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Abstract

This report describes a sociolinguistic survey conducted among the Piapung (formerly known as Pyapun)-speaking communities in Mikang LGA, Plateau State, in central Nigeria. Blench (2017:4–5) classifies Piapung as an Afro-Asiatic, Chadic, West, A, A.3, Goemaic, Talic language. We estimate that there may be about 9,500 to 13,500 speakers of Piapung [pcw], which is most if not all the ethnic group.

The goals of this research included gaining a better understanding of the role of Piapung and other languages in the lives of the Piapung people. Our data indicate that oral language use is vigorous and there appears to be high vitality (EGIDS 6a). Parents speak the language to their children and the children appear to prefer it even after becoming educated in Hausa and English. Their attitudes towards the language show they want to see it continuing to be spoken for generations to come. There seems to be some motivation for developing the language.

The people report that there are two slightly different dialects: Moewa and Moedom. A lexical comparison revealed only slight differences between the varieties. The speakers of these two dialects report high levels of inherent intelligibility. A wordlist comparison with the neighboring Koenoem language also revealed a high level of similarity, but the groups consider that they have different identities.

There is some multilingualism with neighboring languages due to contact and there is also some proficiency in Hausa and English attained through education. Although the Piapung are multilingual, this has not reduced the vitality of Piapung, and there is no evidence that they are shifting to the use of any other language. However, due to increased use of Hausa in some domains, it is possible that there may be more evidence of shift in the near future.

This study of Piapung is part of a larger initiative to provide sociolinguistic information to organizations, development agencies, and local communities who are working collaboratively towards meeting the language development needs of the ethnolinguistic groups of Nigeria. The goal is to have a more realistic understanding of language development needs on a national scale. Linguistic and sociolinguistic data were collected through group and individual interviews, participatory discussions, observations, and wordlist collection.

Contents

Languages Mentioned in This Report

Languages mentioned in this report, with ISO 639-3 codes

- Ankwai, alternate name for Ngas [anc]
- Chip, alternate name for Miship [mjs]
- English[1] [eng]
- Fulfulde [fuv]
- Goemai[2] [ank]
- Hausa[3] [hau]
- Igbo [ibo]
- Koenoem[2] [kcs]
- Kwalla, reported to be a dialect of Kofyar [kwl]
- Miship [mjs]
- Moedom,[2] a dialect of Piapung [pcw]
- Moewa,[2] a dialect of Piapung [pcw]
- Montol,[4] alternate name for Tehl [mtl]
- Mudon, alternate spelling for Moedom, a dialect of Piapung [pcw]
- Muwa, alternate spelling for Moewa, a dialect of Piapung [pcw]
- Mwaghavul [sur]
- Ngas [anc]
- Nigerian Pidgin English[1] [pcm]
- Piapum, alternate spelling for Piapung [pcw]
- Piapung [pcw]
- Pyapun,[5] alternate spelling for Piapung [pcw]
- Tal [tal]
- Tarok [yer]
- Teel,[4] alternate name for Tehl [mtl]
- Tehl[4] [mtl]
- Wapan [juk]
- Wukari, alternate name for Wapan [juk]
- Yoruba [yor]
- Ywom [gek]
- Zan, reported to be a dialect of Piapung [pcw]

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[1] In Nigeria, there is a variety of English recognized by linguists as Nigerian English and another called Nigerian Pidgin English by linguists. However, both are frequently referred to colloquially as English. We did not pursue specification in this distinction.

[2] Throughout the Plateau State there is an orthographic trend for developing languages to use <oe> to represent the mid-central vowel sound [ə] or [ɜ].

[3] There are different dialects of Hausa, but we did not pursue specification in this distinction.

[4] Current language catalogues, such as the *Glottolog* 4.2.1 (Hammarström et al. 2020), refer to the language as Montol. However, it was found during the Pye survey (Decker et al. 2021b) that the name Montol is considered derogatory and that Tehl is the preferred name.

[5] Current language catalogues, such as the *Glottolog* 4.2.1 (Hammarström et al. 2020), refer to the language as Pyapun. However, during this survey, we found that <Piapung> is the preferred spelling of the name.

1 Introduction

This report describes a sociolinguistic survey conducted among the Piapung (formerly known as Pyapun)[6] [pcw]-speaking communities of the Mikang Local Government Area (LGA) of Plateau State, in central Nigeria. Piapung is an A.3 language within the West Chadic branch of the Afro-Asiatic language family (Eberhard et al. 2020a). There are an estimated 9,500 to 13,500 speakers of Piapung, which is most if not all the ethnic group.

The fieldwork was conducted May 6 to 7, 2019 by Fittokka Gobak, Adedamola Aregbesola,[7] Christina Riepe, John Sacson, and Samuel Eju,[8] members of the SIL Nigeria language survey team. Ken Decker served as a consultant on the survey and provided writing assistance on this report. We collected information in the villages of Piapung, Pangjem, Gwotkat, and Ganggoevoel. This survey report includes linguistic, sociolinguistic, geographic, and demographic information. This profile is used to draw conclusions about the possibilities for language planning and development.

Through this research, we learned that Piapung language use is vigorous, and there appears to be high vitality (EGIDS 6a). Parents speak the language to their children, and the children appear to prefer it even after becoming educated in Hausa and English. The adult's attitudes towards the language indicate that they want to see it continuing to be spoken for generations to come. There seems to be some motivation for developing the language.

The people report that there are two slightly different dialects: Moewa and Moedom. A lexical comparison revealed a high degree of similarity (97%) between the varieties, and the people report complete intelligibility. A wordlist comparison with the neighboring Koenoem language also revealed a high level of similarity (85%), but the groups consider that they have different identities.

There is some multilingualism with neighboring languages due to contact and there is also some proficiency in Hausa and English attained through education. Although the Piapung are multilingual, this has not reduced the vitality of Piapung, and there is no evidence that they are shifting to the use of any other language.

In this report, the survey's purpose and research questions are described in section 2. Background research is discussed in section 3. The methods used in our research are explained in section 4. In section 5, we describe some of the geographic, social, and cultural factors that may influence language use. In section 6, we describe linguistic data that was collected and how it was analyzed and we draw conclusions relevant to answering the research questions about variation within varieties of the heritage language. In section 7, we look at the multilingual environment and multilingual proficiency. Finally, in section 8, we discuss factors affecting language vitality. In section 9, we summarize what we described in sections 5 to 8 and how it answers the research questions presented in section 2.

This study is part of a larger initiative to provide sociolinguistic information to organizations, development agencies, and local communities who are working collaboratively towards meeting the language development needs of the ethnolinguistic groups of Nigeria. Collaborating organizations include SIL Nigeria, the Conference of Autochthonous Ethnic Community Development Associations (CONAECDA), the Luke Initiative for Scripture Translation (LIST), Lutheran Bible Translators (LBT), Calvary Ministries (CAPRO), and the Kay Williams Educational Foundation (KWEF).

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[6] See section 5.1 for a discussion on the appropriate spelling of the name.

[7] Mr. Aregbesola worked with the team as part of his post-graduate services through the National Youth Services Corps. We are grateful for his valuable contribution to the research.

[8] We wish to thank CAPRO for the secondment of Mr. Eju to the survey team, and for his valuable contribution to the research.

2   Purpose and research questions

The purpose of this study is to gather relevant sociolinguistic information for those who are working towards meeting the language development[9] needs of minority ethnolinguistic groups. There are two major concerns when addressing language development needs, the environment for heritage language development and the meeting of multilingual needs.

The environment we are describing here includes the amount of linguistic variation within the language community, the attitudes towards linguistic and social variation within the community, and the attitudes towards language maintenance and shift. The long-term usefulness of heritage language development depends on the identification of an acceptable central[10] variety to develop. The acceptability often depends on the perceptions and attitudes held by the people towards the social and linguistic variation. It also depends on a good linguistic analysis. In general, it is not possible to develop an alphabetic orthography[11] that attempts to unite too much variation.

Minority language communities need multilingual proficiency, and they need people who can access information available in languages of wider communication.[12] The global predominance of languages of wider communication threatens the survival of minority languages, but multilingualism offers many opportunities to those with proficiency. It is neither possible nor desirable to preserve monolingualism in a minority language. And the reality in most minority language communities is that they already speak a repertoire of languages. The challenge is to maintain heritage language use while addressing the communities' needs to improve their proficiency in other languages.

To address these realities, we investigated language variation, the repertoire of languages, attitudes towards other languages, literacy, and the vitality of Piapung. We gathered demographic and geographic data on the environment of the Piapung communities. For documentation and further analysis, a wordlist was elicited and recorded, and the Global Positioning System (GPS) coordinates of Piapung villages were tracked. We also investigated the potential for development of Piapung. The following research questions were formulated to help focus the data collection and analysis:

- What do people call their language and its speakers?
- What evidence of variation can be found in the Piapung language?
- How close is Piapung's linguistic relationship with Koenoem?
- Which languages are used regularly within the Piapung communities?
- Which languages are used for reading and writing and what is the literacy rate?
- What are the social relationships of the various language communities in and around the Piapung?
- What variation in language-use patterns is found in the Piapung communities?
- What impact has multilingualism had on the vitality of the Piapung language?

3   Previous research

There is little existing literature on Piapung. Ames (1934) mentions the Piapum, as he refers to them. Fitzpatrick (1910–1911), Netting (1968), and Hoffman (1975) include Piapung in their classification of the Afro-Asiatic, Chadic family of languages, but we are uncertain as to where they obtained any data upon which to base their classifications.

In 2004, CAPRO published socio-cultural profiles on many ethnolinguistic communities in Plateau State and included information on Piapung. In 2016, Roger Blench (2017:3) visited the Piapung region and gathered data. Also, in 2016, Julius Dabet, a member of the SIL Nigeria survey team, collected a 1600-item wordlist and wrote *An introduction to Piapung alphabet, grammar and dictionary*.

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[9] For more on the goals and process of language development, see Cooper (1989), and Spolsky (2004 and 2009).

[10] For more on the factors involved in the identification of a central variety see Sanders (1986) and Casad (1974).

[11] For more on orthography development see Cahill and Rice (2014).

[12] For more on language vitality and multilingualism see Lewis and Simons (2017).

4   Research methods

Our methods of data collection included of the following tools: group and individual interviews, dialect mapping, observation, and wordlist collection. The data collected with these tools were compared to ensure an accurate analysis of the data. (See Appendices A, B, and C for the questionnaires used, Appendix D for an observation schedule, and Appendix E for the wordlists.)

The plan was to collect data in Piapung town since it is the largest community and somewhat geographically central. It was also reported (CAPRO 2004) to be representative of the Moedom variety. We also wanted to collect data in villages that represented the two other reported varieties, Moewa and Zan. The people we interviewed did not recognize a Zan dialect, but the speech of Pangjem village represents the Moewa variety. Ganggoevoel and Gwotkat were chosen for checking the wordlists and for other data collection based on recommendations of the chief.

