.

Summary of transportation

Bebeli speakers have easy access to several kinds of transportation. The highway between Kimbe and Hoskins runs within five kilometres of all three Bebeli villages, and public transportation on this highway is affordable. There is an airstrip in Hoskins, only a ten-minute drive from Banaule village, and many people have reportedly flown from there. Residents of Morokea are able to walk to Kimbe, and people in all three villages travel to other places by foot. Bebeli speakers are also able to travel outside their language area by ship, although they do not often do so. The fact that Bebeli speakers can easily travel to population centres where they have contact with speakers of other languages could pose a threat to the vitality of the Bebeli language.

4.1.3 Economics

According to Landweer, language communities that do not need to use a second language to meet their perceived economic needs typically have higher language vitality than those that are dependent on an economic base outside the language area (2006:209). The Bebeli people can meet some of their economic needs from within their own area; however, they also have much contact with the outside Tok Pisin-speaking world, which could have a negative effect on language vitality.

Many Bebeli people still tend gardens, which provide the majority of their food. Within each village, people can buy fish, fruits, vegetables, tobacco and betel nut from each other, and these interactions take place in both Tok Pisin and Bebeli. There are around twenty trade stores in the Bebeli area: seven in Morokea, two in Mosa and around ten in Banaule. People from all three villages buy food, clothing and other items from stores and the market in Kimbe. Only a few Bebeli people are employed in stores in Kimbe. Bebeli people no longer trade with people from other villages or language areas.

The palm oil industry has a major presence in and around the Bebeli area. Much garden land has been cleared, and oil palm trees planted. Many settlements inhabited by industry workers have been established throughout the area. Although the industry was established in the 1960s, it employs very few Bebeli people – only a doctor from Morokea and two truck drivers from Mosa. However, people are able to earn money by harvesting and selling the oil palm fruits. People also grow and sell other cash crops:

²²A settlement established by employees of the local oil palm industry.

²³Approximately US\$53.20

²⁴Approximately US\$95

coconuts and cacao beans. People speak Tok Pisin when selling coconuts, cacao beans and oil palm fruits.

A small proportion of the Bebeli population has left the area to work elsewhere. At the time of the survey, seventeen Bebeli men and four Bebeli women were living outside of the language area in order to work. See Table 5 for a breakdown of the number of work emigrants by village and destination. Approximately one percent of the adult Bebeli population²⁵ has left the Bebeli area to work.

Table 5. Work emigrants

	Morokea	Mosa	Banaule	Men's totals	Morokea	Banaule	Women's totals	Grand totals
Moresby	2	2	2	6	1		1	7
Kavieng	5			5			0	5
Lae			2	2		2	2	4
Wabag	1			1			0	1
Goroka	1			1			0	1
Rabaul			1	1			0	1
Sepik			1	1			0	1
Chimbu				0		1	1	1
Totals by Village	9	2	6	17	1	3	4	21

4.1.4 Health services

Bebeli speakers from all three villages have easy access to health care facilities, where they speak Tok Pisin with health care workers. People from Morokea use the large Kimbe General Hospital, which is approximately a ten-minute walk from the village. Five of Kimbe General Hospital's staff members are from Morokea; however, they speak Tok Pisin with other people from Morokea at the hospital. Mosa has its own aid post, staffed by a Mamusi woman, who speaks Tok Pisin with her patients. Banaule also has an aid post, with one worker from Banaule and one from Bali Island. Both speak Tok Pisin with people visiting the aid post, although Bebeli people can speak some Bebeli with the Banaule man.

When illnesses or injuries are too serious for local health facilities, people go to larger health centres. Those from Banaule go to Waloka and then Kimbe General Hospital, those from Mosa go to Kimbe General Hospital and those from Morokea go to Rabaul. Bebeli people visiting all of these facilities use Tok Pisin to interact with health care workers.

People in Mosa and Banaule reported that health workers sometimes visit their villages to give immunizations, raise awareness about health issues and do check-ups for children and pregnant women. These visiting health workers use Tok Pisin.

4.1.5 Summary of contact with other languages

The Bebeli people's extensive contact with people from other language groups is a strong negative indicator of ethnolinguistic vitality. The relatively high percentage of immigrants to the Bebeli area and the fact that only about half of them can speak Bebeli are both negative indicators of vitality. Bebeli people have easy access to Kimbe town and often interact with speakers of other languages there. The Bebeli-speaking people can meet some of their economic needs using their own vernacular, but they still

²⁵Percentage of Bebeli people who have emigrated to work elsewhere = (work emigrants) / ((Bebeli population, projected to 2009 * adult percentage of population) + emigrants – immigrants) = (21) / ((3163*.587) + 240 – 53) = .0102

interact often with non-Bebeli speakers. Bebeli speakers' interactions with non-Bebeli speaking people in Kimbe, commercial or otherwise, are both negative indicators of ethnolinguistic vitality. Health services, which are only available in Tok Pisin, also have a negative impact on the vitality of Bebeli.

4.2 Language use

Language use is an important factor in determining language vitality. Language use is the second of Landweer's three ethnolinguistic vitality themes, encompassing both domains of language use and code switching (Landweer 2006:214-217). The more domains in which the language is used and the less code switching that occurs, the stronger the vitality of the language is likely to be.

4.2.1 *Children's reported language use*

Children in every Bebeli village speak Tok Pisin as their primary language. They can also understand Bebeli, and children in Morokea and Banaule can reportedly speak a little Bebeli. Children in Morokea can understand some easy words in English, and children in Banaule can understand English if they have been to school. However, people in Banaule reported that Tok Pisin is their children's mother tongue, and respondents in Morokea said that Tok Pisin is like their children's food, indicating that it is the language they live by. When asked which languages children use when they are speaking to their grandparents, parents, siblings and friends, and when they are angry, respondents in all three villages said that children use only Tok Pisin in all of those situations. The vigorous use of Tok Pisin by children indicates a low vitality for the Bebeli language.

In Banaule it was reported that children can speak Bebeli by the time they are about eight years old, but that they are not fluent until they are fifteen or sixteen. Respondents in the other two villages said that children do not speak Bebeli until they are teenagers, and do not speak it fluently until they are at least twenty. About seventy percent of children with an immigrant parent were reported to be able to speak Bebeli. Children of 87 of 145 (sixty percent) of these immigrants are from Banaule, while children of only 58 (forty percent) are from Morokea and Mosa combined. Some other children of immigrants were also reported to understand Bebeli but without being able to speak it. Children with one Bola parent were reported to understand Bola.

Children in Mosa reportedly mix a little Bebeli with Tok Pisin, and those in Morokea and Banaule mix a lot of Bebeli with Tok Pisin. Respondents in all three villages said that they do not like the fact that children speak more Tok Pisin than Bebeli because their language will be lost and then they will lose their traditional customs. They indicated, however, that intermarriage would make it difficult to reverse this trend.

4.2.2 *Children's observed language use*

Observations of children's language use align with reported data, as children were observed to speak primarily Tok Pisin and only a little Bebeli. Out of twenty-six observed instances of children's speech, twenty-four were in Tok Pisin and only two were in Bebeli. On three additional occasions, children were observed using only Tok Pisin for an extended period of time. Once, a group of children was observed using both Tok Pisin and Bebeli, and another group was observed using mostly Bebeli with some Tok Pisin. During the wordlist elicitation in Banaule, children sometimes said the words in Bebeli before the spokesperson did, indicating that children do know some Bebeli.

When speaking to children, adults were observed using mostly Tok Pisin with some Bebeli, indicating that while some children are able to understand Bebeli, most are more comfortable with Tok Pisin. Adults were observed speaking to children fifty times; thirty-seven of those occasions were in Tok Pisin, four included both Tok Pisin and Bebeli and only nine were in Bebeli alone.

4.2.3 *Adults' reported language use*

Adults in the Bebeli language area can speak Bebeli, Tok Pisin and a little English. In Banaule adults reportedly use more Bebeli than those in the other two villages do. Older adults tend to use more Bebeli than younger adults do, and adults of all ages generally use more Bebeli with older people and more Tok Pisin with children. The fact that more Tok Pisin is spoken to and by younger people indicates that a shift from Bebeli to Tok Pisin is in progress; however, reports that young people learn Bebeli and speak it fluently by the time they are in their twenties mean that the outcome of the shift is not yet known. In some parts of the country, functioning as an adult necessitates the local vernacular, while children's speech is not considered important. In these areas, even though young people may continue to learn the language and the community may remain bilingual for the present, it is not known if the situation will remain stable indefinitely. Not enough information is available to know if this could be the case in Bebeli.

Everyone in the Bebeli language area can speak Tok Pisin, and older men in Banaule said that Tok Pisin is like their food. All adults are also able to speak Bebeli, although in Banaule it was reported that young women only speak some Bebeli and often mix it with Tok Pisin. Young and middle-aged adults are able to speak a little English, as can older adults in Morokea. Older adults in Mosa and older men in Banaule can understand a little English. Many adults can also speak other vernacular languages such as Bola, Kaulong and Nakanai. Multilingualism in other vernaculars is discussed in section 4.2.9.

Young adults in Morokea and Mosa speak Tok Pisin to their siblings and parents, although young men also use some Bebeli with their parents, and young men and women in Banaule also use some with their siblings. Parents of young adults speak both Tok Pisin and Bebeli to them.

Middle-aged adults reportedly use only Bebeli with their parents and primarily Bebeli with their spouses. They use mostly Bebeli with their siblings, although adults in Morokea use both Bebeli and Tok Pisin with their siblings, and middle-aged women in Mosa use mostly Tok Pisin, with some Bebeli. Middle-aged adults in all three villages use primarily Tok Pisin, along with some Bebeli, when speaking to children. The parents of middle-aged adults use primarily Bebeli when speaking to them.

Older adults use Bebeli when speaking to their spouses and siblings. In Morokea and Mosa older adults use primarily Tok Pisin, with some Bebeli, when speaking to children, but those in Banaule use primarily Bebeli, although older men use some Tok Pisin as well.

Adults in Banaule reportedly use more Bebeli than do adults in the other two villages. In Banaule young and middle-aged adults use more Bebeli with their siblings, and older adults use more Bebeli with children.

Respondents in all three villages made comments indicating that they consider Tok Pisin to be the main language spoken in the Bebeli language area. People in Morokea said that Tok Pisin is being spoken at the expense of Bebeli, those in Mosa remarked that Tok Pisin is their mother tongue and respondents in Banaule said that they are concerned that the Bebeli language is dying.

4.2.4 *Adults' observed language use*

Adults were observed using roughly equal amounts of Bebeli and Tok Pisin. Out of ninety instances of observed speech by adults, forty-eight were in Tok Pisin and forty-two were in Bebeli. In addition, on twenty-five separate occasions, adults were observed using both Bebeli and Tok Pisin within the same conversation, but these observations are discussed in more detail in section 4.2.10.

4.2.5 *Summary of reported and observed language use*

Adults in the Bebeli language area speak both Bebeli and Tok Pisin. Observations indicate that adults use approximately equal amounts of Bebeli and Tok Pisin, and reports indicate that older adults tend to speak more Bebeli than younger adults, and adults tend to speak more Bebeli to older people and more Tok Pisin to children. Adults in Banaule reportedly speak a bit more Bebeli than those in the other two villages do. In all three villages it was reported that many children are able to understand Bebeli, and

some can speak it, but Tok Pisin is the primary language used by most children throughout the language area. Observations of children's language use confirmed these reports, as children were rarely observed speaking Bebeli, although adults were sometimes observed speaking Bebeli to children. The fact that Bebeli is more often spoken to and by older adults compared to younger adults, combined with children's widespread use of Tok Pisin, suggests that a shift from Bebeli to Tok Pisin has started. Nevertheless, children still learn Bebeli and speak it fluently by the time they are in their twenties, indicating that it is not yet certain how swift or complete the shift will be.

4.2.6 *Domains of language use*

In each village, the survey team asked which languages people use when organising traditional events, joking, arguing with family, playing sports, praying at home, holding village court,²⁶ using local health facilities and going to town. Tok Pisin is used to some extent in all of these domains, and it is the primary language used in many of them. Such widespread use of Tok Pisin is not a positive factor for the vitality of the Bebeli language.

People in Morokea and Mosa reported that Bebeli is the only language used during traditional events such as weddings and funerals, but respondents in Banaule said that some Tok Pisin is used during these events as well. Lynn Landweer (personal communication, 14 April 2009) has pointed out that in a stable language environment, the vernacular is typically used for traditional events such as weddings and funerals. When a second language encroaches on these domains, as is the case in Banaule, language vitality may be at risk.

Both Bebeli and Tok Pisin are used for joking, and Tok Pisin, along with some Bebeli, is used for arguing with family members. Tok Pisin is used during sporting events, although Bebeli is often used within a team of Bebeli speakers. Tok Pisin is used for prayer and holding village court. Bebeli people use only Tok Pisin when interacting with health care staff at Kimbe General Hospital and the aid posts at Mosa and Banaule. Sports, prayer, court and health care facilities are all domains that have been introduced from outside Bebeli culture, and the use of a secondary language in introduced domains is not as great a threat to language vitality as when a second language is used in more traditional domains (Landweer, personal communication, 14 April 2009).

Bebeli speakers use Tok Pisin when they go to Kimbe town. In Banaule, however, respondents mentioned that they often use Bebeli if they see other Bebeli speakers in town.

Bebeli is the primary language used for traditional events, and it is the only language used for these events in two of the three villages. However, Tok Pisin is used in the other seven domains and is the primary language used in six of them. The fact that Tok Pisin is used in nearly every domain is not a positive sign for the vitality of the Bebeli language.

4.2.7 *Language use in schools*

Early education in much of Papua New Guinea is divided between elementary school, which includes a year of prep and grades one and two; and primary school, which includes grades three through eight. Elementary schools are intended to allow children to start learning close to home in their first language, when possible, before bridging to English and attending primary school, which is often farther away. If the majority of the children are from one language group, instruction in elementary school is sometimes in the local vernacular. Some instruction in the vernacular may continue in primary school, if there are teachers who know the local language. In other cases Tok Pisin is used with a similar function.

In the Bebeli language area Tok Pisin and English are the primary languages used in schools. Although one school teaches some Bebeli vocabulary, none of the schools uses Bebeli as a language of instruction. This situation could pose a threat to the vitality of the Bebeli language.

²⁶In Papua New Guinea, court cases are often resolved by local government representatives within the village.

Students from the Bebeli area attend seven schools in or near the language area. Table 6 shows a list of schools attended by Bebeli students.

Table 6. Schools attended by Bebeli students

School	Location	Year Started	Grades Offered
Laheri Elementary	Mosa	2009	EP, E1
Morokea Elementary	Morokea	1998	EP, E1, E2
Banaule Elementary	Banaule 1	2008	EP, E1, E2
Davalu Elementary	Banaule 2	?	EP, E1, E2
Laheri Primary	Mosa	1980	3 – 6
Ruango Primary	Ruango ^a	1983	3 – 8
San Edmun Rice Primary	Banaule	1953	3 – 8

^aStudents from Morokea attend Ruango Primary school. Ruango is a Bola village.

Bebeli students constitute a large majority (an average of ninety percent) of the student population at all schools except for Ruango Primary, which is attended primarily by Bola students. Bebeli students make up only eighteen percent of the student body at Ruango Primary.

All schools attended by Bebeli students reported that they use Tok Pisin as a language of instruction; some schools also teach in English and one reported teaching some Bebeli vocabulary. Laheri Elementary reported using only Tok Pisin as the language of instruction, while Morokea Elementary reported using both Tok Pisin and English for instruction. Banaule Elementary and Dalavu Elementary reportedly use Tok Pisin for instruction but also teach some Bebeli and English vocabulary. Laheri Primary uses only Tok Pisin for instruction, while Ruango Primary and San Edmun Rice Primary use both Tok Pisin and English for instruction.

Students can attend school through grade eight in the Bebeli area. If they continue on to high school, they can attend Kimbe Secondary or Hoskins Secondary. Some Bebeli students also attend technical schools: Poinini Agricultural and Technical, Hoskins Girls' Technical, Moramora Technical or Don Bosco Technical.

Most of the elementary teachers speak Bebeli well, while only about fifteen percent of primary teachers speak Bebeli. Nine of ten elementary school teachers are from the Bebeli area and of these, seven speak Bebeli well. The tenth teacher is from Manus but also speaks Bebeli well. Of forty-one primary school teachers, only six speak Bebeli. The other teachers are from various parts of New Britain (the Kuanua, Nakanai, Muduapa and Mengen language areas) and around Papua New Guinea (New Ireland, Madang and Sandaun Provinces).

Although many elementary teachers are Bebeli speakers, Tok Pisin and English are the primary languages used for education in the Bebeli area. This is not a positive factor for the vitality of the Bebeli language.

4.2.8 *Language use in churches*

Institutional support is a key factor in ethnolinguistic vitality (Fasold 1987:221). In Papua New Guinea the church is often the primary institution functioning at the local level. In order to evaluate language use within churches, a member of the survey team interviewed a leader from each of the Bebeli area churches. The survey team also attended church services at both churches in Banaule in order to observe language use.²⁷ Both reported and observed data indicate that Tok Pisin and English are the primary languages used by Bebeli churches, which could pose a threat to the vitality of the Bebeli language.

²⁷On surveys we expect the Observer's Paradox to manifest itself in language use patterns. The people will probably adapt to the perceived linguistic needs of the survey team and thereby change their behaviour to include more Tok Pisin for our benefit. However, we still report what we observe and balance those observations with what was reported during the interviews with church leaders.

Table 7 shows a list of churches in the Bebeli area.

Table 7. Churches in the Bebeli area

Church Name	Denomination	Village
St. Martin Catholic Church	Roman Catholic	Morokea
Mosa Christian Family Church	Assemblies of God	Mosa
St. Laurence	Anglican	Mosa
St. Francis	Roman Catholic	Mosa
Banaule Tabernacle Worship Center	Assemblies of God	Banaule
Mater Dei Sub-Parish Banaule	Roman Catholic	Banaule

Reported language use in church services

Churches in the Bebeli area use mostly Tok Pisin in services, but some Bebeli and English are also used. For other church activities, Tok Pisin is mainly used, as well as a little English; no Bebeli is used. At all six churches the sermon is given primarily in Tok Pisin. Three churches use Tok Pisin exclusively, while two also use small amounts of Bebeli and one also uses some English. For announcements all churches use primarily Tok Pisin. Four churches use only Tok Pisin, and two churches, one in Morokea and one in Banaule, also use a small amount of Bebeli.

When praying in church, congregants at five churches use primarily Tok Pisin and congregants at the sixth church were reported to pray only in English.²⁸ At three churches only Tok Pisin is used for prayer. One church in Mosa reported that some older women pray in Bebeli, and some other people pray in English; another church reported that a few people also pray in English. Of the four churches that use liturgies, three use a Tok Pisin liturgy, while one uses English. For Scripture reading four churches use primarily Tok Pisin: three of those use only Tok Pisin, and one also uses some English. The other two churches read mostly English Scriptures but also read some in Tok Pisin.²⁹

For singing two churches use primarily Tok Pisin, two use equal amounts of Tok Pisin and English and two use primarily English. Of the two who primarily use Tok Pisin, both reported singing some Bebeli songs as well. One of these churches also uses a little English and Bebeli, and the other uses some Bebeli and Bola and occasionally some songs in the other languages of people who have married into the area. Of the two churches that use equal amounts of Tok Pisin and English for singing, one also uses some Bola and Nakanai, and the other occasionally sings songs in the languages of people who have married into the area. Of the two churches that use primarily English for singing, one uses only English, and the other also uses Tok Pisin and Bebeli minimally. Table 8 shows a summary of the primary languages used in each church for each part of the service.