4.1   Group interview

We conducted group interviews in Piapung, Pangjem, and Ganggoevoel villages. In each village, we first spoke to a community leader to explain our purpose and to obtain permission to gather information from the people. In each village, the community leader invited a group of people to attend a meeting. He specifically asked several community leaders to participate. Discussions were facilitated with a group of about ten people in Piapung, about thirty in Pangjem, and over forty people in Ganggoevoel. These groups were comprised of various age categories ranging, respectively, from thirty to sixty-five, and twenty to seventy years and above, and twenty to sixty-five. The interviews were conducted in Hausa. Using the Group Sociolinguistics Questionnaire (see Appendix A), we asked each group about their community's:

- population
- contact patterns
- comprehension of their language regionally
- language vitality
- literacy and access to literature
- potential for language development project support

Responses given to our questions were mostly a consensus of the groups. Information from the group interviews is discussed in sections 5, 7, and 8.

Working with these same groups, we also used a tool called "Dialect Mapping." This tool is designed as a participatory activity which engages community members in the research (Hasselbring 2008). This participatory activity focuses the groups' discussion on the geographic distribution of the language and interaction with neighboring language groups (see Appendix A for more details).

We made use of visual aids—papers, markers, pictures, drawings, strings, etc.—to help the groups think and talk through:

- villages where their language is spoken
- the geographical arrangement of the villages in the form of a map
- neighboring languages
- perceived levels of comprehension in neighboring languages and languages of wider communication.

Information from the dialect mapping and group interviews is discussed in sections 5, 7, and 8.

4.2   Select leader interviews

In addition to the group interviews, we also interviewed the pastor of the Church of Christ in Nations (COCIN) in Pangjem. The church leader interview provided information about the religious affiliations in

the community, patterns of language use in church, the opinions of church authorities on scripture accessibility, and the perceived benefit of vernacular scripture translations (see Appendix B for the questionnaire). We also interviewed two teachers in Ganggoevoel who teach at the nearby Local Government Education Authority (LGEA) primary school in Shamang. The schoolteacher interviews provided information regarding the number of staff and their roles, the number of children and their age ranges, the language groups they come from, and language use and attitudes (see Appendix C for the questionnaire). Information from these interviews is discussed in sections 5, 7, and 8.

4.3   Observation

As we observed language use in each community, we observed which languages people used as they interacted with one another. We noted how the choice of language differed depending on factors including: the age category of the speaker and listener, the time, location, and topic of discussion. No one on the survey team was familiar with Piapung but we could identify when the people were not using Hausa or English and, in this context, the only logical alternative was that they were speaking Piapung. We also took note of the current state of development projects such as schools, roads, and health clinics in each community. We recorded our observations in a notebook and used the information to fill in an observation schedule. Our time for observation was short, only two days, and we only documented a dozen observations. However, these observations are useful in comparing the community's perceived and actual language use. Information from observations is distributed in sections 5, 7, and 8.

4.4   Analysis of qualitative data

Since the data we gather is so limited, we can employ a simple "pencil and paper" method of analysis. We list the major categories of information we are interested in: names, locations, population, physical infrastructure, occupations, cultural insights, intermarriage, religions, education, literacy, perceived dialectal differences, domains of heritage language use, language use in religious practices, other-language contact, language use with other language groups, domains of other-language use, proficiency in other languages, interest in language development, and attitudes towards other dialect and language groups.

Next, we go through the interview and observation forms and sort the information into relevant categories. There are many ways in which we consider different data. When there are differences in quantifications, for example in population estimates, we simply give the range. When there are differences in non-linguistic descriptions, for instance the ease of access to an area, we may need to refer to the surveyors' memories. We also triangulate information, for example, correlating if they said they could speak Hausa, if we observed them speaking Hausa, and if a team member engaged them in a conversation in Hausa. For a language such as English, which in this part of Nigeria is only acquired through education, we will also consider how much education the person has or how long schools have been available in the village in order to assess the possibility of higher proficiency. For linguistic similarity we compare what the people say about the similarities or differences, their perceptions of levels of comprehension, and information learned from the wordlist analysis (see section 4.5).

There is simply not enough data to quantify the responses. We recognize that much of the information is anecdotal, but we look for inconsistencies. If there are no inconsistencies, then we consider that we may be gaining accurate answers to our research questions. Since the surveys are so brief, sometimes there are inconsistencies that cannot be resolved without making a phone call or taking another trip to the area. Or they may remain unresolved.

4.5   Wordlist collection and analysis

A phonostatistical comparison of wordlists collected in different locations is one method of measuring the similarity between the speech in these locations. Communities with speech varieties that have higher lexical similarity (more words in common) have a greater probability of having higher levels of comprehension. SIL Nigeria uses the 70 percent threshold as a standard criterion for using

phonostatistics to differentiate languages from dialects (Bergman 1989:8.1.5–8.1.6). Lexical similarity above 70 percent typically corresponds with acceptable levels of comprehension between the compared varieties. These may be considered closely related dialects. Lexical similarity below 70 percent corresponds with inadequate comprehension between the compared varieties. These are typically considered different languages. However, sociolinguistic factors also need to be considered.

We used the SIL Nigeria standard wordlist of 348 items for our elicitation in four villages. In the village of Piapung, we elicited the list from two men who were assisted at times by two other men. Another list was collected in Pangjem, predominantly from one man who was assisted by a group of men. Several pages of the wordlists were also checked in Gwotkat and Ganggoevoel villages. The language assistants were between thirty-two and fifty-seven years of age. They were recommended by the chief and the people as being good speakers of Piapung. They were all from Piapung communities, and both parents of each were speakers of the language.

The words elicited for the wordlists were handwritten on a printed wordlist form, using the International Phonetic Alphabet (IPA). We elicited both singular and plural forms (where applicable) for nouns. We attempted to elicit verbs in the infinitive form. Adjectives, prepositions, and conjunctions were also elicited both in isolation and with a sample noun. For documentation purposes, audio recordings were made using a ZOOM Handy Recorder H2 recording device. See Appendix E for the wordlists and section 6.5 for a discussion of the comparison with Koenoem.

These wordlists were then compared using the Wordsurv 7 wordlist analysis program (White & Colgan 2012). Although our primary method was to compare the phonetics of words to determine surface-level phonetic similarity, we did not attempt to identify cognates. A similarity comparison is calculated using a variation of the algorithm described by Blair (1990:31–33). This method is like that used by Gooskens et al. (2008). Despite attempts by Blair to create an unambiguous way to compare words, there are still uncertainties when deciding if two words are similar enough to be counted as similar. Thus, we calculate one comparison in which we include all marginal similarities, and another calculation that excludes all marginal similarities. In this way, we arrive at a range of possible lexical similarity. The higher percentage number of the range is closer to the number of words that are possibly cognate. The lower number represents an estimate of the surface-level phonological similarity. We believe this gives a more realistic prediction of possible comprehension.

5 Geographic, demographic, and social description

In this section, we provide a brief description of some geographic, demographic, and social patterns that influence the environment in which the language is spoken. In some cases, these may have an influence on language-use patterns and language vitality.

5.1 Language and people identification

Through the years, researchers have spelled the name of the language and people in different ways. Wente-Lukas (1985) documents the following variants of the name and their sources:

- Pirpum (Fitzpatrick 1910–1911:18)
- Piapum (Ames 1934:197, Netting 1968:38)
- Pyapung (Hoffmann 1975:2)
- Blench (2019a:85) uses Pyapun, Piapun, and Pyapung, and the *Glottolog* 4.2.1 (Hammarström et al. 2020) use the spelling Pyapun.

The people we spoke with said that the language name is pronounced [pʲápūŋ] and spelled <Piapung>. The Nigerian government, as well as other language groups, refers to them as Piapung. Upon our recommendation *Ethnologue* (Eberhard et al. 2020a) has already updated their entry to <Piapung>. Both the singular and plural reference to a speaker of the language and member of the ethnolinguistic group is [pʲápūŋ].

5.2   Location, settlements, and administrative division

Piapung is spoken in Piapung District, Mikang LGA[13] of Plateau State, Nigeria. Piapung is spoken in an area north of Shendam and east of the Panyam-Shendam Road. The Piapung villages are in a remote location and the only access is by poor roads. Some villages can only be reached by motorcycle. There are rivers that run between the villages and there are few maintained bridges. The rivers were dry during our visit but, during the rainy season, these rivers can cut off access to some villages.

Approximately fourteen kilometers north of Shendam on the Panyam-Shendam Road, there is a road that runs east and then north another eight kilometers to Piapung town. The Piapung villages are spread over an area of approximately twelve square kilometers in a river valley that narrows towards the north.

Blench (2017:9) reported that Piapung is spoken in six villages. However, the people we spoke to during this survey said that there are about thirty-nine villages.[14] Some of the locations they mentioned may be small hamlets. Viewing the region from satellite images in Google Earth (Google Earth 2019),[15] most homes and farms are spread apart, and there are only a few places where there are significant collections of homes and buildings. We gathered GPS points in the sixteen villages shown on map 1: Ganggoevoel, Gotlong, Gwotkat, Jilong, Kyes, Koetes, Longbis, Matbuen, Pangjem, Piapung town, Poekot, Shamang, Shang, Tanguk, Tod, and Tongaras. We were given the names of 23 other villages: Boer, Gamgoen, Kongka, Kongzam, Kot, Kung, Kup, Lagang, Longshen, Lua, Mber, Pangmoeka, Pangnoekup, Peer, Piaber, Shior, Soemdok, Toelpang, Toengdawalang, Wangshog, Yale, Zamka, and Zamkoekop. Piapung town is regarded as the cultural center. It is the major market center for the district and the political seat of the district.

Some Piapung speakers have moved to other places to seek work, such as Abuja, Anambra, Enugu, Gombe, Jos, Kaduna, Kwara, Lagos, Nasarawa, Shendam, Taraba, and Tunkus. The interviewees said that some of these people return for cultural festivals. See Appendix F for GPS coordinates of some villages. See map 1 for the general area where Piapung is spoken.

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[13] Earlier reports, such as Hansford et al. (1976:146), report that speakers of Piapung could be found in the Shendam District, Shendam LGA, Plateau State. However, in 1996, Mikang LGA was created out of Shendam LGA.

[14] Blench may have been referring to centralized villages and our interviewees may have been thinking of any small named grouping of people in a general location.

[15] The only Piapung location on Google Earth is identified as "Mudon" at 9.050285°N, 9.466643°E. The name is possibly related to the Moedom dialect (see section 6.2). However, our interviewees did not mention a village called Mudon, or Moedom. A close-up inspection on the map (Google Earth 2019) only reveals farmland and no village at the place labeled as Mudon.