²⁸St. Laurence Anglican Church reported that congregants sing only English songs, use an English liturgy and use English when praying in church. They use the most English of any Bebeli area church.

²⁹Both churches using primarily English Scriptures are Assemblies of God churches.

Table 8. Primary languages used in services^a

	Sermon	Announcements	Prayer	Liturgy	Scripture	Singing
St. Martin Catholic Church	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin and English
Mosa Christian Family Church	Tok Pisin	Tok Pisin	Tok Pisin	-	English	Tok Pisin
St. Laurence Anglican Church	Tok Pisin	Tok Pisin	English	English	Tok Pisin	English
St. Francis Catholic Church	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin
Banaule Tabernacle Worship Center	Tok Pisin	Tok Pisin	Tok Pisin	-	English	English
Mater Dei Catholic Sub-Parish Banaule	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin, and English

^aThe table shows *primary* language use only: it does not list languages that churches use minimally, but only their primary language for each activity. For information on these lesser-used languages, see the preceding paragraphs.

All of the Bebeli area churches have other activities in addition to Sunday church services. Five of the six churches have youth services and women's groups that are held solely in Tok Pisin. Four of these churches also have children's Sunday school classes that are held in Tok Pisin. The sixth church³⁰ uses equal amounts of English and Tok Pisin in youth services, and uses mostly English and some Tok Pisin for its women's groups and children's Sunday school classes. The three Catholic churches all have devotional groups,³¹ which use solely Tok Pisin. Two other churches have prayer and fellowship groups, which also use Tok Pisin only. Table 9 shows a summary of all languages used in church activities outside of services.

³⁰Banaule Tabernacle Worship Centre

³¹Such as Legion of Mary, Charismatic, Divine Mercy, Sacred Heart, and Rosa Mystica.

Table 9. Languages used in church activities

	Youth services	Women's groups	Sunday school	Other^a
St. Martin Catholic Church	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin
Mosa Christian Family Church	Tok Pisin	Tok Pisin	Tok Pisin	-
St. Laurence Anglican Church	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin
St. Francis Catholic Church	Tok Pisin	Tok Pisin	-	Tok Pisin
Banaule Tabernacle Worship Center	English and Tok Pisin	Tok Pisin, some English	Tok Pisin, some English	Tok Pisin
Mater Dei Catholic Sub-Parish Banaule	Tok Pisin	Tok Pisin	Tok Pisin	Tok Pisin

^aFor St. Martin, St. Frances and Mater Dei Sub-Parish, devotional groups; for St. Laurence and Banaule Tabernacle Worship Centre, prayer groups.

Four of the six Bebeli church leaders speak Bebeli and are working in their home village.³² The current pastor of Banaule Tabernacle Worship Centre is from the Sepik,³³ and the catechist at St. Francis is from Pangalu and speaks the Bola language. The two non-Bebeli church leaders use Tok Pisin in the community, while two Bebeli church leaders reported using primarily Tok Pisin and some Bebeli, and two reported using equal amounts of Tok Pisin and Bebeli in the community.

Observed language use in church services

The survey team observed language use at one church in Mosa and two in Banaule. At St. Frances Catholic Church in Mosa, the sermon was in Tok Pisin. This aligns with reported data.

During the service Mater Dei Catholic Sub-Parish in Banaule was observed using mostly Tok Pisin, with some English songs. The liturgy, sermon, prayers and announcements were all in Tok Pisin. Of five songs sung in the service, three were in English and two were in Tok Pisin. Mater Dei reported using only Tok Pisin, but singing some English songs as well, and those reports were confirmed by observations.

Banaule Tabernacle Worship Centre was observed using mostly Tok Pisin and English during its service. Tok Pisin was used for prayer, announcements and three songs.³⁴ Scripture was read in English and the sermon was in Tok Pisin, with some borrowed English words and English Scripture quotes. It was reported that Tok Pisin is used for the sermon, announcements and prayer, and English is used for Scripture reading and singing. These reports were confirmed by observations except that Tok Pisin songs were observed rather than English songs. It should be noted that the regular pastor was away, and the sermon and the singing were led by a lay leader.

³²The church leaders at St. Martin, Mosa Christian Family Church, St. Laurence and Mater Dei Sub-Parish.

³³The interviewee, founder of Banaule Tabernacle Worship Centre, currently working as a church elder, is from Banaule and speaks Bebeli.

³⁴A fourth song was not sung in Tok Pisin or English, but the surveyor was unable to identify the language being used.

Summary of language use in churches

Both reported and observed data indicate that Tok Pisin is the primary language used in Bebeli churches, both during services and for church activities outside of services. English is the second most common language used by churches. It was reported that small amounts of Bebeli are also used for some parts of church services, and four of the six church leaders use some Bebeli when interacting with members of the community outside of services, but Tok Pisin is clearly the predominant church language in the area. Such widespread use of Tok Pisin in the church, one of the major institutions in the area, could have a negative effect on the vitality of the Bebeli language.

4.2.9 Multilingualism with other vernaculars

People in the Bebeli language area can speak other vernacular languages, including Bola, Kaulong and Nakanai. The following paragraphs give reported data regarding multilingualism in the Bebeli language area.

Older adults can speak Bola, as can middle-aged adults in Mosa. Middle-aged adults in the other two villages can speak a little Bola. Young adults in Morokea can speak a little Bola, and young adults in Banaule and young men in Mosa can understand a little.

Middle-aged and older adults in Mosa can speak Kaulong as well. Young men in Mosa can understand a little Kaulong.

All adults in Morokea can understand Nakanai but not speak it. In the other two villages older adults can speak Nakanai, and older women in Banaule said that it was like their food. Some middle-aged adults can speak Nakanai, young men in Banaule can speak a little, and young women in Banaule and young men in Mosa can understand some.

Some adults in the Bebeli language area are able to speak other vernacular languages, but this multilingualism does not appear to pose a threat to the vitality of the Bebeli language. When Bebeli people speak a language other than Bebeli, it is usually Tok Pisin rather than another vernacular language.

4.2.10 Code switching

On at least twenty-six separate occasions within three days, the survey team observed people switching code between Bebeli and Tok Pisin. Some code switching consisted of one or two Tok Pisin words inserted into a Bebeli phrase, and at other times code switching occurred at the phrasal level. Many of the inserted Tok Pisin words and phrases referred to concepts that could easily be expressed in Bebeli, and code switching did not appear to be associated with a change in topic, setting or participants. A school headmaster in Morokea remarked that many children use Tok Pisin words without even realizing that these words are Tok Pisin, which would indicate borrowing. Unbounded code switching that does not follow a consistent pattern, as is the case in Bebeli, may be a sign of low language vitality (Landweer 2006:191).

4.2.11 Summary of language use

Adults in the Bebeli language area use both Bebeli and Tok Pisin, although older adults tend to use more Bebeli, and younger adults tend to use more Tok Pisin. Children speak primarily Tok Pisin, and use only Bebeli minimally. Bebeli is the primary language used for traditional events such as weddings and funerals, and both Bebeli and Tok Pisin are used for joking, but Tok Pisin is the primary language used in all other domains. Tok Pisin, along with some English, is the primary language used for instruction in the schools in the Bebeli area, and Tok Pisin is the main language used during church services and for church activities outside of services. Unbounded code switching between Bebeli and Tok Pisin was also observed within the Bebeli language area. Some Bebeli speakers are multilingual in other vernacular languages, but they are speaking Tok Pisin, rather than other vernaculars, at the expense of Bebeli. The

widespread use of Tok Pisin within the Bebeli language area indicates a low vitality for the Bebeli language.

4.3 Language attitudes

Landweer's third theme of ethnolinguistic vitality, language attitudes, deals with the prestige attributed to a language both by speakers of the language and by outsiders, as well as the extent to which a language community is distinguished from the language groups around it (Landweer 2006:214, 217–218). Language attitudes shape the perceptions of prestige “among other neighbouring and regional languages” and the “relative prestige of the language within the linguistic repertoire of the speech community” (Landweer 2006:206). The more positive the language attitudes of both insiders and outsiders are, the higher the prestige they will associate with that language, and “the greater the prestige a linguistic code enjoys, the more likely it will continue to be taught, learned and spoken” (Landweer 2006:206).

4.3.1 *As reported by residents*

Bebeli speakers have a positive attitude towards their language and want it to be passed on to future generations. They recognize, however, that the current generation of children is not learning Bebeli well, and see this as a problem. The fact that they want children to learn their language is a positive factor for the vitality of the Bebeli language, but the fact that many children are not actually learning it does not bode well for the future of Bebeli.

When asked which languages are important for children to learn well, respondents in Morokea said they want their children to learn English and Tok Pisin because those languages are good for education. They did not mention Bebeli. People in Mosa want their children to know both Bebeli and Tok Pisin well, and those in Banaule mentioned only Bebeli.

In all three villages respondents were asked in which language they prefer to hear stories. People in both Mosa and Banaule said that Tok Pisin is the best language for stories, although those in Banaule remarked that older people prefer Bebeli. Respondents in Mosa said that children would get angry if stories were told in Bebeli, and people in Morokea said that Bebeli is the best language for telling stories but that children don't understand stories in Bebeli.

People in Morokea think that their children will use Tok Pisin and English when they grow up, because they spend a lot of time in school where those languages are spoken, and only hear a little Bebeli at home. They think that their children will speak Tok Pisin to their own grandchildren, and said that it is not good for Bebeli to be lost, but that it would be good for their children to know both Bebeli and Tok Pisin so that they can also communicate with people from other areas.

Respondents in Mosa think that children will use Tok Pisin when they grow up, and speak Tok Pisin to their grandchildren. They said that this is not good, and that they want their children to learn three languages: Bebeli for use in their village, Tok Pisin to communicate with people outside the village and English.

In Banaule people think that when their children grow up, they will speak Tok Pisin mixed with Bebeli, but use Bebeli when they want to keep something secret. They said, however, that this kind of language use is not good and will cause their language to die. They think that children will speak Tok Pisin to their grandchildren.

Although Bebeli speakers expressed a desire to see their language continue to be spoken in the future, they recognize that many children are not learning it, and that, unless current patterns change, the Bebeli language may no longer be spoken. This situation indicates a relatively low vitality for the Bebeli language.

4.3.2 As reported by school staff

Language attitudes reported by school staff are generally negative towards the vernacular, and school staff members gave mixed reports about the feelings of outsiders toward the Bebeli language. One headmaster reported that people from neighbouring groups like the Bebeli language, but others reported that people say it is a funny language and hard to learn. Only two teachers in the area were reported to be learning Bebeli. School staff members also reported that the Bebeli language is being lost, and some reports suggest that this is because people have negative views of Bebeli or simply do not care about it. These negative attitudes pose a threat to the vitality of the Bebeli language.

A staff member from Banaule Primary said that people from other language areas say that Bebeli is a difficult language to learn. A staff member from Dalavu Elementary made the same comment and also said that some people think that it is a funny language. She said, however, that Bebeli people think their language is nice because they can understand other languages, but others cannot understand Bebeli. The headmaster from Laheri Primary, who is a Nakanai speaker, said that people from neighbouring languages like Bebeli and can understand it. He also said that the Bebeli people are proud of their language, and that two teachers (a married couple from south New Britain) are learning Bebeli.

An elementary teacher from Morokea said that people do not feel like Bebeli is really their language; rather, it feels like a foreign language to them. He said the people are not happy to use their own vernacular, and because of this, the language and culture will be lost. His elementary school, designed to teach in vernacular, no longer teaches in Bebeli because parents want them to teach in Tok Pisin. Parents feel that their children, if educated in Bebeli, would not succeed academically. The parents themselves have not taught children Bebeli, and as a result, children cannot speak Bebeli. The deputy headmaster at Ruango Primary said that literature in Bebeli would help to preserve the language and culture, and suggested that the low level of interest that the Bebeli people place on their language and culture would be increased by promoting the vernacular through written materials. This indicates that the Bebeli people currently have a negative attitude towards their language or that other factors are causing the language to be lost. The headmaster at Ruango Primary said that the Bebeli people need to be proud of their language. He feels that their language is special, because other people do not know it and it is only spoken in a small area.

None of the three primary schools attended by Bebeli students (Laheri Primary, Banaule Primary and Ruango Primary) has a policy forbidding children to use languages other than English or Tok Pisin at school. However, as one headmaster commented, children do not use Bebeli at school because they do not know it.

4.3.3 As reported by church leaders

Some church leaders have positive attitudes towards using literature in Bebeli, which indicate positive attitudes towards Bebeli in general. However, three out of five mother tongue Bebeli-speaking church leaders speak as much Tok Pisin in their villages as Bebeli; the other two speak more Tok Pisin than Bebeli. Church leaders expressed positive attitudes towards the Bebeli language and do use some Bebeli with people in the community. However, given their widespread use of Tok Pisin, the positive attitudes they expressed may not be attitudes that they would be willing to put into practice. Church leaders' positive attitudes towards Bebeli could be a positive factor for the vitality of the language, but the limited extent to which they act on those attitudes could limit the extent of their influence.

When asked, three out of five church leaders said that they think there is a need for Bebeli Scriptures. This indicates that they have a positive attitude towards Bebeli, because they feel it is an appropriate language for what they consider to be a sacred book. The other two leaders did not express a definite need for Bebeli Scriptures, but this does not necessarily indicate a negative view of Bebeli, since their reasons did not imply that Bebeli is not an appropriate language for Scripture. Similarly, while three Bebeli church leaders said they would not choose to read Bebeli Scriptures in church, their choices were not based on whether or not the Bebeli language was an appropriate medium for Scripture, but rather on pragmatic reasons, such as everyone understanding Tok Pisin, but not understanding Bebeli.

Five of the six church leaders interviewed are mother tongue Bebeli speakers, but they all speak Tok Pisin as well. Three of them reported speaking equal amounts of Tok Pisin and Bebeli in their villages, outside of church services, and the other two reported speaking mostly Tok Pisin with a little Bebeli.

4.3.4 Group identity

Language vitality tends to be higher in communities with a strong internal cultural identity (Landweer 2006:200–201). According to Fasold (1987:240), “[a] prevalent tendency to maintain a distinction between ‘us’ and ‘them’, that is, the ingroup and a particular outgroup, is one sign that shift is not in progress.” The culture and lifestyle of the Bebeli people are similar to those of surrounding groups, but they do some things differently from surrounding groups. The Bebeli people still observe some of their traditional festivals, although others, including parts of initiation, are no longer observed. People still have knowledge of some traditional crafts, even though others are being or have been lost. The Bebeli people live close to Kimbe town, and their villages are spread out; hence, people from many other areas live in settlements amongst the Bebeli villages. Despite these factors, the Bebeli people have managed to maintain some aspects of their traditional culture and an identity as the Bebeli people. This may be a positive factor for ethnolinguistic vitality.

The Bebeli people’s lifestyle and culture are similar to those of neighbouring groups in most ways, but they have a few things that differentiate them, including their canoes, shrimp nets and shields. People in Mosa commented that their culture is the same as Aighon culture, especially concerning festivals and traditions. People in all three villages tend their gardens in the same way as the Bola and Nakanai people and reported that their traditional belief system is the same as those of people in Bola, Nakanai and Aighon. People in Mosa reportedly use the same kind of fishing nets as the Nakanai people use, but women in Morokea are reported to make a kind of shrimp net that is not used on the south coast. The way the Bebeli people make their spears is the same as those of other neighbouring groups. Bebeli canoes are reportedly a different shape from the canoes made by people in the Muduapa and Uneapa language areas, in Kombe and on the south coast of New Britain. Residents of Morokea and Banaule build canoes that are reported to be the same shape as the canoes made by the Bola people, but different in design and patterns.

The Bebeli people still practice some of their traditional festivals. All three villages still have traditional celebrations for bride price and for cutting the hair of a firstborn child, and the Bebeli people reported that these are their two most important traditions. Traditional funeral feasts are still held as well, although traditional harvest feasts no longer take place. The Bebeli people also perform some traditional festivals³⁵ from other areas and in other languages, including Nakanai, Aighon, Bola and Kuanua. Part of the traditional initiation for boys, shaving the firstborn boy, is still held in Mosa, but a traditional ceremony involving blackening the teeth has not been held since the 1960s or 1970s. In Mosa a small celebration is still held when a firstborn girl has her first menstrual period. Girls’ initiations are no longer held in Morokea, and gender roles may be changing as women are now allowed to enter the men’s house, which has traditionally been forbidden.

The Bebeli people used to make a special kind of drum,³⁶ but it is no longer made because they do not have the right kind of tree anymore. However, men are still reported to know how to make another kind of drum.³⁷ Bebeli men in Banaule make and play traditional flutes, but there is only one man left in Morokea who knows how to make and play these flutes. Bebeli people still make traditional baskets and mats.

Bebeli people have easy access to many outside goods because of their proximity to the provincial capital, Kimbe. Some people have generators, televisions and VCD or DVD players. There are some permanent and semi-permanent houses, as well as some houses made of traditional materials. The Bebeli

³⁵In Tok Pisin *singsing*.

³⁶In Tok Pisin *garamut*.

³⁷In Tok Pisin *kundu*.

area is also spread out geographically, and there are people from a variety of language groups living in settlements among Bebeli villages.

In summary, the Bebeli people have maintained some aspects of their unique, traditional Bebeli culture, even though they have many influences from Kimbe town and from nearby settlements. This cultural identity may positively contribute to the ethnolinguistic vitality of the Bebeli language.

4.3.5 Summary of language attitudes

The positive language attitudes of Bebeli speakers and Bebeli church leaders and the internal group identity of the Bebeli people are all positive factors for the vitality of the Bebeli language. However, the extent to which both church leaders and Bebeli people generally use Tok Pisin could limit the positive effect that their attitudes might otherwise have. The generally negative attitudes expressed by school staff towards Bebeli may be indicators of low language vitality.

Bebeli speakers want future generations to know Bebeli and to have positive attitudes toward their language. However, the current generation of children is not learning Bebeli well, which is a concern for some Bebeli people. Although the Bebeli people's positive attitudes towards their language could indicate positive language vitality, children are not learning the language, indicating that these positive attitudes of Bebeli people may not actually affect language vitality.

While some school staff members expressed positive attitudes towards Bebeli, the overall attitude expressed by school staff members was negative. Some commented that neighbouring language groups have a negative view of the Bebeli language. School staff members also reported that children are not speaking the Bebeli language and that it is being lost, which is happening as a result of negative or even indifferent attitudes towards Bebeli. These negative or neutral attitudes may negatively affect Bebeli vitality.

Church leaders have a generally positive attitude towards the Bebeli language. Some of them believe Bebeli is an appropriate language for the Bible, which they consider to be a sacred book, indicating that they have a high opinion of Bebeli. The attitudes of church leaders may be a positive factor on Bebeli language vitality, but the extent to which they use Tok Pisin could lessen the impact of their positive attitudes.

The Bebeli people have an identity distinct from surrounding groups, but this identity seems to be lessening due to the accessibility of outside goods and the proximity of settlements and people from other cultures. However, the fact that the Bebeli people have retained some aspects of a unique cultural identity is a positive factor for language vitality.

In summary, although school staff expressed primarily negative attitudes towards the Bebeli language, most other people expressed a desire for the language to be preserved, and church leaders indicated a desire to use literature in Bebeli. These attitudes, along with the fact that Bebeli people have some unique cultural practices that distinguish them from language groups around them, could indicate a positive vitality for the Bebeli language. However, the extent to which Tok Pisin is used by Bebeli people likely indicates that even positive attitudes towards Bebeli are not having a significant effect on the vitality of the language.

4.4 Conclusions on language vitality

According to Landweer (2006:213), language vitality can be assessed by examining three themes of ethnolinguistic vitality: opportunity for contact with other languages, actual language use and language attitudes. The Bebeli people's extensive contact with other language groups and the widespread use of Tok Pisin are both indicators of negative language vitality. Positive vitality suggested by language attitudes is lessened by the limited extent to which Bebeli is actually used. The ethnolinguistic vitality of the Bebeli language is currently low.

The Bebeli people have many opportunities for contact with other people groups. Their close proximities to the provincial capital of Kimbe and to surrounding settlements provide many opportunities for the Bebeli people to have contact with speakers of other languages. They have contact with speakers of other languages when they buy and sell goods, access health services and go to Kimbe.

There are also many immigrants in the area, and only half of them can speak Bebeli. The high degree of contact that Bebeli speakers have with speakers of other languages is a strongly negative indicator of language vitality.

Adults in the Bebeli area use both Bebeli and Tok Pisin, but children speak primarily Tok Pisin. Bebeli is used as the primary language in a few traditional domains, but Tok Pisin is the primary language used in all other domains by people of all ages. Tok Pisin and English are the main languages used in schools, and Tok Pisin is the primary language used in church services and other church activities. Unbounded code switching between Bebeli and Tok Pisin was observed in the Bebeli area. The vigorous use of Tok Pisin in the Bebeli language area indicates low language vitality for Bebeli.

Language vitality appears to be a bit higher in Banaule village than in the other two villages. Adults, children and immigrants in Banaule all use Bebeli more than people in the other villages do. When asked what languages they want their children to know well, people in Mosa mentioned only English and Tok Pisin, respondents in Morokea listed both Bebeli and Tok Pisin, and those in Banaule only mentioned Bebeli. More details regarding the relative language vitality of the three Bebeli villages are given in Appendix A.

Bebeli speakers and church leaders have generally positive attitudes towards the Bebeli language, which are indicators of positive vitality, although their frequent use of Tok Pisin lessens this positive impact. The Bebeli people have an internal identity that is being corroded by their contact with other groups, but the fact that they still have some unique cultural practices that contribute to their identity as Bebeli people is a positive factor for language vitality. Generally negative attitudes expressed by school staff are also indicators of low vitality. Ethnolinguistic vitality in the Bebeli language area is therefore currently low, although it appears to be slightly higher in Banaule village than in the other two villages.

5 Conclusions

According to previous research, the three villages in the Bebeli language area are Morokea, Mosa and Banaule. These language boundaries were confirmed by current reports from Bebeli speakers and by lexicostatistic comparisons. Both reported data and lexicostatistic comparisons indicate that each village speaks its own dialect of Bebeli, but adults and some children are reported to understand the other varieties of Bebeli well.

Indicators suggest that the vitality of the Bebeli language is currently very low. The Bebeli people have extensive contact with speakers of other languages, which is a negative factor for vitality. While adults speak Bebeli along with Tok Pisin, only some Bebeli children know Bebeli and they speak it only rarely, which is another negative factor for language vitality. Language attitudes seem generally positive, but their influence is lessened by the degree to which Tok Pisin is actually spoken.

Appendix A: Language vitality by village

Table 10. Bebeli language vitality

	Morokea	Mosa	Banaule
Percentage (and number) of immigrants in each village whose children speak Bebeli	64% (38 of 59)	36% (20 of 55)	95% (87 of 92)
Languages spoken by emigrants when they return	Bebeli and Tok Pisin	Bebeli and Tok Pisin	Bebeli
Children's proficiency in Bebeli	Speak a little Bebeli, speak it by the time they are teenagers, fluent by the time they are in their twenties	Understand Bebeli, speak it by the time they are teenagers, fluent by the time they are in their twenties	Speak a little Bebeli, speak it by the time they are around eight, fluent by the time they are teenagers
Extent to which children mix languages	Mix a lot of Bebeli with Tok Pisin	Mix a little Bebeli with Tok Pisin	Mix a lot of Bebeli with Tok Pisin
Observed instances of adults speaking to children	Bebeli: 1 Bebeli/Tok Pisin:1	Bebeli: 3 Bebeli/Tok Pisin: 1	Bebeli: 5 Bebeli/Tok Pisin: 2
Young adults' reported language use	Use Tok Pisin with siblings and parents	Use Tok Pisin with siblings and parents	Use Tok Pisin, with some Bebeli, with siblings, and young men use Tok Pisin, with some Bebeli, with parents
Middle-aged adults' reported language use	Use Bebeli and Tok Pisin with siblings	Use Tok Pisin, with some Bebeli, with siblings	Use mostly Bebeli with siblings
Older adults' reported language use	Use Tok Pisin, with some Bebeli, with children	Use Tok Pisin, with some Bebeli, with children	Use Bebeli, with some Tok Pisin, with children
Languages people want their children to know well	Bebeli and Tok Pisin	English and Tok Pisin	Bebeli
Languages people think their children will speak when they are adults	Tok Pisin	Tok Pisin and English	Tok Pisin, with some Bebeli
Languages used in town	Tok Pisin	Tok Pisin	Tok Pisin, but Bebeli with Bebeli people

Appendix B: Characteristics of the language

Phonetics

Table 11 and Table 12 show the consonant and vowel phones observed in the Bebeli language.

Table 11. Bebeli consonant phones

	Bilabial	Labio-dental	Dental	Alveolar	Palatal	Velar	Glottal
Plosive	p p ^h p ^ʷ b		t ^h	t t ^h t ^ʷ d		k k ^h k ^ʷ g	ʔ
Fricative	β	v		s			h
Nasal	m			n		ŋ	
Trill				r			
Lateral Approximant				l			
Approximant	w				j	w	

Table 12. Bebeli vowel phones

	Front	Back
Close	i	u
	ɪ	
Close-mid	e	o
Open-mid	ɛ	
Open	a	

Thirteen different vowel sequences were observed in the Bebeli language, including ai, ao, au, ea, ei, ia, iε, io, oi, ua, ue, uε and ui.

Morphology

Table 13 shows the verbal prefixes used in the Bebeli language. These morphemes were excluded from the lexicostatistic comparison.

Table 13. Bebeli verbal prefixes

	Personal	Impersonal
3rd singular	pu-	ε-
3rd dual	su-	
3rd plural	si-	

In addition, the morpheme [-k] is used as a first person singular possession marker. This morpheme was also excluded from the lexicostatistic comparison.

Grammar

Bebeli word order is generally SVO, and sentences are negated by placing a negative particle at the end of the phrase, as seen in the examples below.³⁸

- (1) *puetoho pu luba imen*
man 3rd-SING-PERS hit dog

‘The man hits the dog.’

- (2) *puetoho pu luba imen aso*
man 3rd-SING-PERS hit dog NEG

‘The man does not hit the dog.’

Adjectives generally follow the nouns they modify, as shown in the following example.³⁹

- (3) *puetoho hebu pu luba imen etevesi*
Man big 3rd-SING-PERS hit dog small

‘The big man hits the small dog.’

Indirect objects occur after the direct object, as seen below.⁴⁰

- (4) *pu ebika pu pete imenki sememe*
man big 3rd-SING-PERS give dog to boy

‘The big man gives the dog to the boy.’

Verbs appear to be inflected to show tense, with the morpheme [kot] indicating past tense and the morpheme [ki] indicating future tense, as illustrated by the following sentences.⁴¹

- (5) *putoho pu la*
man 3rd-SING-PERS go

‘The man goes.’

- (6) *enunuen pu la kot*
yesterday 3rd-SING-PERS go PAST

‘Yesterday he went.’

- (7) *elēl k^{hi} pu la*
tomorrow FUT 3rd-SING-PERS go

‘Tomorrow he will go.’

Two phrases can be joined with the conjunction [o], as shown in the following example.⁴²

- (8) *puetoho pu luba imen o imen ela*
man 3rd-SING-PERS hit dog CONJ dog go

‘The man hit the dog and it went.’

³⁸Items 183 and 184, Morokea village.

³⁹Item 185, Morokea village.

⁴⁰Item 186, Mosa village.

⁴¹Items 177–179, Morokea village.

⁴²Item 189, Morokea village.

Appendix C: Wordlist addenda

Table 14. Wordlist sources

Language	Village(s)	Date	Transcriber
Aighon	Zebu	2009	Seonok Jung
Aiklep	Asailo	2010	Wayne Baker
Ambul	Ambonge, Asepsep, Ayuvet, Melenglo	2009	Juliann Spencer
Amio-Gelimi	Amio, Kaskas, Atui, Poronga	2009	Juliann Spencer
Avau	Akam, Akiwak, Aringring, Asiwt, Avihain, Lulakevi	2009	Juliann Spencer
Bola	Harile	2000	Tim Jore and Michael J. Rueck
Gimi	Mang	2010	Wayne Baker
Mangseng	Lavege and Melei	1992	Lloyd Milligan
Nakanai	Karapi	1975	Ray Johnston

Some items were excluded from the lexicostatistic comparison because it was believed that the wrong item was elicited, the given word was a Tok Pisin word or because the item contained only morphemes that had already been compared in other items. For example, the word for ‘feather’ in some villages consisted of the morphemes ‘bird’ and ‘hair’, both of which were compared elsewhere. Table 15 shows which items were excluded in each village.

Table 15. Excluded items

Item #	Gloss	Wordlists excluded	Reason for exclusion
12	tooth	Asiwot, Lulakevi, Amio, Banaule, Mosa, Morokea	no new morphemes, possibly due to wrong gloss
15	foot	Asepsep, Ambonge, Melengo, Ayuvet, Aighon, Aringring, Akiwak, Atui, Nakanai, Banaule, Mosa, Morokea, Bola, Aiklep, Gimi	no new morphemes
		Akam, Asiwot, Lulakevi	wrong gloss
17	shoulder	Asepsep	no new morphemes
18	forehead	Morokea	no new morphemes
20	elbow	Asepsep, Ambonge, Melenglo, Ayuvet, Aighon, Aringring, Akam, Avihain, Akiwak, Asiwot, Lulakevi, Poronga, Atui, Kaskas, Amio, Mangseng, Banaule, Mosa, Morokea, Aiklep, Gimi	no new morphemes
24	liver	Mangseng	no new morphemes
28	girl	Ayuvet, Aringring, Akam, Avihain, Akiwak, Asiwot, Lulakevi, Banaule, Mosa	no new morphemes
29	boy	Ambonge, Asepsep, Ayuvet, Melenglo, Aringring, Akam, Avihain, Akiwak, Asiwot, Lulakevi, Poronga, Atui, Banaule, Mosa, Morokea	no new morphemes
30	old woman	Aighon, Avihain	no new morphemes
31	old man	Ambonge, Asepsep, Ayuvet, Aighon, Aringring, Akam, Avihain, Akiwak, Asiwot, Lulakevi, Poronga, Atui, Kaskas, Amio, Nakanai, Banaule, Mosa, Morokea, Aiklep, Gimi	no new morphemes
37	sister	Morokea	no new morphemes
49	person	Ambonge, Ayuvet, Melenglo, Aringring, Akam, Avihain, Akiwak, Lulakevi, Poronga, Kaskas, Amio, Mangseng, Mosa, Banaule	no new morphemes
52	he lies down	Lulakevi, Atui, Kaskas, Amio, Morokea	no new morphemes
65	he kills	Asepsep, Ambonge, Melenglo, Ayuvet, Aringring, Akam, Akiwak, Asiwot, Lulakevi, Poronga, Atui, Kaskas, Amio, Mangseng, Mosa	no new morphemes
67	it burns	Amio, Atui, Kaskas, Poronga, Aiklep, Gimi	no new morphemes
69	he swims	ALL	no new morphemes
79	bad	Nakanai	no new morphemes
87	old	Nakanai	wrong gloss
109	stick	Kaskas	no new morphemes

Item #	Gloss	Wordlists excluded	Reason for exclusion
118	feather	Asepsep, Ambonge, Melenglo, Ayuvet, Aighon, Aringring, Akam, Avihain, Akiwak, Asiwot, Lulakevi, Poronga, Atui, Amio, Mangseng, Mosa, Morokea, Aiklep, Gimi	no new morphemes
133	sweet potato	Atui	Tok Pisin
138	net bag	Asiwot	wrong gloss
		Aiklep, Gimi	Tok Pisin
152	all	Aringring, Akam	no new morphemes
161	not	Aringring, Akam, Avihain, Akiwak, Asiwot, Lulakevi, Poronga, Atui, Kaskas, Amio, Mangseng, Banaule, Mosa, Morokea, Aiklep, Gimi	no new morphemes
164	he	Morokea	no new morphemes
166	you two	Amio, Atui, Kaskas, Poronga, Mangseng	no new morphemes
167	they two	Aighon, Aringring, Akam, Avihain, Akiwak, Asiwot, Lulakevi, Poronga, Kaskas, Banaule, Mosa, Morokea, Bola	no new morphemes
168	we (exclusive)	Aiklep, Gimi	no new morphemes
170	they	Akam, Avihain, Poronga, Atui, Kaskas, Amio, Mangseng, Morokea, Aiklep	no new morphemes
additional item	we (inclusive)	Asepsep, Ayuvet, Melenglo, Avihain, Poronga, Atui, Kaskas, Amio	no new morphemes
additional item	widower	Avihain, Akiwak, Asiwot, Lulakevi, Kaskas, Amio	no new morphemes

Appendix D.1: Bebeli wordlists

		Morokea	Mosa	Banaule
1	head	p ^h alimi	palumum palimik ^{h43}	palimi
2	hair	pak ^h ok ^h i	pak ^h ok ^h ik ^h	pak ^h okik
3	mouth	k ^h ua	kuɛk ^h	koromek
4	nose	noholimi	noyolimik ^h	noholimi
5	eye	mat ^h a	met ^h ɛk ^h	metek
6	neck	hɪpunu	ip ^h unuk	hik ^h
7	belly	k ^h ap ^h a	k ^h ɛpɛk	kɛpɛk ^h
8	skin	k ^h uni	k ^h unik ^h	k ^h unik ^h
9	knee	k ^h ɛvɛ k ^h uvuna	kɛvɛk kuwuna	kɛβɛk kuβuna
10	ear	t ^h alaŋa	teɭɛk	teɭelimik ^h
11	tongue	manap ^h a	menɛkpa	menɛk ^ʔ pa
12	tooth	k ^h ua	kuɛk	ɛk ^h oa koromek ^h
13	breast	mina	(ɛ)minɛk	minɛk ^h
14	hand	mini	minik ^h	minik ^h
15	foot	keve	kɛvɛk ^h	kɛβɛk ^h
16	back	k ^h ahini	kainik ^h	kainik
17	shoulder	lagepɛ	nogdupunu	dumupunu
18	forehead	mat ^h a	rɛmɛk	rɛmɛk ^h
19	chin	hɛp ^h i	ɛpɛk ^h	lasipɔ
20	elbow	koβona	mini kuβuna	minik kuβuna
21	thumb	p ^h anaha	ap ^h otun	minik paheβuk ^h
22	leg	keve	kɛβɛk ^h	keβɛk ^h
23	heart	k ^h ak ^h um	ɛɛk ^h um	k ^h otɛk ^h lɛk ^h um
24	liver	k ^h ote(muhuk ^h)	(mɛ) kot ^h ɛk ^h	k ^h otɛk ^h
25	bone	hini	jinik ^h	hinik ^h
26	blood	gogoru	gogoru	gogoru
27	baby	bribop ^ʔ	pubiriwop	lapɛpeso

⁴³Probably “your head.”