Map 1. Location of Piapung villages
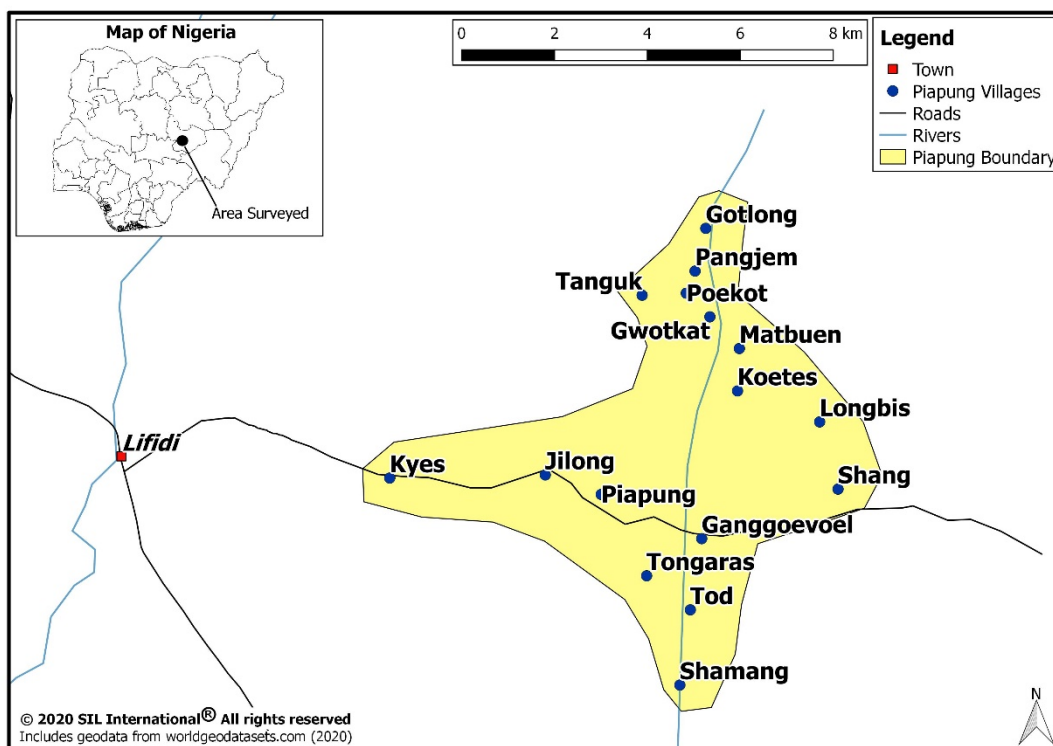
The towns and language polygon have been added by the authors. They do not represent official boundaries or locations.

5.3   Population

Ames (1934) reported that there was a population of 4,635 Piapung. Blench (2016:19) more recently reported the population to be around 3,000. The people we spoke with estimated their population to be about 15,000 to 18,000. This would be a significant increase from Blench's 2016 estimation. The World Factbook website (cia.gov 2020) says that 41 percent of the population of Nigeria is between the ages of 1 and 15, and the median age is 18.6. The schoolteacher we interviewed estimated that there are 3,500 school-age children. If we conservatively estimate that between 41 and 50 percent of the population are school-aged, then that gives us an estimate of the total population being approximately between 9,500 and 11,500.

Brinkhoff (2020) gives a 2016 population estimation of 170.9 per km^2 in Mikang LGA. We estimate the area where Piapung is spoken to be about 78 km^2. This would indicate a population of 13,330. An accurate estimation of the population may be more than 9,500, maybe as much as 13,500, but probably not as many as 15,000 to 18,000. Simply stated, it is difficult to estimate with any degree of accuracy.

The size of a population relative to the neighboring populations can have an impact on the vitality of a language. For example, several of the neighboring languages have much larger populations,[16] Ngas 659,000, Tarok 494,000, and Goemai 361,000. All these groups use Hausa as a second language. The fact that the Piapung are far outnumbered by these neighboring groups requires that they must use Hausa more frequently when having contact with speakers of other languages.

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[16] These population figures are all taken from the *Ethnologue* (Eberhard et al. 2020a) but reflect estimates from 2018.

5.4   Origin of the Piapung

There are several different versions of the Piapung origin story. According to the people we spoke with, Piapung means "a person who lacks and has moved to another place." It may have been a movement away from various language groups and villages. CAPRO (2004) reported a similar derivation to the name and added, "This refers to the ancestor of these peoples who left his brothers (Tehl or Tal and Goemai) for a new place. They are closely related to the Ankwai, Chip, Kwalla, Tehl, and Tal and identify each other as brothers." See section 6.1 for more on the relationships to these other language groups.

According to some of the people we spoke with, they believe they came from various language groups and different villages, some from Tehl, Tal, Miship, Wapan, Ngas, and Koenoem. They came together and became one people, the Piapung, forming their own separate language and culture. This version of their origin story was said to have been passed down orally through generations from their forefathers. Some parts of this story seem unlikely since Wapan is a Niger-Congo, Jukunoid language and Miship is in another branch of West Chadic languages. Furthermore, there is so much similarity with Koenoem that it is not likely that their histories are very dissimilar. (See section 6.1 for more on the linguistic classification of Piapung.)

Another version of their origin story relates that the Piapung moved from Maiduguri to Garram in present day Kanke LGA of Plateau State, and then to their present location. Although Maiduguri is a more modern city (established about 1907), it is located in what was centuries ago the Kanem-Bornu Empire. This account agrees with similar stories from other Chadic language groups that moved southwest from the Lake Chad area, possibly during the time of the Kanem-Bornu Empire. Garram is northeast of the Piapung area, and Tal is spoken between Garram and the Piapung area. So, if there has been an ancestral descent from Tal, it is quite possible that they moved southwest from Garram. This version of the origin story also relates that over time the Piapung developed their own language, culture, and political structures. These versions of their origin stories show that the Piapung moved from another place to their current location. In some way, they diverged from other language groups and now see themselves as different from the other language groups.

One needs to be careful about assuming a relationship between a people group and a language. Sometimes people can move and adopt another language. It is interesting that their neighbors, the linguistically related Koenoem, have a similar origin story. In the story that was related during the Koenoem survey (Decker et al. 2021a), the Koenoem were part of the Kwararafa Kingdom, who are believed to be the ancestors of the Wapan mentioned above as speakers of a Niger-Congo, Jukunoid language. It is possible that as a people, they once were speakers of a Niger-Congo language and shifted to a Chadic language. As Blench points out in his 2016 presentation, there is still much to be learned about the West Chadic languages.

5.5   Other social descriptions

In this section we give a brief description of social categories: occupations, education, literacy, religions, and intermarriage. These are categories relevant to a sociolinguistic study because they can be directly correlated to language-use patterns.

5.5.1   Occupations

A traditional occupation, such as farming, tends to support the maintenance of a heritage language (Gal 1979). Mining, logging, and trading can hinder language maintenance by creating more contact with other language groups (Headland 2004). When marketing products or purchasing in marketplaces, people need at least a limited proficiency in the languages of the other buyers and sellers. The typical occupation among the Piapung people is farming. The types of crops they cultivate are millet, guinea-corn, maize, and yam. Of these crops, the major ones are millet and guinea corn. Millet is such an important part of their culture that they use the same word [mai] for "millet" and "farm." The main market town for the area is in Piapung, but they also mentioned a market in Gotlang. The languages

used in the markets are: Piapung, Tal, Tehl, Mupun, Mwaghavul, Goemai, Igbo, and Hausa. There are six health clinics. Piapung, Hausa, and English are used in the clinics. They said that the Fulani are not welcome at their markets and they do not farm with them because they perceive them to be contentious.

5.5.2   Education

Education influences language use choices and may compete with the language goals of parents and the community. Education is also a pathway to better socio-economic opportunities, and parents may desire to prepare their children for school by using the school language in the home. It was reported that there are twenty-one primary schools and six secondary schools in the area. The teachers use English and Hausa in school for instruction, and their textbooks are in English. Outside of school the teachers usually use Piapung, Tal, and Hausa.

Literacy is a requirement for survival in the modern world, regardless of how remotely and isolated some people may live. Therefore, literacy and access to literature, including on the internet, can be a strong motivation for learning another language. Literature that is available in the communities is written in either English or Hausa. The literature includes Bibles, hymnals, dictionaries, novels, and textbooks used by primary and secondary schools' students. Some people added that they text in either English or Hausa, and a few people text in Piapung.

5.5.3   Religions

Religions can either support or hinder language maintenance, depending on the policies of the institution. Traditional religions may support language maintenance since they would tend to hold on to traditional patterns. The interviewees estimated that 50 to 99 percent of the Piapung are Christians. About 0 to 11 percent of the population is Muslim, and about 1 to 47 percent adhere to traditional African religious practices. While these estimates vary widely, it is safe to conclude that the Christians have the largest percentage, those that follow traditional African practices are the next largest group. A small portion of the population is Muslim. The church denominations present in the Piapung communities include the Roman Catholic Church, the Evangelical Church Winning All (ECWA), the First Baptist church, the Church of Christ in the Nations (COCIN), and the Assemblies of God churches.

5.5.4   Intermarriage

Intermarriage can influence language choices in several ways. A mother from another language group may teach her children both languages. A husband and wife may choose a third language, a language of wider communication, rather than the heritage language of either spouse. Furthermore, if intermarriage is infrequent, it will probably have little impact on language use in the community. But if intermarriage is a common practice, it can influence language use choices throughout the community. If the spouse who marries into the language group learns the local language, it may be an indication of the vitality of that language. An unwillingness to marry from a certain language group likely coincides with negative attitudes towards that language. The Piapung sometimes intermarry with people from the Tal, Tehl, and Koenoem language groups. They have good relationships with these neighboring groups and feel that they have many cultural similarities. However, they are more reluctant to intermarry with the Goemai, Ywom, Tarok, and Fulani due to negative attitudes towards these groups.

6   Linguistic relationships

As discussed at the beginning of section 2, one purpose of this research is to gather data that will help make decisions about language planning and language development. One environmental factor for language development is the amount of linguistic variation in the spoken varieties. Much of this survey is based on the reported perceptions of members of the speech community. Often people will make vague comments describing the similarities of different varieties. Likewise, linguists will also give similarly

vague statements that one variety is "close" to another. Even linguistic classifications do not give a definitive description as to whether related varieties are linguistically near or distant.

We were interested in the level of comprehension between varieties. Comprehension, along with lexical and phonological similarity, is important for establishing whether the speakers of two varieties can use the same literature. Ideally, we would want to test comprehension. However, with the limited time allocated to this survey we were unable to make quantitative measurements of comprehension. Therefore, we have used the data we collected to make inferences on the potential for comprehension.

In this section, we will discuss the linguistic classifications that have been proposed. We also present the quantitative findings of lexical comparisons and descriptive comparisons of phonological similarity and variation. This information is presented to provide a comparison to what people reported about whether their language is close to or different from other languages. We also offer the data we have collected in the hope that it will help improve the accuracy of linguistic classification systems.

6.1   Classification

The *Ethnologue* (Eberhard et al. 2020a) classifies Piapung as Afro-Asiatic, Chadic, West, A, A.3, Angas Proper, 2. This classification follows that of Newman (1977) in which he proposes the four major subgroups (A.1, A.2, A.3, A.4) of the "A" group of West Chadic.