		Morokea	Mosa	Banaule
28	girl	memεʔili	teiliʔ	teili
29	boy	memεʔtamani	puet ^h amana	t ^h amana
30	old woman	walehe buk	tiwalebuk	teiliebuk ^h
31	old man	walehe buk	puwalebuk	putamanaebuk ^h
32	woman	ili	t ^h eili	teili
	unmarried woman	k ^h oβot ^h en	tikoβoteni	memeli
	married woman	ili paraŋi	tiparaŋi	teili tiana
33	man	t ^h amana	puet ^h amana	t ^h amana
	unmarried man	mani	pumani	pumane
	married man	t ^h amana paraŋi	puparaŋi	puana
34	father	avo	aβo	aβo
35	mother	ani	ani	ani
36	brother	(a)t ^h ini	t ^h ik ^h	nunuk ^h
37	sister	(a)nunu	luk ^h	t ^h inik ^h
38	name	εnek ^h	εnek ^h	εnek ^h
39	bird	men(ana)hak ^h a	imenti	menanak ^h a
40	dog	men	imen	(i)men
41	pig	iga	iga	iga
42	cassowary	(i)taβo	itaβo	t ^h aβo
43	wallaby	(i)pak ^h asa	p ^h ak ^h asa	p ^h ak ^h asa
44	flying fox	ilabek ^h a	labek ^h a	labek ^h a
45	rat	(i)mak ^h al	imak ^h al	mak ^h al
46	frog	ikoru	ik ^h oru	k ^h oru
	small frog	k ^h amsuk	ik ^h ikerεk ^h	k ^h εrek ^h
47	snake	mot ^h o	imot ^h o	mot ^h o
	python	mat ^h akoro	mat ^h akoro	mat ^h akoro
48	fish	ili	ile	ile
49	person	t ^h ojo	stamana seili	setoho

		Morokea	Mosa	Banaule
50	he sits	orehen	pureheru	purehen
51	he stands	orimit	purarumit ^h	purumit ^h
52	he lies down	k ^h onk ^h onk ^h eleŋa	pumatakaleŋ	sosk ^h aini
53	he sleeps	ok ^h onk ^h on	puk ^h onk ^h on	puk ^h onk ^h on
54	he walks	ok ^h ik ^h i	puk ^h ik ^h i	puk ^h ik ^h i
55	the dog bites the man	imen ɛkor puɛtohu	imen korpu	imen(a)gorapu
56	he eats	p ^h uk ^h ɛn	puk ^h ɛn	puk ^h ɛn
57	he gives it to me	p ^h up ^h ɛtekialo	pup ^h ɛte	pupetek ^h ialo
58	he sees	pujealo	puje	puje
59	he comes	pume	pume	pume
60	he says	puboloŋ	pubaloŋe	pubolone
61	he hears	puloŋoi	puloŋoi	punonoi
62	he knows	puramahekimi	rɛmɛkabele karopie	pup ^h ak ^h i
63	he drinks	puin	puin	puin
64	he hits	punuba	pulubai	pulubapu
65	he kills	pusubebelepupuriŋi	pulubatitiriŋi	subulepu
66	he dies	puriŋik ^h ot ^ˀ	puriŋikot ^h	purinikot ^ˀ
67	it burns	(ɛ)k ^h oneutut ^ˀ	ik ^h on eut ^h ut ^h	k ^h onatatut ^ˀ
68	it flies	ɛɛɛbela	puhola	pubebela
69	he swims	puhehe	puhehe	puhehe pubul
70	he runs	ɛhonon	puonon	puon
71	he falls down	ɛrupus	pupapalakru	purukurin
	he trips	not elicited	pupapar	pupapar
72	he catches	ɛsak ^h omi	pusak ^h omi	sak ^h omi
73	he coughs	ɛk ^h uhuk ^h	puk ^h uhuk	puk ^h uhuk
74	he laughs	ɛlobobo	puloβoβo	puloβoβo

		Morokea	Mosa	Banaule
75	he dances	ε ^h ε ^h i	put ^h ε ^h e	put ^h ε ^h e
76	big	εhebuk ^h	εhibuk ^h	εhebuk ^h
77	small	(ε)tebesik ^h	ε ^h i	ε ^h it ^h i tebesik ^h
78	good	εlubul	εluβul	εluβul
79	bad	εhale	εhale	εgale
80	long	εlolo	εlolo	εlolo
81	short	εk ^h ok ^h orok ^h	kokorok ^h	εk ^h orok ^h
82	heavy	εmai	εmai	εmai
83	light	εlelehek ^h εmaisok	εlelehek	εβoβolo
84	cold	(kok ^h)merir	(kok)merir	emerin
	feel cold	not elicited	not elicited	inekmerin
85	hot	(ε)rororo	rororo	εrono
86	new	alaba	εlaba	alaba
87	old	εhegina	εlaβuhu	εlabuhu
88	round	k ^h adal k ^h um	k ^h adal	εp ^h ok ^h on
89	wet	εp ^h esik ^h	pesik	(ε)pesik ^h
90	dry	εp ^h op ^h u	p ^h op ^h u	εp ^h op ^h u
91	full	εrakirik	rakirik	irakiriki
92	road	iguluk ^h ua	gulukua	igulukua
93	stone	ik ^h um	ik ^h um	(i)k ^h um
94	earth	ik ^h oli	k ^h ole	(i)k ^h ole
95	sand	imado	imado	imado
96	mountain	ilalolo	idok ^h	idok ^h
97	fire	ik ^h on	ik ^h on	ik ^h on
98	smoke	k ^h on(ε)k ^h uwukna	k ^h on kinana	ik ^h on k ^h ina

		Morokea	Mosa	Banaule
99	ashes	(i)bubus	bubus mat ^{ha}	bubus isukua
100	sun	naharo	naharo	naharo
101	moon	leβono	leβono	noβono
102	star	kirap ^ʻ	kirap	kirap
103	cloud	gusasa	lagusa	lap ^h abu
104	rain	ibit ^{hi}	bit ^{hi}	ibit ^{hi}
105	wind	nehep ^{hu}	nehep ^{hu}	nahipu
106	water	(i)nek ^{hi}	nek ^{hi}	inek ^{hi}
107	vine	k ^h usu	kusu (k ^h olok ^h)	inue
108	tree	ik ^h e	ik ^h ε	ik ^h e
109	walking stick	ik ^h odo?	initok	ik ^h odo
110	bark	k ^h εk ^h uni	k ^h εk ^h uni	ik ^h εk ^h uni
111	seed	εp ^h ina	p ^h ina	εp ^h ina
112	root	εseseli	sese 	eseli
113	leaf	εk ^h ok ^{hi}	k ^h ok ^{hi}	k ^h εk ^h ok ^{hi}
114	meat	misa	misa	εmisa
115	fat	εmunena	munana	εmonena
116	egg	(εka)kot ^h el	kut ^h iliŋa	k ^h otel
117	louse	ider	dεr	inut ^h
118	feather	(i)menanahak ^h εk ^h ok ^{hi}	imen k ^h ok ^{hi}	ip ^h au
119	comb (of bird)	(εla)balolo	kabalalo k ^h adokok	k ^h abalalo k ^h alak ^h oa
120	wing	k ^h arap ^h ana	leβulut ^{hi}	εleβulu
121	claw	gususna	keβε εlepine	εkeβεep ^h a
122	tail (dog)	(ka)εlep ^{he}	εlip ^{hi}	εlep ^{he}
123	one	(ε)k ^h asok ^ʻ	kasok ^h	εk ^h asok ^h
124	two	εlukeke	lukeke	εluk ^h e

		Morokea	Mosa	Banaule
125	three	emiok ^h	miok ^h	emiok ^h
126	four	(ε)penel	penel	εp ^h elɛn
127	five	elimik ^h apeke	limikapεk ^h e	elimikapεk ^h e
128	ten	enuhulk ^h e	enulk ^h e	enuhulk ^h e
129	taro	ima	ima	ima
130	sugarcane	it ^h o	it ^h o	it ^h o
131	yam	imomo	imomo	momo
132	banana	ipur	ipur	ipur
133	sweet potato	imuk ^h ulubi	mulukuβe	mulukuβe
134	bean	t ^h it ^h iek ^h	t ^h it ^h iek ^h	
135	axe	lap ^h emu nehe	lap ^h emu	lap ^h emu
136	knife	lavisu	laβiso	laβiso
137	arrow	k ^h ok ^h ome	not elicited	not elicited
	fish spear	takura	t ^h εk ^h usi	t ^h εk ^h usi
	pig spear	menmat ^h a	larumsu	larumusu
	war spear	pine	ipine	ipine
138	net bag	nohok ^h o k ^h ulop ^h i	nohok ^h o k ^h anik ^h a	nohok ^h o
139	house	bele	bele	bele
140	tobacco	waɬ ^h i	waɬ ^h i	iwaɬ ^h i
141	morning	nendlupa	dulpa	ledulupa
142	afternoon	nek ^h ulesik	nek ^h ulesik ^ˀ	lek ^h ule
143	night	nεmgiliŋ	nεmgiliŋ	lemigili
144	yesterday	enunue	nunue	enunue
145	tomorrow	elɛl	elɛl	elɛl
146	white	εp ^h unp ^h un	εp ^h un	εp ^h un
147	black	εgopgop	εgop ^ˀ	εgop(gop)

		Morokea	Mosa	Banaule
148	yellow	mohokmohok	emohok	emomohok ^h
149	red	εβururu	εpsikiki	εpisik ^h i
150	green	εk ^h εk ^h εsi	εk ^h obo	εkekese
151	many	εbus	εbus	εbus
152	all	simas	(si)k ^h at ^h u	εk ^h at ^h u
153	this	εveni	eni	ene
154	that	εvenu	eno	eno(n)
155	what?	ini	ini	ine
156	who?	aho	aho	aho
157	when?	εhek ^h a	εhek ^h a	εhek ^h a
158	where?	εhai	εdak ^h o	εhai
159	yes	ε	e	e
			kelεηεha	k ^h εnek ^h a
160	no	εso	εso	εso
161	he is not sitting	norehenso	pureruso	purensa
162	I	alo	alo?	alo
163	you (singular)	ino	ino	ino
164	he	inu	p ^h u	pu
	she		t ^h i	t ^h i
165	we two	susum	susum	susum
166	you two	musum	musum	musum
167	they two	musum	musum	su
				musum
	we (inclusive)	totokmas	t ^h okatu(εhi)	t ^h ok ^h at ^h u
168	we (exclusive)	memekελεηa	memekελεηa	memek ^h εna
169	you (plural)	momok ^h	momok ^h	momok ^h
170	they	momok ^h	mok ^h at ^h u	si
171	he is hungry	purijima	purijima	nehεpunt ^h i
172	he eats sugar cane	puinit ^h o	puinit ^h o	puinit ^h o
173	he laughs a	εlobobo bulahi	puloβoβobus	puriniki loβoβonu

		Morokeya	Mosa	Banaule
	lot			
174	one man stands	puketoho kepurimit ⁷	pukasokdobo	purumit ^h
175	two men stand	sutoho lukekesurimit ⁷	sulukeke dobo	suluke surumit ^h
176	three men stand	setohomioksirimit ⁷	simiok dobo	simiok ^h surumit ^h
177	the man goes	putohopula	pula	p ^h ula
178	the man went yesterday	enunuen pulakot ⁷	enunue punapula	enunue pulak ^h ot
179	the man will go tomorrow	el ^h elk ^h ipula	el ^h elpula	el ^h el pula
180	the man eats the yam	putohopukenimomo	puk ^h enimomo	puk ^h enimomo
181	the man ate the yam yesterday	enunue pueto hopuk ^h eni imomo	enunuepuk ^h enimomo	enunue puk ^h en imomo
182	the man will eat the yam tomorrow	el ^h elkipukeni imomo	el ^h elpuk ^h enimomo	el ^h el puk ^h enimomo
183	the man hit the dog	puetoho puluba imen	pulubaimen	pulubaimen
184	the man didn't hit the dog	puetoho pulubaimenaso	pulubaimenso	pulubaimenso
185	the big man hit the little dog	puetoho hebupulubaimen etevesi	pu eb ikapulubaimentiena	pu ebu pulubai imenet ^h i
186	the man gave the dog to the boy	puetoho pupete imen kipu ememe tevesik	pu eb ikapupeteimen kisememe	pupete imen et ^h i
187	the man hit the dog and went	puetoho pulubaimenopulakot	pulubaimenopula	pulubaimenpulakot
188	the man hit the dog when the boy went	puememepula opu etohopulubaimen	puememetipula opuna pulubaimen	pulak ^h e puna pulubaimen
189	the man hit the dog and it went	puetohopulubaimenoimenela	pulubaimenoimen erurula	pulubaimen imen ila
190	the man shot and ate the pig	puetohopu besigaopukeni iya	pubesigaokeni	pubesiga pukeni

Appendix D.2: Ambul wordlists

		Ayuvet	Melenglo	Asepsep	Ambonge
1	head	t ^h umu	kat ^h umu	kot ^h umu	kert ^h umu
2	hair	kakñun	kot ^h umu kakañum	k ^h ak ^h anjun	kert ^h umukakanjun
3	mouth	kerlo	k ^h oklo?	k ^h oklo?	kerlo
4	nose	jirlo	juglo?	juklo?	jirlo
5	eye	meter	motok [˘]	mot ^h ok	meter
6	neck	elerlo	oloklo	olok [˘] lo?	kerkorke
7	belly	keretil	koketil	k ^h oketil	keretil
8	skin	ijeri	ijoki	koknono?	ijeri
9	knee	k ^h akum	kuk ^h akum	k ^h ak ^h um	kirkak ^h um
10	ear	lejeru	lonjokru	lonjokru	lejeru
11	tongue	k ^h amamelo	k ^h okmamelo	k ^h ok(loka)mamelo	kermamelo
12	tooth	k ^h anino	k ^h okloganino	(k ^h oklo) k ^h anino?	kerlok ^h anino?
13	breast	wijer	wijok	wijok	wijer
14	hand	imer	imok	imok ^h	imer
15	foot	kir	k ^h uk	k ^h uk ^h	ker
16	back	kerwanj	okwanjgru	k ^h okwanj	kerwanj
17	shoulder	k ^h ak ^h ak ^h	imok ^h agak [˘]	oloklo	imomk ^h ak ^h ak [˘]
18	forehead	remewo	lomokuwo?	romokwo	remewo
19	chin	seper	sopok [˘] (pun)	sopok [˘]	seper
20	elbow	k ^h akum	imok kakum	imok ^h ak ^h um	imerk ^h ak ^h um
21	thumb	k ^h aponjop [˘]	imokalonjop ekupo	imok ^h alolonj k ^h upo?	imerkaponjop [˘]
22	leg	kir	k ^h uk	k ^h uk ^h	kir
23	heart	kap ^h osp ^h os	kokp ^h osp ^h os	εpus	kerεp ^h us
24	liver	k ^h ak ^h at ^h	k ^h ak ^h at	kak ^h at	kerk ^h ak ^h at ^h
25	bone	kakai	k ^h ak ^h ai	k ^h ak ^h ai	k ^h akai
26	blood	walo	kawalo?	walo?	walo?
27	baby	nok ^h ok ^h ok ^h	k ^h ok ^h o?	nok ^h ok ^h o?	ulep(nokoko?)

		Ayuvet	Melenglo	Asepsep	Ambonge
28	girl	elim	elimut ^h u	elim mutu	elimudu
29	boy	(ε)t ^h aman	tamanutu	t ^h aman aiaɟutu	t ^h aman utu
30	old woman	talim kairak ^h rak	not elicited	jupkairak	jup ^h irak ^h
31	old man	tuk ^h airak ^h rak	aik ^h us	kairak	pat ^h irak ^h
32	woman	elim	talim	elim	alim
	unmarried woman	ak ^h owot	ak ^h owot	k ^h owot	kowot ^ˀ
	married woman	aulip	aulip	basu	aulip
	widow	not elicited	amjeɲ	amjeɲ	amɛmjeɲ
33	man	tat ^h aman	tat ^h aman	t ^h aman	t ^h uat ^h aman
	unmarried man	aulo	aulo	aulo?	aulo?
	married man	apini	apini?	apini	apini
	widower	not elicited	ɛmot	ɛmot ^h	ɛmot ^h
34	father	aijok ^h	not elicited	aijok ^h	aijok ^ˀ
35	mother	ainu	not elicited	ainu	ainu
36	brother	t ^h in	tin	t ^h uk ^h	not elicited
			aik ^h it	aik ^h it ^h	aik ^h it
37	sister	lut ^h u	lukut ^h u	t ^h uk ^h	not elicited
			ap ^h a	ap ^h a	apa?
38	name	kasaɲ	k ^h ok ^h saɲ	saɲ	k ^h oksaɲ
39	bird	ɛmon	ɛmon	ɛmon	ɛmon
40	dog	ɛmokoi	ɛmokoi	ɛun	mokoi
					eoun
41	pig	?ɛh	ɛ:	?ɛ:	ɛ:
42	cassowary	ɛtawu	tawok ^ˀ	tau	tau
43	wallaby	pasu	taiɛɲgetop ^ˀ	taiɛɲgetop	tuaiɛɲketop
44	flying fox	aniβiaɲ	anivjaɲ	aniviɲgop	(a)niviɲgu
45	rat	akarik ^h	(ε)karik ^ˀ	ak ^h arik ^h	ak ^h arit ^h
46	frog	k ^h amsuruk ^h	k ^h am suruk ^h	k ^h alo	k ^h amsuruk

		Ayuvet	Melenglo	Asepsep	Ambonge
47	snake	amat ^h	amat ^ʔ	amat ^h	amat ^h
48	fish	eli?	eli?	eli?	eli?
49	person	et ^h amanielim	talim(jaŋ)t ^h at ^h aman	tujop ^ʔ tumuluk ^ʔ	alimjat ^h aman
50	he sits	suk ^h omdo	suk ^h omdo	su?komdo?	suk ^h omdo
51	he stands	set ^h mit ^h	segmi?	sek ^h mit ^h	sek ^ʔ mit ^h
52	he lies down	met ^h epal	suk ^h on riŋ	suk ^h ok ^h onjen	k ^h onmetepal (ko)k ^h ondriŋ
53	he sleeps	ku?nok ^h on sukok ^h on	ku?nokon	suk ^h ok ^h on	kutnokon
54	he walks	knes	knes	knes	knes
55	the dog bites the man	emokoikori	mokoikori?	eonkoron eonenwon	eounkortu
56	he eats	k ^h ek ^h eni	ak ^h eni	k ^h ek ^h en	k ^h ek ^h en
57	he gives it to me	mɛ?	awai	æwauwong	witiməkataio erisukataio
58	he sees	met ^h ek ^h ak ^h i	morokak ^h i amamat ^h i	motokak ^h i mamat ^ʔ	metek ^h ak ^h i
59	he comes	kmɛ	kmɛ	kmɛ	samɛh
60	he says	k ^h ak ^h anɛs	k ^h ak ^h anɛs	k ^h ak ^h anɛs	k ^h ak ^h anɛs
61	he hears	lonji	alonji	klon	lonji
62	he knows	pɛt ^h ɛt ^h	lok ^ʔ lorumi	loklorum	lolorum
63	he drinks	k ^h in	ain	k ^h in	in
64	he hits	puni	puli	p ^h uni	p ^h uni
65	he kills	punilemat ^h	punikamat ^h	pami(ke)lɛmat ^h	p ^h a:milemat ^ʔ
66	he dies	mat ^h (lɛ)got ^h	mat ^h kut ^h	mat ^h kut ^h	mat ^h k ^h ut ^h
67	it burns	ekwonwilwil	ekwon wilwil	kwonwilwil	kwonwilwil

		Ayuvet	Melenglo	Asepsep	Ambonge
68	it flies	joule	ju(le)	jule?	juleh
69	he swims	joule	jo?	ju?	juju
70	he runs	soŋ	tsəŋ	soŋ	səŋ
71	he falls down	piol	piol	ploi	ploi
72	he catches	k ^h apak ^{hi}	kak ^h apaki biri	k ^h ak ^h apak ^{hi}	k ^h ak ^h apak ^{hi}
73	he coughs	soŋgot ^h	soŋgot ^ˀ	soŋgot ^h	soŋgot ^h
74	he laughs	mi:ŋ	mi:ŋ	mi:ŋ	mi:ŋ
75	he dances	t ^h i?	t ^h i?	t ^h i?	t ^h i
76	big	kup ^h o?	k ^h po?	k ^h upo?	k ^h upo?
77	small	utu?	ut ^h u?	ut ^h u?	utu
78	good	tu:	tuwu?	t ^h uwo?	t ^h uwo?
79	bad	lowolo	lowolo?	lowolo?	lowolo
80	long	malak ^h	malak ^ˀ	malak ^ˀ	malak ^h
81	short	kakorkor	k ^h akorkor	kakorkor	k ^h akorkor
82	heavy	manik ^h	manik ^ˀ	manik ^ˀ	manik ^h
83	light	malil	malil	malil	malil
84	cold	kamimbriŋ	kamembriŋ	kamimbriŋ	kambriŋ
85	hot	wənwen	wənwen	bən	wənwen
86	new	teŋen	teŋen	t ^h eŋen	teŋen
87	old	enik ^h	enik ^h	enik ^h	enik ^h
88	round	ruɛwol	ɛwol	ɛwol	ɛwol
89	wet	pusik ^h sik ^h	pusik ^ˀ sik ^ˀ	p ^h usik ^h sik ^h plik ^h	pusik ^h sik ^h plik ^h
90	dry	poipoi	poipoi	p ^h oip ^h oi	p ^h oip ^h oi
91	full	sek ^h ol	sekol	kol	sek ^h ol
92	road	ɛsolo	(ɛ)solo?	(ɛ)solo	ɛsolo
93	stone	ɛkum	ɛk ^h um	ɛk ^h um	ɛk ^h um

		Ayuvet	Melenglo	Asepsep	Ambonge
94	earth	εrup ^ː	εrup	εrup ^h	εrup ^h
95	sand	awa?	awa?	awa?	awa?
96	mountain	εt ^h it ^h i	εt ^h it ^h i?	t ^h it ^h i?	elit ^h
97	fire	εk ^w on	εkwɔn	εkwɔn	εkwon
98	smoke	kaiau	kaiau	kaiau	kaiau
			kasum	kasum	
99	ashes	kamsien	kamsien	εkwon kapokaskas	pok ^h as
				parap	koropun
					korometε
100	sun	εsinan	(ε)sinan	sinan	sinan
101	moon	εjumu?	εjumu?	jumu?	jumu
102	star	εumdik ^h	εumdik ^ː	umdik ^h	umdik ^h
103	cloud	awat ^h	awat ^ː	awat ^h	awat ^h
104	rain	εε	εε?	εε?	εε?
105	wind	kololo	tolo	kololo	k ^h ololo
106	water	einuŋ	einuŋ	inuŋ	inuŋ
107	vine	alik	alik ^ː	alik ^h lolo	alik ^h
108	tree	εk ^h ε?	εkε?	εkε?	εk ^h ε?
109	walking stick	εtuk ^h	εtuk ^ː	εtuk ^h	εtuk ^h
110	bark	k ^h ak ^h uklu	εkek ^h ak ^h uklu?	εke kak ^h uklu	εkekakuklut ^ː
111	seed	kaiulk ^h u?	kaiulku?	kaiulku?	kaiungu?
				kak ^h uju?	
	seedling		εkek ^h anino?	kanino?	εkek ^h anino
112	root	k ^h añajan	kañajan	kañajan	k ^h añajan
113	leaf	kakanjun	(εke) kakanjun	kakanjun	k ^h ak ^h anjun
114	meat	kamuje?	kamuje?	kamuje?	kamujeh
115	fat	kamar	kamar	kamar	kamar
116	egg	kaiulk ^h u	kaiunku?	kaiulk ^h u	kaiunku

		Ayuvet	Melenglo	Asepsep	Ambonge
117	louse	ek ^h ut ^h	ek ^h ut ^h	ekut ^h	ek ^h ut ^h
118	feather	ɛmon k ^h ak ^h anjun	ɛmonkakanjun	ɛmon kakanjun	ɛmonk ^h ak ^h anjun
119	comb (of bird)	karoprop	ɛmonkandroko?	ɛmon kandrokok ^ʔ	kandrok ^h ok
120	wing	(ɛmon) pɛn	ɛmonpɛn	ɛmonpɛn	pɛn
121	claw	kapoŋop ^h	kamusɛn	(ɛmon) imekamusin	kamusin
122	tail (dog)	latapu	lat ^h apu	(la)t ^h apu	
	tail (bird)	punmetetɛ?	jɪn	jɪn	jɪn
123	one	nainen	nainen	nainen	nainen
124	two	kiɪp	kjɪ:p	kiɪp	kiɪp
125	three	miok ^h	miok ^h	miok ^h	miok ^h
126	four	pɛŋ	pɛŋ	pɛŋ	pɛŋ
127	five	liɪm	liɪm	liɪm	liɪm
128	ten	sugul	sugul	sugul	sugul
129	taro	ɛmɛ?	ɛmɛ?	ɛmɛ?	ɛmɛ
130	sugarcane	ɛtu?	ɛto?	ɛto?	ɛt ^h u
131	yam	aklut ^h	aklut ^ʔ	ak ^h lut ^h	aklut ^h
132	banana	ɛlɛp ^ʔ	ɛlɛp ^ʔ	ɛlɛp ^h	ɛlɛp ^ʔ
133	sweet potato	ɛkrimbak	ɛkrimbak ^ʔ	krimbak ^h	krimbak ^h
134	bean	not elicited	not elicited	not elicited	ambin
135	axe	ɛnak ^h	ɛnak ^ʔ	(ɛ)nak ^h	(ɛ)nak ^h
					salembos
136	knife	ɛpul	ɛpul	ɛp ^h ul	ɛp ^h ul
137	arrow	not elicited	not elicited	nu?	ɛnu
	fish spear	(ɛ)takui	(ɛ)tak ^h ui	tak ^h ui	t ^h ak ^h ui
	pig spear	not elicited	not elicited	pɛlpɛl	not elicited
138	net bag	ɛkir	ɛker	ɛker	ɛkir
139	house	ɛwin	ɛwin	ɛwin	ɛwin
140	tobacco	ɛmbos	ɛmbos	ɛmbos	ɛmbos

		Ayuvet	Melenglo	Asepsep	Ambonge
141	morning	arar	arar(tu)	arar	arar
142	afternoon	ekio?	ekio?	emlik ^h mɛdɛ?	ɛk ^h iu?
143	night	emlik ^h	emlik	emlik ^h	emlik ^h
144	yesterday	ɛnjik ^h ɛk ^h ɛk ^h ɛ	ɛinɪkɛkɛ	inienk ^h ɛk ^h e	injenk ^h ɛk ^h e
145	tomorrow	ɛrilo	ɛrilo	ɛrilo	ɛrilo
146	white	wowɔlwɔl	wowɔlwɔl	wɔlwɔl	wowɔlwɔl
147	black	woʔopʔop	woʔopop	wopop ^h	wo(ʔo)p ^h op ^ʔ
148	yellow	(w)oi oi	woi oi	(w)oi oi	oi oi
149	red	(wo)mlek	wɔmlek	(wo)mlek	mlek
150	green	kɛskɛs	wɔkɛskɛs	k ^h ɛsk ^h ɛs	(wo)k ^h ɛsk ^h ɛs
151	many	kaiapupo?	kaiapupo?	kaiak ^ʔ pupo?	kaiap ^h upo
152	all	jop ^h jop ^h	jopjop	eiop ^h	jop ^h
153	this	ja?	ja?	sa?	sa?
154	that	ɛli?	ɪli?	ɪli?	ɛli?
155	what?	ɛisɛh	ɛisɛ?	isɛ?	isɛ
156	who?	au	au	au	au
157	when?	aŋɛke	aŋɛke	aŋɛke	aŋɛk ^h e
158	where?	inɛh	inɛh	inɛh	inɛh
159	yes	iwai	iwai	(i)wai	iwai
160	no	t ^h ap	t ^h ap ^ʔ	t ^h ap	t ^h ap ^ʔ
161	he is not sitting	sɛmit ^h ap ^ʔ	suk ^h omdomilik ^ʔ	suʔkomdomilik	suk ^h omdomilik ^h
162	I	jo?	jo?	jo?	jo?
163	you (singular)	wonɟ	wɔŋ	wonɟ	wonɟ
164	he	ja?	ɪli?	ita?	ita
	he (far)	not elicited	not elicited	itiʔili	itɪli
	she	not elicited	not elicited	a?	nuka
	she (far)	not elicited	not elicited	nugili?	nukɪli
165	we two	jerkiɪp	jerkiɪp	jɛmkiɪp	jɛmkiɪp

		Ayuvet	Melenglo	Asepsep	Ambonge
166	you two	kakiṛ	kakiṛ	kakiṛ jomkiṛ	kakiṛ jomkiṛ
167	they two	jekirṛ	jekirṛ	jekirṛpili tukiṛpili	jekirṛ
	we (inclusive)	jerjopjop	jerjopjop jermjokˀ	jɛmaʔ	jerŋuluk ^h tejop
168	we (exclusive)	kɛmkɛmjɛn	jomjokˀ	mɛŋuluk ^h	tɛmosp ^h tɛŋuluk ^h
169	you (plural)	jomjop ^h	jamŋulup	jom	kaŋuluk ^h
170	they	tukaiapupo	jeŋulup	jeŋuluk tupɛŋili tujopili	eŋulukˀ kamosopˀ ejop ^h
171	he is hungry	ɛmisik ^h ani	ɛmisik ^h anie	mɪsik ^h kanie	misik ^h ani (puni)
172	he eats sugar cane	inetuʔ	inet ^h u	inetɔʔ	inʔɛt ^h u
173	he laughs a lot	mi:ŋ lɛkonaiai	mi:ŋ ambip (lɛmotom kauŋɛl)	mi:ŋambip	jakjakamiŋu
174	one man stands	kɛkɛŋɛn sɛmit ^h	nainen sɛmit ^h	tunakesɛmit ^h	t ^h unakɛmitˀ
175	two men stand	tukiṛ sɛmit ^h	tukiṛpsɛmit ^h	tukiṛpsɛmit ^h	tukiṛpɛmitˀ
176	three men stand	tumiok ^h sɛmit ^h	tumiokɛsɛmitˀ	tumiok ^h sɛmit ^h	tumiokɛmitˀ
177	the man goes	klɛʔ	klɛʔ	tunakesaleʔ	tunak ^h ɛle
178	the man went yesterday	lɛ ʔɛnjɪnkɛkɛ	ɛinɪnkɛkɛkɛʔlɛkotˀ	ɪnjɪnkɛketunakɛlɛkot ^h	ɪnjɛnkɛkɛ tunakɛlɛkut
179	the man will go tomorrow	ɛrilo kalɛlɛ	ɛrilokalɛlɛ	ɛrilowakatunakɛle	ɛrilo tunakɛle
180	the man eats the yam	kɛnaklut ^h	kɛnaklutˀ	tunakɛkɛnaklut ^h	tunakɛ kɛnaklut ^h
181	the man ate the yam yesterday	kɛnaklut ^h ɛnjɪnkɛkɛ	ɛinɪnkɛkɛkɛʔ kɛnaklutˀ	ɪnjɛnkɛketunakɛkɛnaklut ^h	ɪnjɛnkɛkɛ tunakɛ kɛnaklut ^h
182	the man will eat the yam	ɛrilo kɛnaklut ^h	ɛrilo kalɛkɛnaklutˀ	ɛrilokaletuna kɛkɛnaklut ^h	ɛrilo kalɛ tunakɛ kɛnaklut ^h

		Ayuvet	Melenglo	Asepsep	Ambonge
	tomorrow				
183	the man hit the dog	punɛmɔk ^h oi	punɛmɔkoi	tunakepuneoun	tunake puneoun
184	the man didn't hit the dog	punɛmɔk ^h oit ^h ap	punɛmɔkoi (mɪlik) t ^h ap	puneonmɪlik	tunake puneountap
185	the big man hit the little dog	pat ^h kupoapunɛmɔk ^h oi	pat ^h ili punɛmɔkoi utu	takono(tuakono)nakepuneontiti	pat ^h konoli puneoun ut ^h u
186	the man gave the dog to the boy	pataʔitat ^h ɛmɔkoi sukaɪdiutua	pat ^h iliwaɛmɔkoi legaitiutuli	takononake wɪtieounsukaitiutuili	patili waiti eoun lɛkaiti utuli
187	the man hit the dog and went	punɛmɔk ^h oi ilɛkot ^h	punɛmɔkoi lɛlɛgot ^h	puneoun lɛlɛlɛli	patilipuneoun wakale
188	the man hit the dog when the boy went	itilɛ ijɛpunɛmɔkoi	itilɛ pari punɛmɔkoi	itilɛ tunakepuneoun	itiutulile ipatili puneoun
189	the man hit the dog and it went	punɛmɔk ^h oi lɛʔɛ mɔk ^h oi lɛk ^h ot ^h	punɛmɔkoioromokoisonlɛʔ	tunakepuneounleʔeunle	patlipuneoun puteounle
190	the man shot and ate the pig	mɪlɛkut ^h kɛni	pat ^h mɪlɛ kurekɛni	ɛmɪlele(ʔɛ)kɛni	patilimɪlɛ kut ^h kɛni

Appendix D.3: Amio-Gelimi wordlists

		Amio	Kaskas	Atui	Poronga
1	head	εpoh	εpoh	wulwoli	wulwolio
2	hair	poiokokin	poiokokiŋ	juk ^h iŋ	wulwolio rejukil
3	mouth	(ε)kwo	kuho	k ^h uwom	kuor
4	nose	(ε)liŋi	jŋi	juŋom	juŋom
5	eye	mite	mit ^h ε	mit ^h a	mot ^h om
6	neck	ðei	jεhi	jei	ei
7	belly	kopo	kopoh	k ^h op ^h om	k ^h opo
8	skin	nipeti	nipet ^h i	nipit ^h i	nip ^h iti
9	knee	k ^h ak ^h um	k ^h ivi k ^h ak ^h um	k ^h ak ^h um	kivi k ^h ak ^h um
10	ear	tiŋe	t ^h iŋε	t ^h iŋe	tiŋε
11	tongue	mume	mumεh	mumεh	(ε)mumεh
12	tooth	(ε)kwo	kuhoreput ^ˈ ŋa	kwom kinjaŋa	kwo kinjaŋa
13	breast	nεmŋe	nεmŋe	nεmŋe	nεmŋe
14	hand	meni	menih	menih	mini
15	foot	marajuŋaka	maraj(uŋ)aka	k ^h ivi	(ε)kisiŋka
16	back	eimi	eimi	eimi	eimi
17	shoulder	(ε)pinbo	pinbo	pɪnp ^h o	(ε)p ^h ɪmpo
18	forehead	pokapal	pokapal	k ^h aval	p ^h oβi
19	chin	kotapi	t ^h api	(k)eip	koip ^ˈ
20	elbow	k ^h ak ^h um	menik ^h ak ^h um	(meni)k ^h ak ^h um	minir k ^h ak ^h um
21	thumb	(ε)nari	kinsuluma	nari	nari
22	leg	keβir	kivi	kivi	kɪvir
23	heart	k ^h ak ^h um	k ^h ak ^h um p ^h usp ^h us	k ^h ak ^h um	ɪmor
24	liver	kitkit	kɪt ^h kɪt ^h	kɪt ^h kɪt ^h	k ^h it ^h k ^h it ^h
25	bone	(ε)βin	εβin	powin	powin
26	blood	mblak	mlak	mlak ^h	ɪmla

		Amio	Kaskas	Atui	Poronga
27	baby	poi	p ^h oi	k ^h ok ^h o	k ^h ok ^h o
28	girl	(ɛ)li	li aieŋri	βainesiŋ	wainesiŋ
29	boy	t ^h umon	jok ^h aieŋ(ri)	waint ^h omo	wainet ^h omon
30	old woman	saŋai kuk	saŋai kuk	ɪmuk ^h	ɛsiŋ ɛmuk ^h
	widow	basu	basu	not elicited	not elicited
31	old man	saŋai kuk	saŋai kuk	ɪmuk ^h	tumon ɛmuk ^h
	widower	basu	basu	not elicited	not elicited
32	woman	siŋ	siŋ	isiŋgri	ɛsiŋ
	unmarried woman	nimboloŋ	nimboloŋ	not elicited	wainsiŋa
	married woman	peaŋi	siŋi piaŋi	paraŋi	paraŋi
33	man	t ^h umon	t ^h umon(ri)	tumonri	t ^h umon
	unmarried man	ulpo	jok ^h ɛulpo	ulpo	ɛulp ^h o
	married man	peaŋi	tui piaŋi	paraŋi	paraŋi
34	father	ap ^h o	ap ^h o	awo	awo
35	mother	ani	ani	ani	hani
36	brother	tei	t ^h ɛhi	t ^h ei	(ɛ)t ^h i
37	sister	(ɛ)lu	ɛlu	ɛlu	ɛlu
38	name	ijon	eiŋo	(e)ijom	eŋo
39	bird	ɪmen	ɪmen	ɪmen	hemen
40	dog	mokoi	ɪmok ^h oi	mok ^h oi	(he)mok ^h oi
41	pig	iða	iŋa	eia	hia
42	cassowary	tawu	t ^h awu	t ^h awo	(he)tawo
43	wallaby	p ^h osun	p ^h osun	poŋgir	poŋgir
44	flying fox	βiaŋ	βiaŋ	poβiaŋ	(he)poβiaŋ
45	rat	puloŋ	puloŋ	moso	moso
46	frog	βau	vao	vao	(he)wao
47	snake	bilimo	bilimo	eusesna	eusesna
	python	not elicited	not elicited	eiŋop ^ʔ	eiŋop ^ʔ

		Amio	Kaskas	Atui	Poronga
48	fish	siləŋ	siləŋ	siləŋ	siləŋ
49	person	turisiŋgri	t ^h unaisiŋ	ituri	etunaisiŋ
50	he sits	imən	imən	imən	ruimən
51	he stands	mit ^ˈ	imit ^h	imit ^ˈ	iroimit
52	he lies down	ŋorok ^h ŋorok	ŋorokŋorok(mana)	ŋorokŋorok	iŋokaŋok
53	he sleeps	(i)ŋorok	iŋorok ^h (tit ^h)	(i)ŋorok ^h	iŋorok ^ˈ
54	he walks	kis	ik ^h ɪs	ikɪs	ik ^h ɪs
55	the dog bites the man	mokoi ɛkatiti tu:	mokoi ɛkatit ^h itu mokoi ɛpun itu	(e)mokoi kat ^h it ituwo	mok ^h oi ɛkunit ^h u
56	he eats	ik ^h an(an)	ik ^h an	ik ^h an	ik ^h an
57	he gives it to me	suŋi kiɛ jo	isuŋi	isaŋ	jasik ^h eo
58	he sees	jopoli	jopoli	jopol(i)	jopɔli
59	he comes	ime	imeh	imeh	imeh
60	he says	iriβene	ilɪs	iklɛŋ (gejo)	iklɛŋ
61	he hears	nombole	inombul(i)	inumbol	inumbol(i)
62	he knows	lemimerekŋe	lemimirik	imerek	(h)ijeli
63	he drinks	i:n	ihin	ijɪn	hijɪn
64	he hits	isok ^ˈ i	isok ^h i	isok ^h	hisok ^h e
65	he kills	pundrini	ipundrini	isok ^h rini	isuk ^h imairɪn ipunimairɪn
66	he dies	irink ^h os	iriŋkus	ɛrin	hirink ^h us
67	it burns	kasiŋaiɛk ^h an	k ^h asiŋak ^h an	kasiŋak ^h an	kasiŋaik ^h an
68	it flies	ilepla	ilepla	ilep ^h	ilepla
69	he swims	iðe	iʒe	ije	hijɛh
70	he runs	isoŋ	uwoipa	isoŋ	hisoŋ
71	he falls down	imat ^h u	imat ^h u	imat ^h u	himaput ^ˈ
72	he catches	komtuni	ure	ire	hikomtit ^h kal