Blench (2017:4–5) presents a brief description of the development of the classification for the West Chadic languages, particularly the A.3 group during which he laments that much of this classification has been developed with very little data upon which to base the classification and should be considered "speculative." Working with much more recent data than Newman had available, Blench (2019b) proposes a reorganization of the A.3 subgroup. (He also proposes calling the A.3 group "West Chadic Central.") He classifies Piapung in a Talic subgroup of the A.3 branch (see the figure below). The *Glottolog 4.2.1* (Hammarström et al. 2020) classification of Piapung as Afro-Asiatic, Chadic, West, A, A.3, Goemaic, Talic follows this proposal. Based on the evidence and work of Blench (2017, 2019b), which is more recent than Newman (1977), we recommend that the *Ethnologue* (Eberhard et al. 2020a) should follow this classification. Regardless, in either classification, Piapung is recognized as being most closely related to Koenoem and Tal.
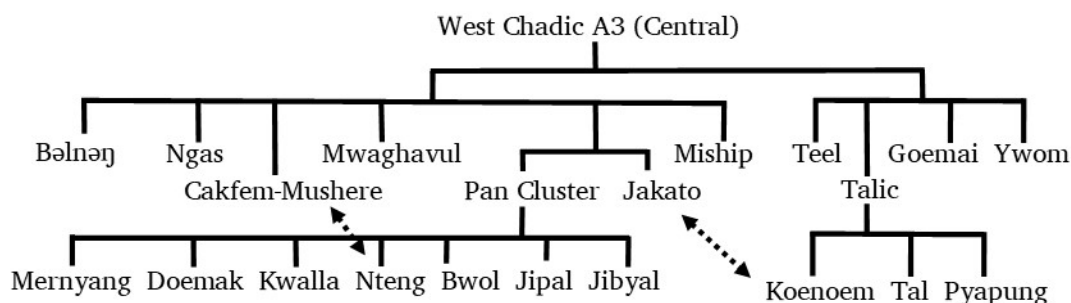
Classification of Central West Chadic languages. Adapted with permission from
Blench and Bulkaam (2019:3). Original spellings are used.

6.2   Piapung dialects

CAPRO (2004) reported that Piapung has three dialects referred to as Muwa, Mudon, and Zan. These dialects were reported by CAPRO to only have slight differences, not so different that a child of two years would not understand. Our interviews revealed that the people only perceive two dialects, Moewa, which was called Muwa in the CAPRO report, and Moedom, which was called Mudon in the CAPRO report. There was no mention of Zan as a dialect or variation of Piapung. When the people were probed, they responded that Zan means "something straight." Three of the seven villages listed by CAPRO as

speaking Zan were included in the Moedom group by the people we spoke with. One village was included with the Moewa group.

Moewa means 'people of, or in, the north', and the villages where this dialect is spoken are in the northern part of Piapung District. These villages include: Gotlong, Pangjem, Matbuen, Toelpang, Wangshog, and Yale (see map 1). Moedom means 'people of, or in, the south', and the villages where this dialect is reported to be spoken are in the southern part of Piapung District.

The perceptions of dialect similarities may be more related to attitudes than to phonology. When we were gathering data in Ganggoevoel and Gwotkat we checked a couple of pages of words from both the Piapung town and Pangjem wordlists. While Ganggoevoel and Gwotkat were reported to speak the Moedom dialect, in both villages we found that there was more similarity with the Pangjem list representing the Moewa dialect than with the Piapung town list that should represent the Moedom dialect. It is possible that the reason why the people in Ganggoevoel and Gwotkat identify more with the Moedom than Moewa dialect is because they view Moedom as more prestigious than Moewa. Moedom is reported to be spoken in more villages than Moewa, but maybe people in more villages actually speak Moewa and identify with Moedom because it is the prestige dialect. It is also possible that the speech in Piapung town is different from all of the other villages because it has been more influenced by other languages. Furthermore, when the people in these four villages were asked about the most prestigious dialect, they all agreed upon Moedom.

Considering these reported similarities and differences, sections 6.3 and 6.4 will show that the linguistic differences between Moewa and Moedom are very small. The wordlists that were collected as part of this survey are presented in Appendix E.

6.3   Comparison of Moedom and Moewa phonetic inventories

In this section, we provide some initial, tentative observations on the phonology of Piapung. It is considered tentative because it is based on a small data set, and there was no in-depth analysis of tones or other phonological features, nor has there been an effort to determine the phonemic status of phones. The most salient features will be discussed here. The reader will find other features in the transcribed wordlists that have not been discussed. (See the wordlists in Appendix E.)

There are no differences in the consonants found in the Moedom and Moewa wordlists. The phonetic Piapung consonants found in our transcriptions are presented in table 1.

Table 1. Piapung consonant inventory

	Bilabial	Labio-dental	Alveolar	Post alveolar	Palatal	Velar	Labial velar	Uvular	Glottal
Plosive	p b		t d			k g		q	ʔ
Implosive	ɓ		ɗ						
Nasal	m		n			ŋ			
Trill			r						
Fricative		f v	s z	ʃ ʒ		ɣ	ʍ		h
Approximant			l		j		w		

The presence of implosives and labio-dental fricatives in table 1 is a typical feature of West Chadic languages. However, Blench (2017:11) says that Tal, a language related to Piapung, has aspirated voiceless plosives, ejectives, affricates, and a palatal nasal, but we did not find any of these in our wordlists. The uvular plosive [q] and labial velar fricative [ʍ] only occur twice and once respectively in both Piapung wordlists. These may not be phonemic. There are also several occurrences of word-final, unreleased voiceless plosives that need further analysis to determine if it is a phonemic feature. For example, #324 'cut' [ɡɑpˀ], #309 'die' [mutˀ], #63 'leg' [kwɑkˀ], and #23 'mahogany' [koːqˀ].

Neither syllabic nasals nor prenasalization are typical in West Chadic languages, but they are typical in Benue-Congo languages. There are a few Piapung words with this feature, whichever way it is

interpreted. This may be evidence of influence from Benue-Congo languages on Piapung. Examples include: #16 'farm (field)' [ŋ̩kaŋtɯ̃ŋ], #59 'back' [ŋ̩kɔn], #128 'louse' [ɲʃiɛm], and #201 'there' [ŋ̩ʒini].

Moving on to vowels, the evidence from the two wordlists indicates that Piapung may have as many as eleven short vowels, six long vowels, and three diphthongs. An inventory of phonetic Piapung vowels found in our transcriptions is presented in table 2.

Blench (2017:12–13) says that West Chadic A.3 languages tend to have a six-vowel inventory and length contrast on all vowels. His inventory does not include [ɪ, e, ɜ, o, ɯ]. In our wordlists, there are fewer occurrences of the short open-high-front [ɪ], open-mid-front [e] and open-mid-back [o] vowels. These may be allophones of the close front and close back short vowels since Schuh and Yalwa (1999:90) point out that the quality of short vowels in Hausa, another Afro-Asiatic, Chadic language, can have a wide range of allophones. Similarly, Newman (1987:623) says that, "The non-final short /e/ and /o/ have a marginal status in Hausa." The occurrences of the central vowel [ɜ] may be a reflex of [ɨ]. Blench (2017) does not include the close-high, back unrounded vowel [ɯ]. While some occurrences may be labialization on a previous consonant, the large number of occurrences in the data suggests that it may be a phonemic vowel in Piapung.

Table 2. Piapung vowel inventory

	Non-lengthened vowels				Lengthened vowels			
	Front	Central	Back unround	Back round	Front	Central	Back unround	Back round
Close-High	(i)	(ɨ)	ɯ	(u)	iː		ɯː	uː
Open-High	ɪ							
Close-Mid	e			o	eː			oː
Open-Mid	(ɛ)	ɜ		(ɔ)				ɔː
Open	(a)		ɑ			ɑː		

NOTE: The six vowels in parenthesis ( ) are proposed by Blench (2017:12–13) as phonemic for A.3 languages.

Blench (2017) does not make any statement about diphthongs in the West Chadic A.3 languages. However, Newman (2009:622) says that Hausa has the diphthongs [ai] and [au]. We find what appear to be diphthongs [ei, ɑi, oi] in our Piapung wordlists.

Blench (2017:11) also mentions that the labialization and palatalization of initial consonants is a common feature of West Chadic A.3 languages. Therefore, in our wordlists, the occurrences of [ɯ] and [w] when following consonants, whether transcribed as raised or not, need further analysis as they may either be labialization or separate phones, for example: #207 'long' [gɜkʷun][17] and #221 'left' [kʷul] compared to #341 'pour out' [kɯɑn] and #116 'crocodile' [kwʊt]. Likewise, occurrences of [i] or [j] following initial consonants need further analysis as they may be palatalization or separate phones, for example: #298 [vjɑŋ] 'wash', #171 [kijɑŋ] 'hoe', #150 [liu] 'cloud', and #134 [ɗiɛl] 'smoke'.

6.4   Lexical and phonological comparison between Moedom and Moewa

Wordlists were collected in the village of Piapung, which represents the Moedom dialect, and the village of Pangjem, which represents the Moewa dialect. (See Appendix E for the wordlists and section 6.2 for an introduction to the dialects of Piapung.) There were 345 words elicited, including plural forms for many nouns and 3rd person singular past forms for some verbs. Using a method of comparison described in section 4.5, we calculate that there is a 97 percent lexical similarity between these two speech varieties (see table 7). This is only a rough, limited, preliminary estimation, but the clear impression is that there is very little difference between the two varieties.

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[17] The initial [gɜ-] found here is also found in the transcriptions of many of the adjectives. Therefore, we believe it is a separate morpheme.

The people we interviewed perceive two dialects of Piapung, Moedom and Moewa. In order to identify any phonological evidence of variation that would distinguish the dialects, we took note of phonological differences between the two wordlists. The first indication that there is a dialectal difference is the fact that there is a 3 percent difference in vocabulary. Of the words that were considered possible cognates, only 16 percent had any variation. Of those differences, there are a few very minor variations that may indicate dialectal differences. Although there are many word comparisons in which vowel length is the same in words from both villages, if there was variation, it was virtually always the Moewa dialect of Pangjem village that had the lengthened vowel. In table 3, we see a comparison of Moedom non-lengthened vowels compared to Moewa lengthened vowels.

Table 3. Moedom non-lengthened vowels compared to Moewa lengthened vowels

#	English gloss	Piapung Moedom	Pangjem Moewa
131	honeybee	n̩ʃile	nʃiːleː
50	mouth	kɜpʰɯ	kɜpʰɯː
214	cold	gɜzom	zoːm
76	body	sɔpʃik	sɔːpʃik

Another possible phonological feature that may be an indication of dialectal difference is the lenition of some Moedom word-initial consonants. Moewa has some words that begin with a consonant and Moedom does not, or the Moedom consonants are "weaker," requiring less vocal effort. Table 4 compares some word initial sounds of Moedom and Moewa.