		Amio	Kaskas	Atui	Poronga
73	he coughs	iju	iju	iju	hiju
74	he laughs	imaləl	imaləl	imaləl	himaləl
75	he dances	ises	ises	it ^h i	hit ^h e
76	big	ɛp ^ˈ ma	ip ^ˈ ma	puma	hepuma
77	small	waiŋati	it ^h un peleŋat ^h it ^h i	t ^h unt ^h i	hetundi
78	good	masiksik	masik ^h ŋa	imasik ^h	masikna
79	bad	səsŋa	səsŋa	səsŋa	səsŋa
80	long	loseksek	losek ^h sek ^h ŋa loŋa	losek ^h sek ^h	losek ^h sek ^h
81	short	korok	korok ^ˈ ŋa	kurkur	kurkur
82	heavy	manik ^ˈ	manik ^h (nik ^h)	manik ^ˈ	manik ^ˈ
83	light	βjoβjo	βjoβjoŋa	bjobjo	βjoβjo
84	cold	merir	merir	kamirir	kamirir
85	hot	pilpil	pilpil	venven	(he) wenwen
86	new	poŋa	poŋa	poŋa	poŋa
87	old	ŋeniŋa	ŋeniŋa	niniŋa	niniŋa
88	round	pok ^h ul pok ^h o	pok ^h ulŋa poβilŋa	(po)kujun ^ˈ kujun ^ˈ	kujun ^ˈ kujun ^ˈ
89	wet	pispis imluk(luk)	pispis	umitɪn imluk ^h	mluk ^ˈ
90	dry	kəlkel	kəlkel	kəlkel	kəlkelŋa
91	full	paun	kontəkəl	ikol	rok ^h ol
92	road	sopun	sop ^h un	sop ^h un	sop ^h ul
93	stone	(ɛ)kum	ɛk ^h um	(i)k ^h um	ik ^h um
94	earth	koloi	kului	kilvi	ekəlwe
95	sand	onon	unun	rwunwun	(he)(e)wonwon
96	mountain	t ^h i	ɪt ^h e	t ^h it ^h i	hit ^h it ^h i

		Amio	Kaskas	Atui	Poronga
97	fire	kasiŋa	k ^h asiŋa	k ^h asiŋa	(he)kasiŋa
98	smoke	kaisiŋa	k ^h asiŋa k ^h aisiŋa	k ^h asiŋa k ^h asum	ekasiŋa k ^h asum
99	ashes	pus	εp ^h us	(ε)lumet ^h a kasiŋamet ^h a	kasiŋa mit ^h a
		lumeta			ikasiŋa t ^h ant ^h an
100	sun	(e)naŋ	maŋ	εnaŋ	hinaŋ
101	moon	ŋoβ	iŋoβ	εŋop	hiŋop ^ˀ
102	star	ntuk ^ˀ	induk ^h	nduk ^h	hinduk ^h
103	cloud	ɬawa	t ^h awa	evaɬ ^h	hiwat ^h
104	rain	iβitɬ	εviɬ ^h	εviɬ ^h	hiwit ^h
105	wind	ju	εjuε	ipeneju	peneŋa
106	water	jegi	jek ^h i	jik ^h i	hek ^h i
107	vine	iβe	iβe (ailinga)	iβe	hiβe
108	tree	kai	ik ^h ai	ik ^h ai	ik ^h ai
109	walking stick	ejo	ik ^h ai	ejo	hejo
110	bark	kaipet ^h i	k ^h aipet ^h ih	kaipit ^h i	kaip ^h it ^h i
111	seed	k ^h uɬeli	k ^h ut ^h eli	kaimonŋa t ^h ili	εmonŋa
112	root	repi	repih	(kai)ripi	εrip ^h i
113	leaf	jokokin	jokok ^h in	juk ^h iŋ	kaiuk ^h iŋ
114	meat	(ε)raŋa	raŋa	k ^h ut ^h i	εdraŋa
115	fat	monmon(ŋa)	monmonŋa	monmon	εmonmonŋa
116	egg	kuteli	emen ekut ^h eli	kut ^h ili	εk ^h ut ^h ili
117	louse	iŋut ^ˀ	ŋut ^ˀ	εŋut ^ˀ	εŋut ^h
118	feather	meneo k ^h ok ^h in	menek ^h aum	(i)menjukiŋ	hemenejuk ^h iŋ
119	comb (of bird)	grokok	kandrok ^h ok ^h	drok ^h ok ^h	k ^h akorok
120	wing	giliti	gilet ^h i	gəlit ^h i	ilingit ^h i
121	claw	plani	plani	kusensen	minikak ^h usmsin

		Amio	Kaskas	Atui	Poronga
122	tail (dog)	lep ^h o	lip ^h o	lɪpi	ilɪp ^h i
123	one	k ^h omoli	k ^h umoli	k ^h umoli	k ^h umoli
124	two	kaini	k ^h aini	k ^h aini	k ^h aini
125	three	mək ^ˀ	ɛmik ^h	ɛmik ^ˀ	ɛmik ^ˀ
126	four	pinɛl	pinɛl	pinɛl	(ɛ)pinɛl
127	five	(ɛ)lim	ɛlim	ɛlim	hɛlim
128	ten	ŋulke	ŋulke	ŋulgepake	mulkepake
129	taro	ma	emah	ema	hema
130	sugarcane	tu	ɛt ^h u	ɛt ^h u	het ^h u
131	yam	mom	ɛmom	emom	hemom
132	banana	pur	ɛpur	ɛpur	hepur
133	sweet potato	kolobe	sɪlrik ^h	kaukau	esɪlrik
134	bean	ʔakʔak		tik ^ˀ t ^h ak	
135	axe	ʔɛliŋga	ʔɛliŋga	pamula	p ^h amula
			sɛlembo	ɛmos	
136	knife	lomɪŋka	lomɪŋga	lomɪŋga	elomɪŋka
137	arrow	piaŋ	piaŋ	piaŋ	euiŋka
	fish spear	not elicited	mokoikiβi	not elicited	not elicited
	pig spear	not elicited	aliŋu	not elicited	not elicited
138	net bag	oli	uli	tawalis	(e)tawalis
				ŋasiŋ	
139	house	βɛl	ɪvɛl	ɪvɛl	hevel
140	tobacco	ɪmbos	ɪmbos	ɪmbos	ɪmbos
141	morning	tur(ə)kaka	tur ^h ak ^h a	jarark ^h a	ɛjar(ar)k ^h a
142	afternoon	kikaka	k ^h ik ^h ak ^h a	k ^h iek ^h a	hik ^h iek ^h a
143	night	βek ^h a	weik ^h a	βik ^h a	iβi:k ^h a
144	yesterday	neka	nik ^h a	nek ^h ak ^h a	ɛ:mek ^h ak ^h a
145	tomorrow	tolor	tulur	tulur	etulor

		Amio	Kaskas ləla	Atui	Poronga
146	white	βeɬes	wɛɬesŋa	wɛɬes(ŋa)	wɛɬesŋa
147	black	kaupʻ	kaupŋa	mukmuk opop	mukʻmukʻŋa
148	yellow	oioi	oioiŋa	oioi	oioiŋa
149	red	ŋɛɾɛk	ŋɛɾɛkŋa	nɛɾɛk	ŋɛɾɛkna
150	green	kɛɾkɛɾ	kirkirŋa	kirkir	kɛɾkɛɾŋa
151	many	lokrinrin	ɛlokʰ(rinrin)	lopʰuma	lopʰuma
152	all	eitmopʰo	(eit)mupʰo	mosoŋ	mosoŋ
153	this	neŋa	(osis)ŋeŋa	eone	eune
154	that	aunoŋa	noŋa	eono	auno
155	what?	ini	ɛni	mi	hmi
156	who?	au	au	au	hau
157	when?	aŋi	aŋi	aŋika	aŋikʰa
158	where?	ŋala	aŋai	aŋai	jiŋai
159	yes	i:	na	ɛ:	ɛ:
160	no	sɛrikʻ	sɛrikʰ	sɛrikʰ	sɛrikʻ
161	he is not sitting	minserik	imen sɛrikʰ	imen sɛrikʰ	ruimen sɛrikʰ
162	I	ejo	ɛjo	ɛjo	ɛjo
163	you (singular)	eoŋ	ɛuŋ	eoŋ	heoŋ
164	he	iði	iʒi	jokʰo	hiji
	he (far)	eoŋ			hijino
165	we two	ei tokaini	eiʰ tokaini	eiʰ kaini	eikʰaini
166	you two	jomoi tokaini	eomu (tokaini)	jomu kaini	jomukaini
167	they two	tokaini	eomu (kaini)	jir kaini	jomukaini
	we (inclusive)	eitmopo	eitmupʰo	eitmosoŋ	eiʻmosoŋ
168	we (exclusive)	eitmanaoune	eɛm	eitmik	eieɛm

		Amio	Kaskas	Atui	Poronga
169	you (plural)	jomuəne (kime)	jomumana	jomu (mosoŋ)	jomu mosoŋ
170	they	jomumopo	eomu mup ^h o	jir (mosoŋ)	jomu pəspel
171	he is hungry	saŋolŋol	isaŋolŋol	misik punoŋ	ɛmisk ^h puni
172	he eats sugar cane	ŋuŋeto	iŋuŋet ^h u	inuŋ et ^h u	iŋuŋit ^h u
173	he laughs a lot	malɛlmalɛl	imalɛl kitkit	imalɛl ambip	malɛl ambip iruk ^h imalɛli
174	one man stands	tokomoli ɛmit ^ʔ	tuk ^h omolɛmit ^h	tokumoli romit	hetukumoliromit
175	two men stand	tokaini ɛmit ^ʔ	tokaini ɛmit ^h	tuk ^h aini romit ^ʔ	hetokainiromit ^ʔ
176	three men stand	tomek ^ʔ ɛmit ^ʔ	tumek ɛmit ^h	tumik romit	hetomik romit ^ʔ
177	the man goes	(tumon) tuɛla	tuɛla	et ^h u:la	hetuɛla
178	the man went yesterday	neka tuɛlakos	ɛnik ^h a etuɛlakos	i:nek ^h ak ^h a etu:la	hɛnek ^h ak ^h et ^h ulakos
179	the man will go tomorrow	tolor maila	ɛtolor etuɛla	ɛtulur etu:la	hetulor maitula
180	the man eats the yam	tuɛkanimom	t ^h uɛkanemom	ɛtu: kanɛmom	etuk ^h animom
181	the man ate the yam yesterday	nɛka tuɛkanimom	ɛnik ^h a etuɛkanemom	i:nek ^h ak ^h a etu kanɛmom	ɛnek ^h ak ^h a et ^h ukanemom
182	the man will eat the yam tomorrow	tolor tuɛkanimom	ɛtolor etuɛkanemom	ɛtolor et ^h ukanemom	ɛtolormaitokanemom
183	the man hit the dog	tuesukemokoi	t ^h uesuk ^h i mokoi	ɛtu: sukɛmok ^h oi	etusuk ^h imok ^h oi
184	the man didn't hit the dog	tuesukimokoiserik ^ʔ	t ^h uesukemokoi sɛrik ^h	ɛtu: sukɛmok ^h oi sɛrik ^h	etusuk ^h imok ^h oisɛrik ^ʔ
185	the big man hit the little dog	tokmasokemokoiɛtun	t ^h uɛpma ɛsukimokoi t ^h un	tupuma suk ɛmokoi t ^h un	etopumasuk ^h imok ^h oit ^h un
186	the man gave the dog to the boy	tuesuŋemokoi kiaieŋ	t ^h uesuŋemok ^h oi aieŋ	ɛtu: suŋemokoi kevain	etopumaiasimok ^h oi kiwaino
187	the man hit the dog and went	tuesokoimokoimanila	t ^h uesukimokoila manila	tu suk ɛmokoi naila	etusuk ^h imokoi laβus maila

		Amio	Kaskas	Atui	Poronga
188	the man hit the dog when the boy went	aieŋela naitu isuk ɛmokoɪ	aieŋulolamunɪn naituŋe suke mokoɪ	evainla (e)tu suk ɛmokoɪ	ewainola naituno suk ^h i mokoɪ
189	the man hit the dog and it went	tueŋukɛmokoinaila	tueŋukemokoɪ naimokoila	ɛtu: suk ɛmokoɪ naiemokoila	ɛt ^h unosuk ^h i mok ^h oi maila
190	the man shot and ate the pig	tueluilamaikani	tueju ija naikania	ɛtu: jueja ik ^h ani	et ^h uejuejanaik ^h ani

Appendix D.4: Avau wordlists

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
1	head	pomlimi	pok ^h limi	pok ^h limi	pok ^h limi	pok ^h limi	porolimi pok ^h limi
2	hair	pomlimi k ^h ok ^h ok ^h i	pok ^h limi k ^h uk ^h i	k ^h ok ^h ok ^h i	pok ^h limi ʔoyoyi	pok ^h limi kok ^h oki	poklimi k ^h ok ^h ok ^h i
3	mouth	kwom	kuok	kwok ^h	kwok ^ʔ	kwok ^ʔ	kwok ^ʔ
4	nose	iŋomlimi	iŋok ^h limi	ŋoklimi	iŋoglimi	iŋoklimi	iŋok ^h limi
5	eye	moŋom	motok ^h	motok ^h	mot ^h ok ^ʔ	motok ^ʔ	mot ^h ok ^h
6	neck	jipunum	iyipunuk ^h	ipunuk ^h	ibunuk ^h	ipunuk ^h	ipunuk ^ʔ
7	belly	k ^h opoʔ	k ^h opok ^h	k ^h opok ^h	k ^h opok ^h	kopok	k ^h opok
8	skin	k ^h uk ^h unuru	k ^h uk ^h unuk ^h	k ^h unuk ^h	k ^h uyunuk ^h	kukunuk ^ʔ	k ^h uk ^h unuk ^ʔ
9	knee	k ^h oβoro k ^h ak ^h um	k ^h owok ^h k ^h ak ^h um	k ^h ak ^h um	koβok ^h ak ^h um	kuwu k ^h ak ^h um	k ^h oβok ^h ak ^h um
10	ear	t̪iŋoro	t̪ ^h iŋok ^h	tiŋok ^h	t ^h iŋok ^h	t ^h iŋok ^ʔ	tiŋok ^ʔ
11	tongue	momom	momok ^h	momok	momok ^ʔ	momok ^ʔ	momok ^ʔ
12	tooth	kworo	kwok ^h	not elicited	not elicited	kwok k ^h iŋjana	kwokinjana
13	breast	miŋoro	miŋok ^h	miŋok ^h	miŋok	miŋok ^h	miŋok
14	hand	munum	munuk ^h	munuk ^h	munuk ^ʔ	munuk ^h	munuk ^ʔ

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
15	foot	koβom kasuswai	kowok ^h kasuswai	kowok ^h	koβoglimi	suswai	kowok ^ʔ
16	back	buru	buk ^h	buk	mbok ^h	buk ^ʔ	buk ^h
17	shoulder	tiŋorop ^h a	tiŋok ^h pa	tiŋokpa	tiŋop ^h a	tiŋop ^h a	munukwe
18	forehead	romorobi	romok ^h wi	romokwi	romogui	romokwi	romokwi
19	chin	iporo	ipok ^h	ipok(eawa)	ipok ^h	ipok ^ʔ	ip ^h ok ^ʔ
20	elbow	munuru k ^h ak ^h um	munuk ^h k ^h ak ^h um	k ^h ak ^h um	munuk ^h ak ^h um	k ^h ak ^h um	munuk ^h ak ^h um
21	thumb	ana	munuk ^h ana	ana	adiŋa	ana	ana
22	leg	koβoro	kowok ^h	koworo	kuwuk ^h	k ^h uwuk ^h	kowok ^ʔ
23	heart	εk ^h um	kok ^h εpospos	(ε)p ^h osp ^h os	p ^h osp ^h os	k ^h ok ^h εk ^h um p ^h osp ^h os	pawurupitpel kεε p ^h osp ^h os
24	liver	kεɛ	kok ^h εkεɛ	εkete	kete	εkε ^h ε	kεεkεɛ
25	bone	wunuru	jɪn	jɪni	iŋuk ^h	jɪni	inuk
26	blood	εmlek ^ʔ	k ^h ok ^h εmlek ^h	εmlek ^ʔ	εmlek ^h	kok ^h εmlek ^h	k ^h ok ^h εmlek ^h
27	baby	εk ^h ok ^h ok ^ʔ	(ε)k ^h ok ^h ok ^h	εk ^h ok ^h ok ^h	k ^h ok ^h ok ^h	(ε)k ^h ok ^h ok	(εpoip) εk ^h ok ^h ok
28	girl	εuli	εuliɿi	εulit ^{hi}	εuliti	εuli?	εpopεuli

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
29	boy	ṭamana	εpoi εt ^h amana t ^h i	εt ^h amanat ^h i	t ^h amanati	t ^h amana	εpoiεt ^h amana
30	old woman	εlwakekes	εuli εlawa	εmuk ^h	εuek ^h ipa	εuli εkipa t ^h ete εuli	at ^h εt ^h εuli
	widow	εbasu	εuli εmbasu	εmbasu	basu		
31	old man	εlwakekes	tamana εlawa	εmuk ^h	εuek ^h ipa	tεteetamana	at ^h ete tamana
	widower	εbasu	εṭamana εmbasu	εmbasu	basu		
32	woman	εuli	εuli	εuliliau	εuliti	lieβuli	ulieulili
	unmarried woman	εuli εmiṇate?	εuli εminṇat ^h iṭ ^h	εmiṇate	not elicited	miṇnatit	εpoiεminṇatit
	married woman		εuli paraṇi	εuli εkuṇok ^h a	not elicited	εk ^h uṇoka paraṇi	εparaṇi
33	man	ṭamana	ṭamana	εt ^h amaniniau	t ^h amanati	t ^h amanmana	iniεt ^h amanmanai
	unmarried man	ṭamana εmaṇi	εṭamana εmaṇi	εmaṇi	not elicited	εmaṇi?	pouemaṇi
	married man	not elicited	εt ^h amana εparaṇi	εtamana εkuṇoka	not elicited	paraṇi	someparaṇi
34	father	aia	aia	aia	aiwo?	aia	aia
35	mother	ainu	ainu	ainu	ainu?	ainu?	ainu

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
36	brother	t ^h ut ^h juru	ʔiuk ^h	t ^h iuk	tiuk ^h	tiuk ^h	t ^h iuk ^h
37	sister	luluru	luluk ^h	luluk ^ˀ	luluk ^h	luluk ^h	luluk
38	name	injoro	injok ^h	injok ^h	inje?	injok ^ˀ	injok
39	bird	ɛmɛn	ɛmɛn	ɛmɛn	ɛmɛn	(ɛ)mɛn	ɛmɛn
40	dog	ɛmok ^h oi	ɛmok ^h oi	ɛmok ^h oi	mokoi	mok ^h oi	ɛmok ^h oi
41	pig	ɛɣa	ɛɣa	ɛɣa	ɛɣa	ɛɣa	ɛɣa
42	cassowary	ɛtawo	ɛt ^h awo	ɛt ^h awo	t ^h awo?	(ɛ)tawo?	ɛt ^h awo
43	wallaby	ɛponɣir	ɛp ^h onɣir	(ɛ)ponɣir	pamaŋ	ɛponɣir	ɛpasu
44	flying fox	ɛβlaŋaponɣoi	ɛβlaŋa poŋoi	ɛβlaŋaponɣoi	ɛβiaŋaponɣoi	ɛβiaŋaponɣoi	ɛβiaŋaponɣoi
45	rat	ɛkapit ^ˀ	ɛkapit ^h	kapit ^h	karik ^h	karik ^h	ɛk ^h arik
46	frog	ɛmamko	ɛmamgo	ɛboprok ^h	mamgo	mamgo	ɛmamgo
	small frog	not elicited	not elicited	ɛk ^h amsuruk ^h	kamsuruk	kamsuruk ^h	ɛk ^h amsuruk ^h
47	snake	ɛusesesna	ɛusesesŋa	ɛusesesŋa		suaŋgi	ɛsuaŋgi
	morán	aβino	aβino	aβloŋɛn	aβloŋiŋ	abloŋɛn	aβloŋɛn
48	fish	ɛli	ɛli	ɛli	ɛli	ɛli	ɛli