Table 4. Moedom and Moewa word initial sounds compared

#	English gloss	Piapung Moedom	Pangjem Moewa
83	corpse	uːm wim	kuːm wim
114	tortoise	ur	kur
95	blacksmith	wim gɜsɔm	gwim gɜsɔm
145	sand	eːs	heːs
231	I	ɑn	hɑn
237	you (pl)	wun	gun
253	you (pl) ate	wusɜ	gúsɨ̀
143	mud	boːk	ɓoːk
348	harvest	dip	ɗíp

These differences do not seem to be very significant, but possibly, when someone hears one of these differences in pronunciation, it is a signal that the other person is speaking a different dialect. The people we spoke with all agreed that they speak the same language, but they also acknowledged that there are slight variations in the speech of people from different villages. From these comparisons we expect that there is a high level of inherent intelligibility between all speakers.

6.5   Comparison with Koenoem

Koenoem is a related Afro-Asiatic, Chadic, West, A, A.3, Goemaic, Talic language (Blench 2017:9). People we spoke with in the Piapung villages reported that there is some similarity and intelligibility with Tal, Tehl, and Goemai (other Goemaic languages), but comprehension is much better with Koenoem. Due to this report, we compared the two Piapung wordlists with a wordlist from Koenoem, as per the method described in section 4.5, to investigate the degree of similarity. (See Decker et al. 2021a for more on the survey of Koenoem.)

6.5.1 Phonetic comparison

Our first comparison is to see if the same consonants and vowels are used in both languages. In table 5, we see that there are a few phones [ɣ, q, ʍ], found in the Piapung consonant inventory, that are not in the Koenoem inventory. However, the [q, ʍ] each occur only one or two times in either of the Piapung wordlists. Likewise, Koenoem has one occurrence of [ʤ] that is not found in either of the Piapung wordlists. Due to their rarity, these phones may not be phonemic nor create any significant loss of comprehension. The presence of the velar fricative [ɣ] in Piapung and its absence in the Koenoem inventory is a more noteworthy difference that will be discussed further in section 6.5.3 (see table 13).

Table 5. Comparison of Piapung and Koenoem consonant inventories

	Bilabial	Labio-dental	Alveolar	Post Alveolar	Palatal	Velar	Labial Velar	Uvular	Glottal
Plosive	p b		t d			k g		(q)	ʔ
Implosive	ɓ		ɗ						
Nasal	m		n			ŋ			
Trill			r						
Fricative		f v	s z	ʃ ʒ		(ɣ)	(ʍ)		h
Affricate					{ʤ}				
Approximant			l		j		w		

NOTE: Phones in parentheses ( ) do not occur in Koenoem. The phone in braces { } occurs only in Koenoem.

In table 6, we present a comparison of the vowel inventories of Koenoem and Piapung. In this comparison, we find that the inventories are very similar. The two vowels [æ, aː] found in Koenoem but not Piapung and the two vowels [ɯː, ɔː] found in Piapung but not Koenoem only affect nine words. The lengthened vowels are simply non-lengthened in the corresponding word and the [æ] in two Koenoem words is transcribed with [ɑ] in the Piapung wordlists.

Table 6. Comparison of Koenoem and Piapung vowel inventories

	Non-lengthened vowels				Lengthened vowels			
	Front	Central	Back unround	Back round	Front	Central	Back unround	Back round
Close-High	i	ɨ	ɯ	u	iː		{ɯː}	uː
Open-High	ɪ							
Close-Mid	e	ə		o	eː			oː
Open-Mid	ɛ	ɜ		ɔ				{ɔː}
Open	(æ) / a		ɑ		(aː)	ɑː		

NOTE: The phones in parenthesis ( ) are found in the Koenoem wordlist, but not Piapung. Phones in braces { } are found in the Piapung wordlists but not Koenoem.

While Koenoem shares many of the same lengthened vowels as Piapung, the frequency of lengthened vowels is quite different. In the Piapung list of 348 words, 57 words have lengthened vowels, whereas there are only six words in the Koenoem wordlist with lengthened vowels.

These seemingly small differences may not appear significant, but without being an insider to understand the emic perspective, it is difficult to know what will pose a difficulty for comprehension.

6.5.2 Lexical comparison

In a comparison of the 348-item Piapung and Koenoem wordlists, eighteen items were excluded because they were either not elicited or they appeared to be making the same comparison as another item and

would skew the comparison percentages. A comparison of the remaining 330 items revealed 85 percent surface-level lexical similarity between the Piapung and Koenoem wordlists, which are presented in table 7. (See section 4.5 for description of the comparison method. See table 7 for the results of the calculations. In table 7, (n) is the number of words that were compared.) This is a very rough comparison, and rigorous comparative methods were not used to establish cognates. However, it provides an impressionistic confirmation that the languages are very similar. When there is variation between the two Piapung lists, the Koenoem list is not more like either one of the Piapung lists.

Table 7. Apparent lexical similarity

Piapung, Moedom

97% n = 345	Pangjem, Moewa	
85% n = 330	85% n = 330	Koenoem

Based on the 70 percent threshold discussed in section 4.5, at 85 percent similarity we might consider Piapung and Koenoem to be dialects of one language. However, when defining languages and dialects, we need both quantitative and qualitative information. Worldwide, when comparing language varieties, there are varieties that have less than 85 percent lexical similarity (a quantitative assessment), but the people consider (a qualitative assessment) that they speak the same language. The opinions of both the Koenoem and the Piapung are that they speak different languages and have different identities. Even though there is 85 percent lexical similarity between these lists, only 18 percent of the words were identical. This suggests that there are phonological variations that must make the languages sound different to the speakers.

6.5.3   *Phonological comparison*

When defining languages and dialects, we need both quantitative and qualitative information. Worldwide, when comparing language varieties, there are quantitative comparisons that have less than 85 percent similarity, but the people consider (a qualitative assessment) that they speak the same language. The opinions of both the Koenoem and the Piapung are that they speak different languages and have different identities. Even though there is 85 percent lexical similarity between these lists, only 18 percent of the words were identical. There are also phonological variations that must make the languages sound different to the speakers. Some of these variations follow patterns, which, when learned, may help improve comprehension.

From historical linguistics, we learn that languages change as a phonological innovation diffuses outward to other varieties. These innovations tend to be slight changes from one phone to another phone that is similar. When we see several words that have a pattern of change like this, it may be an indication of the way that the varieties are diverging. It may also be an indication of the differences that people hear when they recognize another dialect of their language. As languages diverge there are more changes like this, and the speakers may have more difficulty understanding the other variety. We look at these patterns of phonological change to better understand the kinds of changes that are making the varieties different.

One example of patterned variation is between unvoiced [k] in Piapung and voiced [g] in Koenoem in the word-initial environment. Table 8 presents a comparison of word-initial velar plosives between Piapung and Koenoem.

Table 8. Comparison of word-initial velar plosives

#	English gloss	Piapung	Koenoem
13	salt	kɯːn	ɡun
15	leaf	komijɜm	ɡomjɪm
23	mahogany	koːqˈ	ɡɔk
29	groundnut	komkɯɑn	ɡomkwaːn
121	rat	kɜzɜm	ɡzɜm

There is a similar pattern between the unvoiced [t] in Piapung and voiced [d] in Koenoem. Examples of this variation are presented in table 9. With the evidence presented in tables 8 and 9, we can speculate that that there is a process of either a devoicing in Piapung or a voicing in Koenoem in word-initial alveolar plosives.

Table 9. Comparison of word-initial alveolar plosives

#	English gloss	Piapung	Koenoem
8	pit	toːn	doːn
57	neck	tɔqˈ	dok
104	sheep	tɜm	dɜm
257	he usually eats	toŋsɜ	doŋsɜ

There is also variation between bilabial nasal [m] in Piapung and the voiced bilabial plosive [b], or implosive [ɓ], in Koenoem.[18] Table 10 presents a comparison of bilabial nasals and stops.

Table 10. Comparison of bilabial nasals and stops

#	English gloss	Piapung	Koenoem
24	farm (field)	maị	bái
42	*tuwo / fu-fu*	mɜn	ɓɨn
77	blood	tɨɣɜm	tɨɜb
85	woman	mɑt	bɑt

As pointed out in section 6.3, neither syllabic nasals nor prenasalization are typical in West Chadic languages. Koenoem does not have either of these features, but they are present in some Piapung words. Table 11 presents a comparison of words in Piapung that have word-initial syllabic nasals, or prenasalization that do not occur in Koenoem.

Table 11. Presence and absence of prenasalization

#	English gloss	Piapung	Koenoem
16	farm (field)	ŋ̩kaŋtɯŋ	ɡoŋtiŋ
59	back	ŋ̩kɔn	ɨɡoŋ
128	louse	ɲ̩ʃiɛm	iʃɛm
201	there	ɲ̩ʒini	ʒɪˈni

There is a curious variation between the open-mid-back round vowel [ɔ] with the open-mid-back round vowel [o]. According to Blench, there is a typical West Chadic tendency towards open-mid, rather than, close mid vowels (Blench 2017: 12). We would expect to see more evidence for a phonemic status

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[18] There is also one occurrence of similar variation with a prenasalized voiceless bilabial plosive [mp] in item #1 in variation with [b] in Koenoem. Since it is prenasalization rather than simply a nasal consonant we did not want to include it with the rest in this comparison.

of [ɔ] and that [o] would be an allophone. There are a similar number of examples from both languages showing variation both ways. Table 12 presents examples of variation between [o] and [ɔ].

Table 12. Variation between [o] and [ɔ]

#	English gloss	Piapung	Koenoem
30	bambara nut	kɔm	kom
49	ear	kɔm	kom
51	tooth	hɔs	os
76	body	sɔpʃik	sopʃɪk
94	chief	lɔŋ	loŋ
106	guinea fowl	ʃɔm	ʃom
23	mahogany	koːqˀ	gɔk
155	stream	koːŋ	saikɔŋ
156	river	koːŋ	kɔŋ
284	drink	suwo	sʷɔ
299	bathe	soːp	sɔp
335	tie	ɓoːt	ɓɔt

As pointed out in section 6.5.1, the presence of the velar fricative [ɣ] in the Piapung wordlists that does not occur in the Koenoem wordlist is one clear difference between the consonant inventories. The loss of this consonant, if it can be considered a loss rather than an addition in Piapung, reflects some interesting variation to the words in Koenoem. There does not seem to be a pattern. Table 13 presents examples of the presence of [ɣ] in Piapung words and absence in Koenoem words.

Table 13. Presence of [ɣ] in Piapung words and absence in Koenoem words

#	English gloss	Piapung	Koenoem
135	ashes	fɯːɣɜt	fʷɛt
151	rain	fɯɣɜn	fʷɛn
154	dew	bɯɣɑŋ	ɓɯɑŋ
77	blood	tɨɣɜm	tɨɜb
321	go	mɨɣɑn	mɯɑŋ
220	heavy	tɨɣṇ	gətɨɜn
168	yesterday	ṇdɩɣṇ	dʲɛn

While there is a great deal of similarity between Piapung and Koenoem, without comprehension testing it is not possible to understand the degree of difficulty posed by the differences. Often when there are patterns of variation, as we see particularly in tables 8 and 9, people can easily adapt. People can learn to ignore differences like this, and they do not cause a loss of comprehension.

6.6   Similarity with Tal

As described in section 6.1, Piapung is reported to be closely related to Tal. (See the figure in 6.1 for a graphic representation of the relationship between Piapung, Koenoem, and Tal.) The interviewees from the group sessions reported that only the older people could understand Tal. The fact that it is elderly people who have the better comprehension is an indication that it is learned intelligibility.

Blench (2017:11) gives a consonant inventory for Tal, which reveals features that we should expect in Piapung due to the linguistic relationship between the two languages. Blench includes ejectives and a wider set of implosives and voiceless aspirated stops than are found in our lists. Some of this may be

explained by the fact that Piapung is a different language from Tal and may not have all the same features. The ejectives and aspirated stops are absent in our Koenoem survey wordlist (Decker et al. 2021a).

We did not compare the Piapung wordlists with one from Tal. If we did, based on the people comments that the languages are similar, we are sure that there would be a high degree of lexical and phonological similarity, but it would probably be less than the similarity with Koenoem. The people reported that they have a much better comprehension of Koenoem than of Tal.

We are also aware that the social perception is that the Koenoem, Piapung, and Tal have separate identities. While there was a high degree of similarity with Koenoem, there was enough linguistic difference that when accompanied by the social perception of different identities that these should all be considered different languages. Any effort to create an orthography or to produce literature in one form to be used by all three groups would probably not succeed.

6.7   Discussion of the analysis

In sections 6.1–6.6, we have considered the relationships among Moewa and Moedom Piapung, Koenoem, and Tal. We have looked at the relationships from five perspectives: perceptions, classification, phonetic similarity, lexical similarity, and phonological variation.The Piapung people believe that there is very little variation between the Moewa and Moedom varieties of Piapung. A comparison of the phonetic inventories of the two varieties showed that there was no difference between the phones found in the two wordlists. A comparison of the phonological forms of words between the two varieties revealed what may only be minor differences between vowel length in a few words and a weakening of some word initial consonants. A surface-level lexical comparison revealed a high degree of similarity (97%). There is nothing to indicate that they are anything other than two varieties of the same language.

In comparing Piapung with Koenoem and Tal, the people believe that they are different languages. The people we spoke with perceive that there is greater similarity between Piapung and Koenoem than with Tal. Ongoing research by Blench (2017, 2019b) is refining the classification of the West Chadic A.3 languages, including the branch he calls Talic. He has found nothing that has caused him to separate his classification of these three languages as constituting one related branch. The comparison of phonetic inventories, lexical similarity, and phonological variation all indicate a close relationship between Piapung and Koenoem. The people believe that they can understand one another. However, as will be discussed in section 7.2, the people acknowledge that when they meet, they do not understand everything that is said. We did not do a thorough comparison of Piapung and Tal. Based on the reports that the people say they understand less Tal than Koenoem, this indicates that there is probably less similarity between Piapung and Tal.

Once again, our primary concern is with comprehension between varieties and identifying the potential for shared orthographies and literature. Even if a linguistic comparison of Piapung and Tal showed a relationship as close, or closer, than with Koenoem, the fact that the Piapung perceive Tal to be more different indicates that they would probably be less favourable towards sharing a common literature. It does not mean that the Piapung necessarily have negative feelings towards the Tal; it simply implies that they are not pursuing ways to identify with them. They recognize that they have different tribal identities. Linguistically there is enough variation in lexicography and phonology that it would probably be very difficult to create literature that would be easily useful to all three of these groups. However, a language development project could possibly maximize efforts by working cooperatively with all three communities.

7   Influence from other languages

It is a widely accepted principle among sociolinguists that less dominant languages worldwide are influenced by more dominant languages when they come in contact with each other. Sometimes it is a neighboring larger, more powerful, or more prestigious language, and sometimes it is a regional or

international language of wider communication. Therefore, the impact of these more dominant languages needs to be considered when describing the environment of the less dominant language. The social relationships between these language communities are not necessarily adversarial. Motivations for acquiring a second language vary (Karan 2001; 2011; Karan and Stalder 2000) and often, speakers of the less prestigious languages are only interested in learning the more dominant languages for the pragmatic benefits of multilingualism. Often smaller language groups also feel less agency to influence their social environment and multilingualism becomes a requirement. However, there are also some language communities that force their hegemony on the smaller groups around them to achieve greater social, political, economic, or religious power. In these cases, it is often advantageous to learn the more dominant language in order to survive.

7.1 Language contact

The Piapung people have frequent contact with the Koenoem, their neighbors to the west. The main road into the Piapung area runs through the Koenoem area. The Goemai are the largest group around them, located to the south of the Piapung. Shendam is the nearest large city and it is largely a Goemai-speaking town. However, the Piapung are separated from the Goemai by the Tehl language group to their immediate south and east. There is a rough road that enters the Piapung area from the south through the Tehl area. Many of the Piapung farms are not far from Tehl farming areas. Tal is the language that borders the Piapung area to the north. There is a rough road that travels north connecting Piapung with the Tal area. As is typical throughout this part of Nigeria, there are families of Hausa and Fulani[19] who live scattered virtually everywhere. (Map 2 shows the positions of neighboring language groups.) Furthermore, Hausa is the language of wider communication that can be used between any language groups. Multilingual proficiency in Hausa, Koenoem, Tal, Tehl, and Goemai is predominantly for the pragmatic purpose of being able to communicate with other people.

The Piapung have one form of relationship or another with each of these neighboring languages. They intermarry with one another, attend churches and market together, farm cooperatively, and their children attend schools together. As reported in section 5.5.4, the Piapung intermarry mostly with the Tal, Koenoem, and Tehl.

Other than those who have married into the Piapung community, there are also speakers of several other languages who have moved into the Piapung area. They are mostly from these same groups, but there are also some from the Ngas language group. They live peacefully with all these groups, except that they try to avoid the Goemai and Fulani because they feel they are culturally different.

The primary contact with English is in the schools. The younger people are gaining better proficiency in English than older generations, but they do not have many avenues outside of school to use it.

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[19] In much of central Nigeria, the Fulani may speak Fulfulde or Hausa as a first language. Most other language groups will usually speak to them in Hausa.

Map 2. Languages neighboring the Piapung
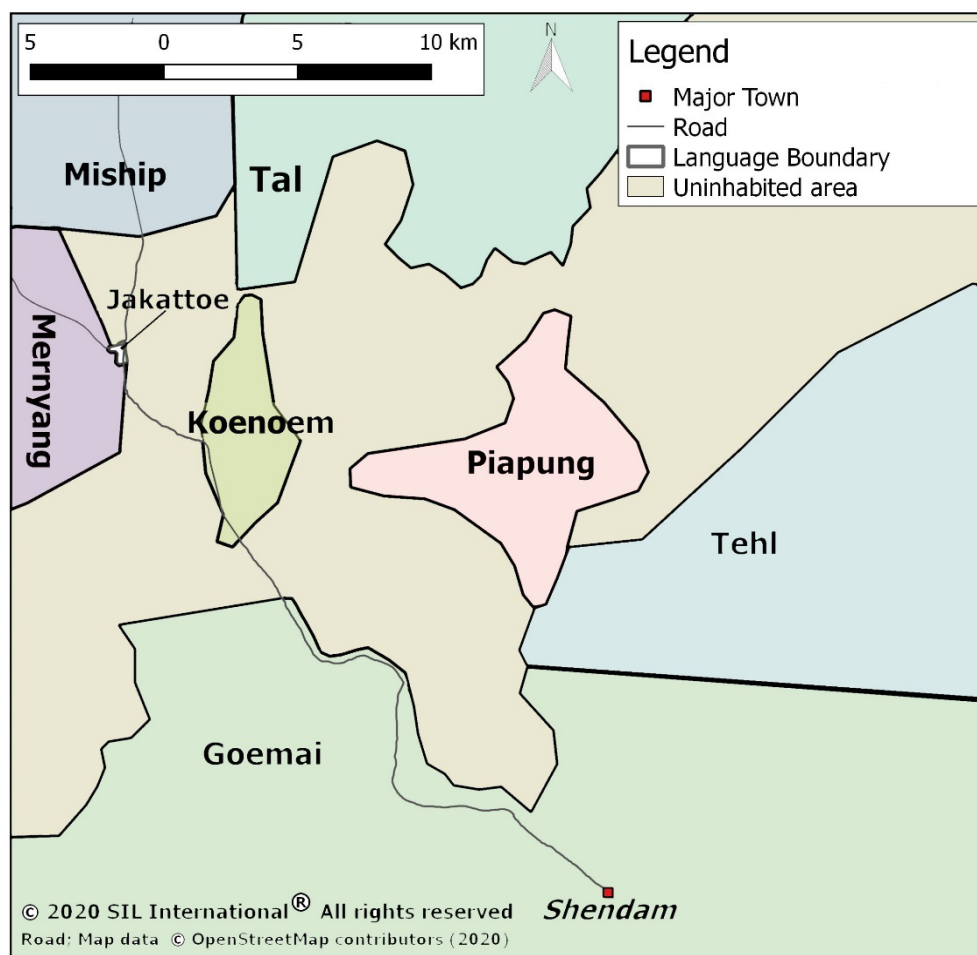
Source of roads: https://www.openstreetmap.org/#map=12/9.0338/9.3113. CC BY-SA 2.0. Accessed Dec. 20, 2019. The town location and polygons have been added by the authors. They do not represent official locations.

7.2   Multilingualism

The people in Piapung town are quite multilingual. Due to the influx of merchants to the market, an individual may need to use Hausa, Koenoem, Tal, Tehl, English, or Goemai, as well as Piapung. The adult men and women were reported to be more multilingual in the neighboring languages than younger generations, but this is only natural in that they have had more exposure to all these languages. Life in the other, smaller villages requires less multilingualism but since it is only 7 kilometers from the furthest Piapung village to Shendam, the main town, it is not uncommon for people to visit it frequently.

Due to the linguistic similarities with Koenoem, more people understand it than the other languages. There is a high degree of inherent intelligibility between Piapung and Koenoem. Since Koenoem and Piapung people have frequent contact there is also acquired intelligibility. It was reported that, when the Piapung speakers meet with the Koenoem, they each speak their own language. Comprehension is not 100 percent, but they still understand one another. Even the children understand it a bit. However, their only use for Koenoem is for better understanding of their Koenoem neighbors when they encounter them.

Although more people reported having greater ability to communicate with Koenoem speakers, Tal was reported to be used more frequently than Koenoem in Piapung town. One reason for this could be that the Piapung intermarry more with the Tal than the Koenoem. There are also more Tal-speaking

traders in the market. Proficiency in Tehl and Goemai depends on the amount and kind of contact an individual has and it increases with age. Goemai is the least understood of the neighboring languages.

It was reported that most of the older generation of Piapung cannot speak Hausa and those that can only speak a bit of it. It was reported that the younger generations can speak Hausa moderately well. People in the middle generation are not very proficient in Hausa but can hold a conversation. This may be an indication that exposure to Hausa has only been more recent. The greater proficiency in Hausa of younger people can be attributed to their exposure to it in the schools. The children in Piapung town were reported to have more proficiency in Hausa than children in other villages. This is probably because Piapung town is the political and economic center of the area and draws more outsiders. The children in other villages only speak a bit of Hausa.