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
49	person	ṭamaniniau euliliau	εβαβau(au)	inditeop ^h	leletamanmai leleulili	indiop ^h	indijop
50	he sits	εruei	εruein	εruen	εronen	runen	runen
51	he stands	εραεmit̚ʻ	εραεmit ^h	ερεmit ^h	ramit ^h	ramit	ramit
52	he lies down	εkononɣon mori	εt ^h uslua	εruekeni kalumkele elεruengrin	tiniblaɣ	duslom	at ^h uslok
53	he sleeps	εkononɣon	εk ^h onugun	εk ^h unonɣun	gononɣon	gununɣun	gononɣon
54	he walks	enes	enes	enes	t ^h ines	ines	anes
55	the dog bites the man	εmok ^h oi ponεu	εmok ^h oipun(εu)	εmokoi punεu	mok ^h oi punpu	εmok ^h oi punpu	εmok ^h oi punjo
56	he eats	εk ^h en	εk ^h en	εk ^h en	aken	k ^h en	puk ^h en
57	he gives it to me	εniɲi rujo	εniɲi ruio	εniɲen meo	puɲimeo	niɲε	puniɲε
58	he sees	εβit̚tik ^h i	εβit̚tik ^h (i)	εβit ^h ik ^h e	puɲiyiyi	witik ^h	puwitike
59	he comes	εmε	εmε	εmε	mε	mɲε	pum(ɲ)ε
60	he says	elis	elis	elis	pulis	ɲlis	pulis

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
61	he hears	eloŋoi	eloŋo	eloŋo	puloŋoi	luŋu	puloŋoi
62	he knows	εploi	elimimierik ^h (wi)	εpeteti	pumerεk ^h	kombrumuwi	pulimirum(e)
63	he drinks	ein	ein	ein	puŋi	njin	puin
64	he hits	εsuk ^{hi}	εsok ^{hi}	εsuk ^{hi}	pusoyi	suk ^h	pusok ^{hi}
			εp ^h uni				
65	he kills	εsuk ^{hi} eriŋi	εp ^h uni lariŋi	εpuniuerini	pubone	tʃokilarinŋi	pupuneorinŋi
66	he dies	eriŋi ko	riŋi k ^h o	eriŋik ^h is	purini	riŋik ^h u	purinik ^h o
67	it burns	eokwonwilwil	εok ^h on wilwil	eukwon wilwil	ekwonwilwil	ekwonwilwil	ekwonwilwil
68	it flies	εwowola	wowola	εwowola	puwowo	wula	wuwola
69	he swims	εyi	eji	enin	punin	ninin	punin
						jila	puge
70	he runs	εβeŋ	εweŋ	εβen	puen	wεŋ	puweŋ
71	he falls down	εmiliŋ	εmiliŋ	εmiliŋ	pumiliŋ	miliŋ	pumiliŋ
72	he catches	εupui	εupui	εupui	pugomoi	gomoi	puk ^h omoi
73	he coughs	εok ^h ot ^ʔ	εok ^h ot ^h	εok ^h ot ^ʔ	pwokot	ŋok ^h ot ^h	puok ^h ot

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
74	he laughs	ekulipˀ	ek ^h ulip ^h	ek ^h ulip ^h	pugulip	gulipˀ	puk ^h ulip ^h
75	he dances	εt̪it̪i	εt̪ ^h i t̪ ^h i	εt ^h it ^h i	putite	dit̪i	put ^h εt ^h ε
76	big	kaik ^h i t̪i	ek ^h ip ^h a	ek ^h ipa (ambip)	(pu)ek ^h ipa	ek ^h ip ^h a	ek ^h ipa
77	small	tikili	ɛlawa	kaikiti	kaiyiti	k ^h aik ^h it ^h i	kaikit ^h i
			p ^h osp ^h os (t ^h i)		p ^h uti		
78	good	amanmank ^h a	amanmank ^h a	amanmank ^h a	siβiŋa	amanman	amanman
				siβiŋa		siβiŋa	siβiŋa
79	bad	sɛs	sɛsŋa	sɛs	sɛs	sɛs	sɛs
80	long	jilokojoŋ	ɛyilo	eilo(kojoŋ)	ɛyiloɣojoŋ	ɛyilo	ɛyilo
81	short	(ka)kindrokˀ	kindrok ^h (ŋa)	ek ^h indrok ^h	kayindrok	kindrok ^h	kak ^h indrok ^h
82	heavy	pieŋ	pieŋ	pieŋ	p ^h ieŋ	pieŋ	pieŋ
83	light	wɛt̪ɛkˀt̪ɛkˀ	wɛt̪ ^h ɛk ^h t̪ ^h ɛk	wɛt ^h ɛk ^h t ^h ɛk ^h	wɛtɛk ^h tɛk ^h	wit ^h ɛktɛk ^h	wit ^h ɛktɛk
84	cold	not elicited	kombrin	moyoiyoi	kumbrin	ku(mu)mbrin	(eik ^h i) kumbrin
			moyoiyoi			moyoiyoi	
	feel cold	saŋoŋoŋjo	not elicited	saŋoŋoŋ	not elicited	saŋoŋoŋ	saŋoŋoŋjo

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
85	hot	(nuk)wenwen	wenwen	wenwen	wenwen	wenwen	nuk ^h wenwen
86	new	ɛpia	ɛp ^h ia	ɛp ^h ia	ɛp ^h ia	ɛp ^h ia	ɛp ^h ia
87	old	ɛniyi	(ɛ)niyi(ŋa)	ɛniŋi	ɛni	ɛniyi	ɛniyi
88	round	pakoŋkoŋ	pak ^h oŋk ^h oŋa	pak ^h oŋgoŋ	p ^h okoŋkoŋ	luɣuiɣui	paluɣuiɣui
				paulu(ulu)			
89	wet	pisik ^ʼ	pisik ^h (ŋa)	pisik ^h	pisik ^h	pisik ^h	pisik
90	dry	jeje	ɣeye	ɣeiyei	ɣeiyei	ɣeiyei	ɣeiyei
91	full	rak ^h ol	rak ^h ol	(ra)k ^h ol	k ^h ol	rak ^h ol	rakol
92	road	ɛmarukwa	ɛmaruk(wa)	marukwa	marukwa	marukwa	ɛmarukwa
93	stone	ɛk ^h um	ɛk ^h um	ɛk ^h um	ɛkum	ɛk ^h um	ɛk ^h um
94	earth	ɛsiyi	ɛsiyi	ɛsiyi	ɛsiyi	siyi	ɛsiyi
95	sand	ɛnunu	ɛnonu	ɛnunu	ɛnunu	ɛnunu	ɛβa(βi)
96	mountain	ɛti̯ti̯	ɛti̯ti̯ ^h i	ɛti̯ti̯ ^h i	ɛti̯ti̯ ^h i	ɛti̯ti̯ ^h i	ɛti̯ti̯ ^h i
97	fire	ɛukwon	ɛokwɔn	ɛɔkwon	ɛkwon	ɛkwon	ɛkwon
98	smoke	ɛukwon kasuwum	ɛokwɔn kasuwum	ɛɔkwon kasuwum	ɛkwon ɛsuwum	kwon k ^h asuwum	ɛkwon k ^h asuwum

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
99	ashes	kasup ^h sup ^h εukwon kamsijen	εukwon kasup ^h sup ^h	εokwon kasup ^h sup ^h	kasupsup εkwon εk ^h ipa	k ^h asup ^h sup ^h	εk ^h asu
100	sun	ενεηε	ενεηε	ενεηε	ενεηε	ενηε	ενεηε
101	moon	εβλοηο	εβλοηο	εβλοηο	εβλοηο	εβλοηο	εβλοηο
102	star	εlumtik ^ˀ	εlumtik ^h	εlumtik ^h	εumdik	εundik ^h	εumdik ^h
103	cloud	εwat ^ˀ	εwat ^h	εwat ^h	εwat ^h	εwat ^h	εwat ^ˀ
104	rain	εk ^h i (mul)	εk ^h i	εk ^h i	εk ^h i	εk ^h i	εk ^h i
105	wind	εuseaηa	(ε)useaηa	(eu)seaηa	εpseaηa	(εus)eaηa	εuseaηa
106	water	eik ^h i	eik ^h i	eik ^h i	eiγi	eik ^h i	eik ^h i
107	vine	εmlaη	εmlaη (εk ^h elimik ^h a)	εmlaη	εmlaη	εmlaη	εmlaη (rumono)
108	tree	εk ^h e	εk ^h e	εk ^h e	εk ^h e	εk ^h ε	εk ^h ε
109	walking stick	εγo	εγo	εγo	εγo	εγo	εγo
110	bark	εk ^h εk ^h uk ^h uni	εk ^h εk ^h uk ^h uni	εk ^h εkuni	εk ^h εkuyuni	k ^h uk ^h uni	εk ^h εk ^h uk ^h uni
111	seed	k ^h iβiβi	k ^h iβiβi	k ^h iβiβi	kiβiβi	k ^h iβiβi	k ^h iβiβi

		Lulakevi	Asiwot	Akiwak ek ^h ɛpupuŋa	Avihain ek ^h ɛpupuŋa	Akam pop ^h oŋa	Aringring p ^h op ^h oŋa
112	root	sisele	sisili	sisili	sisili	sɪsili	sisile
113	leaf	k ^h ok ^h ok ^h i	k ^h uk ^h uk ^h i	k ^h uk ^h uk ^h i	kokoyi	k ^h ok ^h ok ^h i	k ^h ok ^h ok ^h i
114	meat	k ^h amisisa	misisa	k ^h amisisa	kamisisa	(ka)misisa	k ^h amisisa
115	fat	k ^h amar	k ^h amar	k ^h amar	kamar	k ^h amar	kamar
116	egg	(ka)kiklu	(k ^h a)k ^h iklu	k ^h ak ^h iklu	k ^h akiklu	(k ^h a)k ^h iklu	k ^h ak ^h iklu
117	louse	ɛŋut ^h	ɛŋut ^h	ɛŋut ^h	ɛŋut ^ˈ	ɛŋut ^ˈ	ɛŋut
118	feather	ɛmɛnk ^h ok ^h ok ^h i	ɛmɛnk ^h u(k ^h u)k ^h i	ɛmɛnk ^h uk ^h uk ^h i	ɛmɛnkoyoyi	ɛmɛnk ^h ok ^h ok ^h i	ɛmɛnk ^h ok ^h ok ^h i
119	comb (of bird)	ɛndrok ^h ok	(ka)korokrok ^h	kandrok ^h ok ^h	(ka)koroprop	(kan)drokok ^h	kak ^h oroprop
120	wing	(ka)βliŋgiŋi	wliŋgit ^h i	uliŋgit ^h i	ɛβliŋgit ^h i	leuβliŋgeti	leuβliŋgeti
121	claw	mini k ^h ak ^h usinsin	mini kapusinsin	mini k ^h ak ^h usinsin	mini kusinsin	mini (k ^h a)k ^h usinsin	kausinsin
122	tail (dog)	lipi	lipi	lip ^h i	lip ^h i	lip ^h i	lip ^h i
123	one	keleŋasok ^ˈ	keleŋasok ^h	keleŋasok ^h	keleŋasok ^h	keleŋasok ^h	keleŋasok ^h
124	two	su	su	su	su	su	su
125	three	mojo	mojok ^h	mojok ^h	mojok ^h	mojok ^ˈ	mojok ^h

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
126	four	penel	penel	penel	penel	penel	penel
127	five	limi	limi	limi	limi	limi	limi
128	ten	lokoŋa	lok ^h oŋa	lok ^h oŋa	lok ^h oŋa	lok ^h oŋa	lok ^h oŋa
129	taro	ɛma	ɛma	ɛma	ɛma	ɛma	ɛma
130	sugarcane	ɛtu	ɛt ^h u	ɛt ^h o	ɛt ^h u	ɛt ^h u	ɛt ^h u
131	yam	ɛomu	ɛumo	ɛumo	mamim	ɛumo	ɛumo
132	banana	ɛpur	ɛpar	ɛpur	ɛpoh	ɛpur	ɛpur
133	sweet potato	(ɛ)sɪrɪk	ɛsɪrɪk ^h	ɛsɪrɪk	kɛrɪmbak ^h	sɪrɪk ^h	ɛsɪrɪk ^h
134	bean	not elicited	not elicited	not elicited	not elicited	not elicited	not elicited
135	axe	ɛp ^h amula	ɛp ^h amula	ɛp ^h amula	ɛye	p ^h amula	ɛp ^h amula
						ɛmos	
136	knife	ɛminɔ	ɛminɔ	ɛminɔ	ɛminɔ	ɛminɔ	ɛminɔ
137	arrow	(ɛ)pɛɲɛ	ɛpɛɲɛ	ɛpɛɲɛ	not elicited	ɛpɛɲɛ	ɛpɛɲɛ
	fish spear	ɛmtak ^h us	ɛmdak ^h us	ɛmdak ^h us	ɛmdak ^h us	ɛmdak ^h us	ɛmdak ^h us
	pig spear	not elicited	not elicited	not elicited	kwapenel (four pronged)	mokoimat ^h a	not elicited

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
138	net bag	(ε)kamuriri	εvelin	εvelin	εkanamgor	εβelin	εβelin
				εk ^h o?	εk ^h o?	εk ^h o	εk ^h o
139	house	εβele	εvele	εβele	εβele	βele	εβele
140	tobacco	embos	embos	embos	embos	embos	embos
141	morning	εgarark ^h a	(ε)γaryark ^h a	εγarark ^h a	εγaryaresiβina	εγaryar	εγaryar
142	afternoon	εk ^h iok ^h a	(ε)k ^h iok ^h a	εk ^h iuka	εk ^h io?	εk ^h io	εk ^h iok
143	night	(ε)minjen(ka)	(ε)minjenk ^h a	εminjenka	εmjen	εmien	εmien
144	yesterday	εunik ^h ik ^h a	εunik ^h ik ^h a	εunikika	εumnikika	εunek ^h ek ^h a	εunik ^h ik ^h a
145	tomorrow	εyarar	εγaryar	εγaryar	εγaryar	k ^h uk ^h elje	εγaryar kukelje
146	white	εwolwol	wulwulja	εwolwol	εwolwol	wulwol	εwolwol
147	black	εγopγop	wop ^h wop ^h ja	εγop ^h wop ^h	εγopwop	γopwop	εγopwop
148	yellow	εγoiγoi	γoiγoija	εγoiγoi	εγoiγoi	εγoiγoi	εγoiγoi
149	red	εηerekηerek	ηerek ^h (ηerek ^h ja)	εηerek ^h	ηerek ^h ηerek ^h	εηerek ^h	εηerekηerek
150	green	εkirkir	kirkirja	εkirkir	εk ^h esk ^h es	kirkir	εkerker

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
151	many	palok ^ˈ palok ^ˈ	palok ^h (palok ^h)	palok ^h	palok ^h	p ^h alok ^h	palok ^h
152	all	jop	jop ^h	palok ^h ambip ^ˈ	ambip ^h	p ^h alok ^h palok ^h	palok ^h
153	this	na	ni	asude	pat ^h iok ^h	ni	ni
154	that	no	no	asudu	alaŋ	nu	nu
155	what?	ɛi:	wak ^h a(sinu)	hei(sina)	ei	ei	ei
156	who?	au	au(sinu)	au(sina)	au	au	au
157	when?	aŋɛk ^h a	aŋɛk ^h a	aŋɛk ^h a	aik ^h a	aŋɛk ^h a	aŋɛk ^h a aik ^h a
158	where?	nak ^h o	nak ^h o	nak ^h u	naku	nak ^h o	nak ^h o
159	yes	swisinau	ei	sai	ai	ei	ei
			ai	sɪβimi		ai	ai
160	no	mori	mori	mori	mori	mor	mori
161	he is not sitting	ɛrueinmori	ɛrueinmor	ɛruen mori	roŋɛnmor	ruŋɛn mor	ruŋɛn mor
162	I	ijo	ijo	ijo	ijo	ijo	ijo
163	you (singular)	iŋu	iŋu	iŋo	iŋo	iŋu	iŋo

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
164	he	ei	ei	eino	pu	punu	ijo
165	we two	(in)desu	tesu	indesu	t ^h esu	tesu	t ^h esu
166	you two	kemsu	k ^h emsu	kemsu	kemsu	kemsu	l ^h esu
167	they two	esusu	susu	susunu	kemsu	kemsu	l ^h esu
	we (inclusive)	indiop	indijop ^h	indiop(kele)	teopkeli	indijop ^h	indijop ^h
168	we (exclusive)	indipalok ^ˀ	imem	imemkele	mamsukele	(imem) (kwamujop)	imem(kili)
169	you (plural)	imujop	imu	keop ^h	keop ^ˀ	imujop ^h	imu
170	they	isipalok ^ˀ palok ^ˀ	isi	isijopu	imujop ^h	keijop ^h	l ^h elijop
171	he is hungry	eimik ^ˀ punjo	eimik ^h puni	eimipunjo	not elicited	eimikpunpu	eimik punio
172	he eats sugar cane	ein ^h etu	ein ^h etu	ein ^h to	not elicited	puinetu	puinet ^h u
173	he laughs a lot	ekulip ^ˀ palok ^ˀ	ek ^h ulip ^h ambip ^h	ek ^h ulip ^h ambipkilip ^h	pugulip ambip	gulip ^ˀ ambip	puk ^h ulip ^h ambip ^h
			ek ^h ulip ^h palok ^h			gulip ^ˀ palok ^ˀ	
174	one man stands	eukeremi ^ˀ	ekili ^ˀ ja ramit ^h	eugeramit ^h	not elicited	puk ^h eramit	pulamit ^h
175	two men stand	esusurami ^ˀ	susu raimit ^h	esusuramit ^h	not elicited	esusuramit ^h	l ^h esulamit ^h

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
176	three men stand	εομοjok ramit̚	siman raimit ^h	εumiok ^h ramit ^h	not elicited	εumiok ^h ramit	lεlmojok ^h lamit ^h
177	the man goes	εla	εula	εunulakes	not elicited	εuk ^h ela	pusomla
178	the man went yesterday	εunik ^h ik ^h a εlakes	εlaεunek ^h ek ^h ak ^h u	εunekeka εunelakes	not elicited	εunikekapula	pulale εunik ^h ik ^h a
179	the man will go tomorrow	εγarar laela	εlaεγarγar	εγarγarla εunela	not elicited	εγarγarlapula kukel ηεlapula	εγarγarlapula
180	the man eats the yam	εuik ^h en	εk ^h ενεumo	εunokene umu	not elicited	puk ^h ενεumo	somk ^h ενεumo
181	the man ate the yam yesterday	εunik ^h ik ^h a amk ^h en	εk ^h ενεumoεune	εunekeka εunokene umu	not elicited	εunikikapuken εumo	somken εumo εunikik ^h a
182	the man will eat the yam tomorrow	εγararla amken	εγarγarlaεken εumo	εγarγarla εunokene εomu	not elicited	kukelηεlapuk ^h ενεumo	kukelηε εlasom keneumo
183	the man hit the dog	εuki suk εmokoi	εsuk ^h εmok ^h oi	εu(no) suk ^h ε mok ^h oi	not elicited	pusuk ^h εmokoi	pupunεmok ^h oi
184	the man didn't hit the dog	εsuk ^h εmokoi mori	εsuk εmok ^h oimor	εuno suk ^h ε mok ^h oi mori	not elicited	pusuk ^h εmokoimor	punεmok ^h oimor