English is the language of education and thus the language of the younger generation who have had more access to schools. The increasing availability of western education, the use of English for teaching, and the prestige that comes with speaking it, have increased the influence of English. The highest proficiency in English, although only at a moderate level, was reported among younger adults in Piapung town. Again, this is due to Piapung town being the political and economic center of the area. Children outside of Piapung town have a very low proficiency in English.

While Hausa and English are the two most commonly used languages apart from Piapung, we note several examples that were given to highlight the limited proficiency in those languages. Many of the older people do not speak Hausa. Piapung is permitted in the schools, probably because of the limited exposure children have to English and Hausa before entering school. The pastor we interviewed said that he must translate what he is reading from the English Bible into Piapung because people do not understand the formal variety of English very well. Piapung is used in other aspects of the church service. When asked about the value of development of Piapung, people said that if they had the Bible in Piapung, it would help the young people better understand the message. This indicates that the older generation may not have confidence in the English proficiency of the younger people. Furthermore, if the young people who have the best proficiency in English, have trouble understanding the scriptures in English, then all other groups would be expected to have more trouble understanding it.

The older generation and the children are the least literate of the Piapung generations. A few older people have a moderate level of literacy in Hausa and some in English. Some of the children are moderately good in reading and writing in English and Hausa. The younger generation (approximately 15–30 years old), those who have had several years of education, are the most literate in English and Hausa, and their proficiency is higher than the other age groups in the community. The middle generation of adult men and women are more literate in both English and Hausa than the older people, but less than the younger adults.

Table 14 presents a summary of the reported proficiencies of different age groups and genders in a comparison of multilingualism in Piapung town and Panjem. The languages are arranged from most to least proficient as reported by our interviewees. Languages in parentheses indicate that there is less proficiency than other groups. ONL is an abbreviation for 'other neighboring languages,' which in most cases refers to Tal and Tehl, but there are also a few people who have some proficiency in Goemai. The age ranges are not precise; "children" refers to people up to about 15 years, "young" men and women refer to approximately 16 to 30 years, "middle-aged" men and women refer to approximately 30 to 55 years, and "elderly" men and women refer to approximately 55 years and older.

Table 14. Oral language use and language proficiencies

	Piapung	Panjem
Children	Piapung, Koenoem, (Hausa), (English)	Piapung, (Koenoem)
Young Men	Piapung, Koenoem, Hausa, English, ONL	Piapung, Koenoem, English, (Hausa)
Young Women	Piapung, Koenoem, Hausa, English, ONL	Piapung, Koenoem, (ONL), (Hausa)
Middle-aged Men	Piapung, Koenoem, Hausa, ONL, English	Piapung, Koenoem, (ONL), (Hausa)
Middle-aged Women	Piapung, Koenoem, Hausa, ONL, English	Piapung, (Koenoem), (Hausa)
Elderly Men	Piapung, Koenoem, ONL, (Hausa)	Piapung, Koenoem, (ONL), (Hausa)
Elderly Women	Piapung, Koenoem, ONL	Piapung, (Koenoem), (ONL), (Hausa)

8   Language vitality

The presence of other languages and the frequency of encountering other languages outside of the home may influence the vitality of heritage languages. In response to this potential impact, Lewis and Simons (2017:154) describe five conditions that are critical for the sustainability of a language, which is often referred to as language maintenance. These five conditions are organized by the acronym FAMED: function, acquisition, motivation, environment, and differentiation.

a. Function: For the sustainable use of a language, the community must be able to employ the language for specific functions. As the number of functions for a language decreases, so does its vitality.
b. Acquisition: A community must have a way to acquire proficiency in a language in order to maintain the use of that language. This is most often found in the language used in the home.
c. Motivation: For sustainability, the community must be motivated to use the language and perceive some benefit of its use.
d. Environment: The environment refers to whether the government provides a route for a language to flourish, or if the government hinders the use of a language. It focuses primarily on government policy, and particularly that which is funded and enforced.
e. Differentiation: Differentiation describes a situation in which different languages are used in different domains. In multilingual communities, there needs to be a culturally perceived differentiation of which language is used for which purposes. This serves to protect a minority language from being overwhelmed by a more prestigious language.

Language endangerment contrasts with language sustainability or maintenance. When any of the above conditions is not met, a language is in the process of shifting or becoming endangered. A language loses vitality when:

a. It loses usefulness in the daily functions for which people need language.
b. Children are not provided with opportunities to learn their heritage language.
c. The community sees no benefit to the use of the heritage language.
d. The government provides no institutional support for the maintenance of the language.
e. The community does not value the use of the language in some protected domains.

In multilingual communities, we speak of a repertoire of languages that are available for different purposes. In this section, we describe the state of these conditions for the sustainable use of Piapung. We end with an assessment of the vitality of Piapung language use.

8.1   Functions of languages in the repertoire of the Piapung

Piapung is spoken in virtually all domains and by all generations in the Piapung communities we visited. Some language functions are more essential than others when discussing language vitality. Of importance to note is which languages are used when parents speak to children, among children at play, between husbands and wives, and what is perceived as the most widely used language in the community. The people we spoke with affirmed that Piapung is the main language used by parents with their children, amongst children when playing, between husbands and wives at home, and it is the language used almost everywhere in the communities. It is also used in less personal domains such as in the markets, churches, schoolyards, cultural festivals, and health clinics. Other languages such as Hausa and English were also reported to be spoken in these domains, but only infrequently.

In Pangjem, we observed children speaking mainly Piapung in the market, in the school, and on the playground. We also observed the paramount ruler in Piapung town speaking the language with children. During wordlist elicitations and checking, children were responding in Piapung, so were the young men and women and the adults. Also, during the dialect mapping activity, the people deliberated in Piapung before replying in Hausa.

The teachers use English and Hausa in school for instruction, and their textbooks are in English. Teachers do not forbid the use of Piapung in the classroom, but they do not use it in any special way to enhance their teaching. English is also used in the churches for Bible reading and preaching. This is partly due to the prestige of the language. Hausa is used in the markets, health clinics, during cultural festivals, and sometimes on the farm. For younger people it is used between friends and with siblings.

The reading materials available in the Piapung communities are in Hausa and English and include: the Bible, textbooks, dictionaries, novels, and other church and school-related materials. People with mobile phones usually use English and Hausa for texting. However, some reported using Piapung even though they do not yet have an orthography.

In summary, Piapung is still the dominant language in most domains and thus has the most functionality. Hausa and the neighboring languages are useful for commerce and for communication with non-Piapung speakers, but they do not supplant the use of Piapung in the most typical daily functions of language. English use is promoted in the schools and churches, and its use is considered prestigious. However, it has little use outside of those domains, except for young adults.

8.2   Means of acquiring languages in the repertoire of the Piapung

Parents and other family members use Piapung with the children from their infancy. Piapung is learned predominantly in homes, but its use is also affirmed by being spoken throughout the community. It is used in the markets, in churches, on the farms and is even permitted in some situations in the schools. Although these are not the primary means of acquiring the language, it nevertheless creates an environment in which the language is valued.

There is a high degree of inherent intelligibility with Koenoem, but people acquire better proficiency as they have more contact with Koenoem speakers. Likewise, proficiency in Tal, Tehl, and Goemai comes through contact with speakers of those languages. Hausa is used and learned in the schools and churches and it is encountered when meeting some people groups from outside of the community. English is taught in the schools and used in the churches but receives little support for learning outside of those domains.

8.3   Motivation for using languages in the repertoire of the Piapung

In our conversations with the Piapung, they expressed positive attitudes towards their language. They use their language in virtually all domains. The Piapung villages are in a remote location with poor access; therefore, there is less contact with speakers of other languages than for language groups that live near major roads.

The interviewees also expressed a desire for language development in Piapung. Their primary interest in language development seems to be for the preservation of their language, to help the youth remember their language, and to be able to teach it to their children.

The motivation to speak their neighboring languages appears to be pragmatic, to communicate with their neighbors. Hausa is useful for speaking with non-Piapung. It is used in the schools, and there is some literature available. English is also taught in the schools and provides access to education. It has the prestige of being a language of global communication and gives greater access to information on both the national and international level. While there is very little contact with people who speak English as their primary language, it is still becoming a language of wider communication among young, educated people. Therefore, there is motivation for the young people to identify with this group.

8.4   Environmental support for the maintenance of Piapung

While Piapung does not currently receive any institutional support, the Nigerian government's language policy encourages the oral use of any language in the country and does not hinder any private development of the language (Federal Ministry of Education 1981). Furthermore, the revised policy on the use of minority languages in education says that "every child shall be taught in their own mother tongue or in the language of the immediate community for the first four years of basic education."

(Federal Republic of Nigeria 2013: section 1, subsection 8.g.) However, there has been little progress in implementing these policies. The absence of government support means a lack of important institutional support for language maintenance. Adegbija (2007) presents a lengthy discussion on the language policies of the Nigerian government and presents evidence that there is a greater focus on the development of the major indigenous languages (Yoruba, Hausa, and Igbo) and English than concern for the smaller, less prestigious minority languages. This factor might affect language vitality over time, but presently Piapung use is quite dominant in community life.

8.5   Differentiation of languages in the repertoire of the Piapung

With such a brief time of observation, it was not possible to investigate differentiation in different domains effectively. Piapung is either the only or the primary language of most domains. However, the domains of the schools and literacy, and church to some degree, are reserved for Hausa or English. The neighboring languages, such as Tal, Tehl, and Goemai, are useful for communication with speakers of those languages, but they do not have a large role for communication within the Piapung community. This level of differentiation seems to be supporting the maintenance of Piapung currently. More study is needed to determine differentiation between domains.

8.6   EGIDS assessment for Piapung

The Expanded Graded Intergenerational Disruption Scale (EGIDS) (Lewis & Simons 2017) provides a rubric for assessing the potential for sustainability of a language. The EGIDS considers the state of intergenerational support for language maintenance, as well as institutional support, and the stage of literary development for the language. The scale runs from 0 to 10 with 0 representing languages that are used for international commerce and political policy and 10 representing extinct languages that have no identificational value for any community.

Considering the indicators of vitality described in sections 8.1 to 8.5, Piapung language use is best described as EGIDS level 6a "Vigorous orality". This level describes a language that is "used for face to face conversations by all generations, and the situation is sustainable" (Eberhard et al. 2020b). However, Hausa and English are the languages of literacy, education, and the churches. This may be beginning to exert some pressure on young people to give more attention to those languages. There does not seem to be any indication of a shift to Hausa, English, Tal, or Koenoem, but since there is so much reported contact with these languages, the contact may be linguistically changing Piapung.