		Lulakevi	Asiwot	Akiwak	Avihain	Akam	Aringring
185	the big man hit the little dog	εεkipakujon εsuk εmokoiti	εεk ^h ipasuk εmok ^h oit ^h i	iekipano suk ^h ε εmok ^h oit ^h i	not elicited	somεk ^h ipasukεmokoiti	somεk ^h ipano soke mokoit ^h i
186	the man gave the dog to the boy	ευ ενιη εmokoi ruepoptike	ενιη εmok ^h oit ^h i ruepoipt ^h i	inonih εmok ^h oi ruepop tik ^h i	not elicited	somnihεmokoi rupu	ninpunεεmok ^h oit ^h i
187	the man hit the dog and went	εsuk ⁷ εmokoi suenεsla	εsuk ^h εmok ^h oi suela	εsuk ^h εmokoikesu ela	not elicited	somsukεmokoi sasomlaku	sompunεmok ^h oisa somεngit ^h i
188	the man hit the dog when the boy went	εpoptinoεla su isukεmokoi	εpoiptila suεsuk ^h εmokoi	εpoptino la kisaεu le(ne) suk ^h εmok ^h oi	not elicited	pulale sasomsuk εmokoi	pulale sasompunε mok ^h oi
189	the man hit the dog and it went	εsuk εmokoi su εmokoila	εsuk ^h εmokoi su εmokoila	εuno suk ^h εmok ^h oi o εmokoila	not elicited	somsukεmokoi (u) εmokoi lale	sompunε mok ^h oi ulale
190	the man shot and ate the pig	εpunεya su εkeni	εu(ju)εya suekeni	εunojo εya okenεya	not elicited	sompunε yaosomkeni	somjuεya usomk ^h eni

Appendix D.5: Aighon, Bola, Mangseng and Nakanai wordlists

		Aighon	Bola	Mangseng	Nakanai
1	head	pon	gi	ipouŋa	gama
2	hair	ikin	not recorded	ðoiŋ	ivu
3	mouth	litoŋ	ŋaβa	iwo	hare
4	nose	ŋurin	rupere	ioŋe	maisui
5	eye	matan	mata	iðeki	mata
6	neck	luŋun	loyo	ikei	loho
7	belly	kopin	tamundi	iɔpɔ	tiala
8	skin	lut	kuli	inipeti	vovo
9	knee	posut	turu	ieʋe pɔmesi	tutu
10	ear	tiŋin	taliŋa	iteŋa	gavusa
11	tongue	mamam	tabele	ilemuma	kalamea
12	tooth	ɛŋin	ŋi	iwoɔpupɔ	togo
13	breast	susun	ru	iasusu	susu
14	hand	βilin	lima	imeni	lima
15	foot	not recorded	βaya	ieve salapa	vaha
16	back	gimon	bito	ikime	poga
17	shoulder	siβian	gepe	ikeipɔ	beho
18	forehead	miaŋan	dume	ipowe	varu
19	chin	ɛpsin	kumim	iaep	sivova
20	elbow	posut ⁷	putu	imeni pɔmesi	butukuha
21	thumb	ponin	kuku	imeni pupɔ ninaŋa	kuku

		Aighon	Bola	Mangseng	Nakanai
22	leg	kɪβɪn	βaya	ieve	vaha
23	heart	matangɪn	bua	ia tutut	bua
24	liver	etan	yate	ia puspup	hate
25	bone	embruɪn	tuya	ipokin	tuha
26	blood	æŋgrikʻ	dara	iamla	kososo
27	baby	(polin)ekokokʻ	koma	ɸɔvɔðvɔð	pepeso
28	girl	eet a kooβɪn	koma ŋataβine	ovote	e guliliki
29	boy	veeya maingɪ	koma bakoβi	kulpo	e guliliki
30	old woman	totambasasu	gare	kimet	tavile uru
31	old man	tiabasasu	not recorded	tɔɔk	tahalo uru
32	woman	panoyo	ŋataβine	seŋ	tavile
33	man	pamasan	bakoβi	toko	tahalo
34	father	tataman	tama	vɔvɔ	tama
35	mother	tonin	kina	nina	tila
36	brother	waton	tuka	teik	tua
37	sister	elutŋɔ	koroba	luk	tua
38	name	jax	ra	ijon	isa
39	bird	ekiŋ	kandiroβo	men	malu
40	dog	ekiŋ	ligo	nanau	paia
41	pig	juŋ	boro	kie	bolo
42	cassowary	naoko	meŋo	tavo	kehu

		Aighon	Bola	Mangseng	Nakanai
43	wallaby	irok ^ˈ	ŋapole	pɔsusun	pakasa
44	flying fox	nimbika	kopa	porou	bureki
45	rat	tanisu	kuruβe	mɔsɔ	kusuke
46	frog	emgo	not recorded	vako	pere
47	snake	nekso	mata	pilimo	pase
48	fish	esmarŋ	manu	silarŋ	ia
49	person	patoyu	bakoβi	toko	etibo
50	he sits	βezionŋ	mande	imen	pou
51	he stands	βesipit ^ˈ	pesi	imita	magiri
52	he lies down	βizinok ^ˈ	not recorded	iŋɔ	mavuta
53	he sleeps	βmekruŋ	mayita	inoŋnoŋ	mavuta
54	he walks	βmas	layo	ies	tuga
55	the dog bites the man	βituk	kania	ipun	tolo la tahalo
56	he eats	βien	kani	ian	ali
57	he gives it to me	βetritax	yabi	isuŋuiaðoŋe	abi a gu
58	he sees	βipan	masia	iðopoli	hilo
59	he comes	βime	βalai	iesme	go mai
60	he says	βikaisa	tamaia	iri	veia(mago)
61	he hears	βikinoi	loŋo	inoŋbol	lolo
62	he knows	βeminas	not recorded	ilemi mireŋe	rovi
63	he drinks	βenum	ninu	iðin	liu

		Aighon	Bola	Mangseng	Nakanai
64	he hits	βεβιν	bi	isoi	kue a
65	he kills	βεβιν	not recorded	ipun nini	bili a
66	he dies	βερυν	mate	inin	peho
67	it burns	iβilβil	nono	ian	karere re
68	it flies	ibrim	bembe	irer	lovo
69	he swims	βεγoi	huru	ike	puru puru
70	he runs	βερuos	nunu	iðo	hari
71	he falls down	βεkasitʻ	boru	matu	boru
72	he catches	βεkom	siko	ieli	sakole a
73	he coughs	βεkoyokʻ	loko	ikuk	kulue
74	he laughs	βερυη	noηo	iηeηe	lege
75	he dances	βesi	raulo	ses	tilia
76	big	ayoluη	dagi	aoloηa	uru
77	small	tutun	kiroko	posηa	bisi
78	good	sosou	kamumu	senuηa	taritigi
79	bad	jaηases	γale	kereηa	kama ko kora
80	long	lolo	iola	loloηa	malau
81	short	karomu	kapo	adoηa	boto
82	heavy	kiηgiη	maβa	maðe	tikumu
83	light	γeglek	maraya	vðoηal	mavulaha
84	cold	imumbrut	piu	merirηa	maigi

		Aighon	Bola	Mangseng	Nakanai
85	hot	benben	roŋo	veilŋa	tivura
86	new	raman	karaba	pɔŋaŋa	halaba
87	old	amux	not recorded	nomeŋa	mumugu
88	round	pɔku	rourou	kaluŋa	polo galili
89	wet	mluk	mea	ipis	ba beta
90	dry	yeye	kere	klaŋklaŋ	masaga ti
91	full	sekol	not recorded	ivual	volu
92	road	yiso	dala	soveŋalo	gauru
93	stone	seke	kedo	um	uati
94	earth	pluk	malala	ulue	magasa
95	sand	zigli	yire	wunwun	parava
96	mountain	kalapliŋ	lolo	peŋene	gove
97	fire	kila	kanono	wɔsɛsɛŋa	havi
98	smoke	ikɪn	pokona	wɔnkluŋa	sosobu
99	ashes	popo	kato	vuvus	buburo
100	sun	nelakʰ	yaro	naŋ	haro
101	moon	ɛnam	keβa	ŋɔv	taio
102	star	kirapʰ	yada	sivemit	matatabu
103	cloud		yabu	sɛpsa	tuluvu
104	rain	ɛkus	βala	vit	hura
105	wind	eip	βilu	ðue	lolovi

		Aighon	Bola	Mangseng	Nakanai
106	water	iki	naru	ðei	lalu
107	vine	elik	mota	we	mota
108	tree	zaŋ	kai	won	obu
109	walking stick	not recorded	not recorded	won tan	butu
110	bark	lut ^ˈ	kulina	pɛti	kulikuli
111	seed	juyun	not recorded	monja	vavua
112	root	kumut ^ˈ	kana	ripi	ua
113	leaf	ikin	pagana	ðoiŋ	galalao
114	meat	imalin	bobona	mekerim	kalia
115	fat	kamar	βi	munmun	molamola
116	egg	kulut ^ˈ	not recorded	otil	hatotolu
117	louse	ŋut	kutu	ŋut	hutu
118	feather	ikin	βu	meniðoiŋ	kokoma
119	comb (of bird)	not recorded	not recorded	not recorded	not recorded
120	wing	brit ^ˈ	karapa	giniti	palapala
121	claw	piplengein	kuku	imɛniplani	not recorded
122	tail (dog)	pokut ^ˈ	ku	ilepupɔ	kiula
123	one	tam	taku	omole	sasa
124	two	βuoŋ	rua	aini	lua
125	three	miok	tolu	me	itolu
126	four	nal	βa	penel	ivaa
127	five	ɛsip ^ˈ	lima	lim	ilima

		Aighon	Bola	Mangseng	Nakanai
128	ten	sulukanda	raβulu	mule	savulu
129	taro	ɲai	maβo	ma	mavo
130	sugarcane	jɛm	toβu	to	tovu
131	yam	mom	yυβi	mom	huvi
132	banana	murək	βudi	tuli	vugi
133	sweet potato	sirimba	tereβate	siriba	kuruve
134	bean	tiktæk	not recorded	not recorded	not recorded
135	axe	lapemu	kira	teleŋa	pemu
136	knife	ɛpul	βito	lomiŋa	viso
137	spear	mɾɿt	mayeto	peaŋ	gata
138	net bag	kanika	kulupi	kole	palo
139	house	bele	ruma	vɛl	luma
140	tobacco	bos	βasi	bɔs	suku
141	morning	iru	yateləŋa	rulpɔ	kavikoki
142	afternoon	izeng	maluŋa	pɛnie	maulavi
143	night	ivus	rodo	pɛmlɪk	logo
144	yesterday	aizapʻ	raβi	nine	alalavi
145	tomorrow	pleŋadupa	kuduβi	lelkin	galigeli
146	white	βolβol	kea	vɛlesŋa	kakea
147	black	βikβik	kato	pogopgopŋa	para kuru kuru
148	yellow	yoiyoi	ŋaŋo	kɔðɔðŋa	ialalo

		Aighon	Bola	Mangseng	Nakanai
149	red	jagrekgrek	βururu	sɛlɛɛŋa	magese gese
150	green	kirkir	goma	raŋraŋa	ka kesa
151	many	jambip	kupo	pulua	usu
152	all	imut ^ɿ	not recorded	alavusŋa	tomi
153	this	ja	not recorded	ike	aleie
154	that	jare	not recorded	ikola	aleio
155	what?	ɛɛ	arana	neke ako	mave
156	who?	wanu	erei	ao	ere
157	when?	asaŋi	garika	pɛnva	gaisa
158	where?	de	βai	kaj(t ^h)	oio ve
159	yes	ii	not recorded	e	ee
160	no	iyom	ijuka	avele	ouka
161	he is not sitting	apsɪn	kumai	avele	kama
162	I	ɪŋo	iau	ðo	eau
163	you (singular)	on	ioe	woŋ	eme
164	he	βex	ia	i	eia
165	we two	toɣ	not recorded	them	a milua
166	you two	mom	marua	thomu	a mulua
167	they two	βloŋ	marua	or	e girua
168	we (exclusive)	pɪm	mateu		a miteu
169	you (plural)	jom	matou	thomu	a mutou
170	they	ri	ria	or	e giteu

Appendix D.6: Aiklep and Gimi wordlists

		Aiklep	Gimi
1	head	ka-dumu	ka-dumu
2	hair (scalp) body part with it obligatory	ka-dumu ka-kanun	ka-dumu ka-lengeng
3	mouth	ko	ko
4	nose	yinlo	ka-koroplo
5	eye	mede	mede
6	neck	wolo	wolo
7	belly	ka-idil	ka-dil
8	skin	ka-kuklu	ka-kuklu
9	knee (lit. leg joint)	kin ka-kum	kin ka-kum
10	ear	longo	longo
11	tongue (lit. mouth tongue)	ko kamamelo	same
12	tooth (lit. mouth kernal)	ko kanino	ko kanino
13	breast	yinge	yenge
14	hand (lit. top of the arm)	ime ru	ime ru
15	foot (lit. top of the leg)	kin ru	kin ru
16	back	ka-wang	ka-sakramru
17	shoulder (lit. arm its-joint)	ime ka-kopo	wolo
18	forehead	romowo	romowo
19	chin	sipin	sipin
20	elbow (lit. arm its joint)	ime ka-kum	same

		Aiklep	Gimi
21	thumb	ime ka-longo	same
22	leg	kin	same
23	heart	ka-upus	same
24	liver		
25	bone	ka-kai	same
26	blood	ka-walo	ka-angrik
27	baby	ulep	ulep
28	girl	inuk	kuna
29	boy	idi	ida udu (little male)
30	old woman	yip	yip
31	old man	pat kairak	ida aplak
32	woman	aulip	daulip
33	man	pat	ida / pat
34	father (lit. his father)	teme	tambat
35	mother	tine	tinapu
36	brother (lit. his, my big brother)	dinulip	dinulip
37	sister (lit. opposite gender)	luudu	luudu
38	name	ka-sang	same
39	bird	omon	omon
40	dog	un	wun
41	pig	e	e

		Aiklep	Gimi
42	cassowary	kukyung	omon dabu
43	wallaby	kining	pangi
44	flying fox	sapaiwa	parau
45	rat	au	au
46	frog	kalu	kutwal
47	snake	amat	amat
48	fish	ili	ili
49	person (lit. one human)	du nake	du nake
50	he sits	suk mdo	suk do
51	he stands	se mit	se mit
52	he lies down	suk kon	suk kon
53	he sleeps	kon utkonokong	kon utonong
54	he walks	nes	nes
55	the dog bites the man	un kor pat	wun ko ida si
56	he eats	ken	ken
57	he gives it to me	walel i me kada yo	waka i me ka yo
58	he sees	mede kapling i	mede kapli i
59	he comes	pat me	ida me
60	he says	wo	o
61	he hears	long i	long i
62	he knows	dain	dangini

		Aiklep	Gimi
63	he drinks	in	in
64	he hits	pun	pun
65	he kills	pam	pakam
66	he dies	mat	mat
67	it burns (lit. fire eats it)	kwon ken i	kwon ken i
68	it flies	yu le	yu le
69	he swims	yu le	yu le
70	he runs	pos	pasapong
71	he falls down	piol suk	dek suk
72	he catches (lit. he catches it)	mbir i	mbir i
73	he coughs	songgot	songgot
74	he laughs	ming	miying
75	he dances	ti	ti
76	big	kupo	kupo
77	small	udu	udu
78	good	du	duku
79	bad	lowolo	lowolo
80	long	malak	malak
81	short	it	it
82	heavy	manik	manik
83	light	malil	weswes

		Aiklep	Gimi
84	cold	mirin	mirin
85	hot	wenwen	ngengeng
86	new	dengen	dengen
87	old	inik	inik
88	round	awol	lo lulul
89	wet	blik	blik
90	dry	poipoi	pokpok
91	full	sapal	sapal
92	road	oso	oso
93	stone	ukum	ukum
94	earth	urup	urup
95	sand	daklip	aklip
96	mountain	ilit	ilit
97	fire	kwon	ukwon
98	smoke	kwon ka-yau	ukwon ka-kinkin
99	ashes	kwon ka-parap	asong, kwon ka-usus
100	sun	sinang	sinang
101	moon	yumu	saiku
102	star	kindik	kadang
103	cloud	awat	kawat
104	rain	ere	pakuru

		Aiklep	Gimi
105	wind	oleng	mana
106	water	inung	nen
107	vine	alík	alík
108	tree	eke	eke
109	walking stick	uduk	uduk
110	bark	eke kakuklu	eke kakuklu
111	seed	kanino	kanino
112	root	kamngam	kamam
113	leaf (lit. its covering)	ka-kanun	ka-lengeng
114	meat	werngem	masung
115	fat	muye	kamkal
116	egg	ka-yulkul	ka-kuklu
117	louse (prs.not oblig.)	kinkin	sakapit
118	feather	ka-kanun	ka-lengeng
119	comb (of bird)	ka-akom	ka-setngin
120	wing	pen	pein
121	claw (lit. the foot's nails)	kin kamusin	kin kamusin
122	tail (dog)	yin	ka-kulkul
123	one	nake	nake
124	two	kyip	tip
125	three	miok	mok

		Aiklep	Gimi
126	four	peng	peng
127	five	lyim	lyim
128	ten	sungul	sungul
129	taro	eme	eme
130	sugarcane	udu	udu
131	yam	aklut	aklut
132	banana	elep	elep
133	sweet potato	krimbak	kirimbak
134	bean	ambin	ambin
135	axe	nak	nak
136	knife	upul	upul
137	spear	nu	nu
138	net bag	bilum	bilum
139	house	iwin	num
140	tobacco	ombos	ombos
141	morning	iri lo	yang ka yinginlo
142	afternoon	imlik mede ke	imlik mede ke
143	night	imlik	imlik
144	yesterday	inkeke	nindi
145	tomorrow	iri lo ke	yinglo
146	white	kawawang	wok

		Aiklep	Gimi
147	black	wus	wus
148	yellow	al	kal
149	red	mlek	mlek
150	green	kawir	tipipring
151	many	kayap kupo	kayap
152	all	nguluk	kangenlo
153	this	sa	so
154	that	siwi	si
155	what?	isu	ise
156	who?	au	au
157	when?	loke ine	angau
158	where?	le ine	le we
159	yes	wai	ile
160	no	dap	dap
161	he is not sitting	mdo dap	do dap
162	I	yo	yo
163	you (singular)	wong	wong
164	he (lit. that man)	pat si	ida si
165	we two	mekyip	mip
166	you two	kakyip	kap
167	they two	yei kyip	du dip

		Aiklep	Gimi
168	we (exclusive)	mekyip	mip
169	you (plural)	yum	yom
170	they	yei	yeit

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