9   Summary

In summary, Piapung oral language use is vigorous, EGIDS level 6a. It is used actively as the predominant oral communication in most domains of community life. Piapung parents are transmitting the language to their children, and the language is used by all age groups in most domains. The Piapung villages are in a remote location, and access to the area is sometimes cut during the rainy season. This isolation possibly plays a role in limiting the influence from other languages and maintaining the vitality of the language.

The people consider that there are two dialects of the language, Moedom and Moewa. A wordlist comparison reveals that there is approximately 97 percent lexical similarity, which does not indicate any significant variation. Furthermore, a tentative analysis of the phonological features did not reveal any strong pattern of variation. A wordlist from Koenoem, a neighboring language, was also compared with the Piapung wordlists. It was found that there is about 85 percent lexical similarity between these two languages. We also looked at phonetic and phonological variation and identified similarities and differences. There also appears to be a high level of inherent intelligibility. This facilitates communication between the two groups. Despite the similarities, the two groups consider that they have different identities and that they speak different languages. A brief consideration of similarities with the related Tal language did not identify potential for any greater similarity than with Koenoem.

There are speakers of Hausa, Tal, Tehl, and Goemai living nearby, and some have moved into Piapung villages. There is also intermarriage with these groups. Depending on the type and amount of contact, some adults gain proficiency in these other languages. Hausa is the language of communication between the Piapung and speakers of other more distant language groups. Older people have less proficiency in Hausa; in fact, some have little to no proficiency. Younger people have more proficiency in Hausa because it is used in the schools. English is taught in the schools and its use offers prestige and potential access to more information and economic improvement. However, outside of school, there are probably few opportunities to use it in their area except in the markets or church.

The people reported positive attitudes towards their language and expressed a desire for language development. Their primary interest in language development seems to be for preservation, to help the youth remember their language, and to be able to teach it to their children. While there is currently a level of sustainable language vitality, there could easily be a shift towards a preference for greater use of Hausa or English among the youth as they mature.

10 Recommendations

We recommend that leaders from the Piapung communities be invited to attend a Community-Based Language and Identity Development planning workshop which is jointly offered by SIL Nigeria and the Conference of Autochthonous Ethnic Community Development Associations (CONAECDA).[20] In this workshop they will be exposed to the concepts of language vitality and language development.

If the leaders desire to pursue language development, they can seek training in language development from SIL Nigeria. The leaders may be interested in contacting one of our partnering language development organizations to implement limited development projects. This could be a good opportunity to assess their commitment to development efforts. It may also inspire the Piapung to further interest in other language development activities and other vernacular products.

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[20] CONAECDA (Facebook 2020) is a non-governmental organization advocating for the linguistic rights of Nigerian minority ethnolinguistic groups. They provide workshops and other training opportunities to facilitate language development led by the ethnolinguistic communities themselves. CONAECDA is using a modified activity based on the "Language and Identity Journey" (SIL 2020).

Appendix A: Dialect Mapping Instructions and Group Sociolinguistics Questionnaire

Hausa translation is in italics. Participatory guidance instructions are in square brackets [ ].

A.1 Participatory Dialect Mapping and Sociolinguistic Interview / *Tambayon Hanyar haɓaka Domin Bukasar Harsuna*

Village—*Gari*: _____

Interviewer—*Mai Tambaya*: _____

Date—*Kwanar Wata*: _____

State—*Jihar*: _____

LGA—*Karamar Hukuma*: _____

District—*Yanki*: _____

Traditional chief—*Tsarki*: _____

Language assistants—*Jagora*: _____

Participatory Methods involves **observation**. Both the facilitator and the assistant can observe. Please make note of these observations on this form throughout the Participatory Methods and interviews. Note people's responses, agreements, disagreements, number in attendance, group's variations (gender, age ranges), and whatever else you think may be helpful.

- *Hanyar Haɓaka ya shafi dubawa. Duk mai gudanarwa da mai taimakawa zasu iya kiyaye. Don Allah a rubuta abubuwan da aka lura da su a wadannan bayanin a duk lokacin da ake yin wadanan tambayoyin. Yi la'akari da amsoshin mutane, yarjejeniya, rashin daidaituwa, yawan masu zuwa, ƙungiyoyi na bambanta (jinsi, jere na jima), da duk abin da kake tsammani zai iya zama taimako.*

A.2 Language Identity / *Harshe Harshe*

What is/are the name(s) of your language? [Have them write the name(s) on one piece of paper.]

- *Mene ne / sunan harshen ku? [Bari su rubuta sunan a kan takarda daya.]*

Which name(s) do you prefer? [Circle their preferred language name.]

- *Wanne sunanko sunaye kun fi so? [Kewaye sunan da sun fi so.]*

What is/are the name(s) of your people? [Have them write the name(s) on one piece of paper.]

- *Mene ne / sunan mutanen ku? [Bari su rubuta sunan a kan takarda daya.]*

Which name(s) do you prefer? [Circle their preferred people name.]

- *Wanne sunan ko sunaye kun fi so? [Kewaye sunan da u n fi so.]*

What do you call your people in your language?

- *Menene kuke kira mutanenku a cikin harshenku?*

What is the word for person in your language?

- *Menene ana kiran kalman nan mutum a harshenku?*

When you're speaking (your own language) what do you call your language?

- *Yayin da kuke magana da harshen ku, menene kuke kiran harshen ku?*

When speaking Hausa with other people, what do you call your language?

- *Lokacin da kuke magana da harshen Hausa tare da wasu mutane, me kuke kira harshenku?*

When speaking English with other people, what do you call your language?

- *Lokacin da kuke magana da Turanci tare da wasu mutane, me kuke kira harshenka?*

What do each of the following call you? (a) Hausa, (b) Others, (c) Government
- *Menene wadanan suke kiran ku? (a) Hausawa, (b) Sauran Su, (c) Gwanati*

What does that name mean? *Menene wannan sunan yake nufi?*
- How do you feel about that name? *Yaya kuke ji a ranku idan an kira da wanan sunan?*

Briefly, please, what is the origin of your people? How do you know this?
- *A takaice, don Allah, menene asalin mutanenka? Yaya aka san wannan?*

A.3   Reported Intelligibility / *Rehotun Makamantun harsuna*

[Take a photo of these two papers and/or write them above.]
- *[Dauki hoto na takardun nan biyu da / ko rubuta su a sama.]*

Write observations:
- *Rubuta bayanai:*

Name all villages where [your own language _____] is spoken.
[Have them write each village on a separate piece of paper.]
- *Rubuta dukan kauyuka inda ake magana da [yaren ku _____]*
- *[Bari su rubuta kowane kauye a kan takarda.]*

[Place these on the mat/table/ground in order to show which villages are next to each other.]
- *[Sanya wannan a kan taburma / teburi / kasa don nuna wajan kauyukan da ke kusa da juna.]*

[Have them arrange these by location on the ground…use pictures of the river, road, mountains, and markets if it helps or if you see these things around. Be sure to circle the villages with a loop and place the language name at the top edge of the loop.]
- *[Shin, sun shirya wannan ta wurin wuri a kasa … amfani da kogin, hanyoyi, tudu, da kuma kasuwanni kalli idan yana taimakawa ko kuma idan kun ga wadannan abubuwa a kusa. Ku tabbata cewa kungiyoyin kauyuka da madauki kuma sanya sunayen sunaye a babban gefen madauki.]*

Which villages speak exactly the same?
- *Wadanne kauyuka suna yin magana daidai da juna?*

[Mark villages that speak same by letter "S".]
- *[Yi makin kauyuka da ke magana iri daya da wata alama "S".]*

Which villages speak exactly the same? *Wadanne kauyuka ne suna fada abu daidai da juna?*
[If they name a group, tell them to write the name on a piece of paper and place it based on location. Then ask for the villages of the group to be written on paper and placed based on their locations. This should be done for each group and remember to prompt for the names that we have. Circle villages of each group with a separate coloured loop, with their names at the top edge of their separate loops.]
- *[Idan suna kiran wata kungiya ko kauye, gaya musu su rubuta sunan a kan wani takarda su kuma sanya shi bias bangaren da ya kamata, sa'an nan kuma ka umarci kauyuka su kasance a rubuce a takarda ka kuma sanya tushe a wuraren da ya kamata. Kowane rukuni kuma ku tuna don fadakar da sunayen da muke da shi. Kungiyoyin kauyuka na kowane rukuni tare da launi mai launi dabam dabam, tare da sunaye a saman gefen kananan madaukai.]*

Do you learn to speak each other's dialects?
- *Kuna koyon yin magana da yarukan juna?*

[Write: "We learn to speak each other's language" or "We don't learn to speak each other's language" for each paper.]
- *[Rubuta: "Muna koyi yin yaren juna ." ko "Ba mu koyi yin yaren juna" na kowane takarda.]*

Which dialect (including your own) do you understand 1st best?, 2nd best?, 3rd best?, etc.
[Have them place 1st choice, 2nd choice, etc. on the villages or dialect groups.]

- *Wadanne yare (har da naku) kukan fahimce shi 1st mafi kyau?, 2nd mafi kyau?, 3rd mafi kyau?, da dai sauransu.*
- *[Bar su su aje Zaben 1st, Zaben 2nd da sauran su a kan kauye ko yare.]*

A.4   Dialect Relationships / *Dangantakan Yaruruka*

[Pointing to the 1st best, ask:]
Do you understand this dialect completely, most or almost all, half, little, or none?
[Place the "key"[21] out, then place All, Most, Half, A little, or Non-smiley face marker(s) by the 1st best. Repeat for 2nd best, 3rd best, etc.]

- *[Mika hanu akan 1st mafi kyau, sai ka tambaya:]*
- *Kuna fahimtar wannan yare gaba daya, mafi yawa ko kusan dukka, rabi, kadan, ko a'a?*
- *[Saka "makwuli" a wurin, sa'an nan kuma sanya Duk, Mafi, Rabi, Kanana, ko Babu alamar. Fuskance mai haske a cikin 1st Mafi kyau. Maimaita don 2nd Mafi kyau, 3rd Mafi kyau, da dai sauransu.]*

[Pointing to the 1st best, ask:]
When you meet people from this dialect group, how do you speak to them?
[+ + We speak our own dialect, and they speak our dialect too, OR: They speak their dialect, and we speak our dialect. -- We speak another language, and they speak another language. Place "key" out, then place + +, or -- by the 1st best. Repeat for 2nd best, 3rd best, etc.]

- *[Mika hanu akan 1st Mafi kyau, tambayi:]*
- *Idan kun sadu da mutane daga wannan rukunin harshe, ta yaya kuke magana da su?*
- *[+ + muna magana da yaren mu kuma suna magana da yaren mu, KO suna magana da yarensu kuma muna magana da namu - muna magana da wani harshe kuma suna magana da wani harshe. Sanya "makuli", sannan sanya + + , ko - ta hanyar 1st mafi kyau. Maimaita don 2nd Mafi kyau, 3rd Mafi kyau, da dai sauransu.]*

What other language groups live around you?
[Have them write the names of the languages and place them outside the loop, based on their geographical locations.]

- *Wadanne kungiyoyin Harsuna ne suke zaune kewaye da ku?*
- *[Bari su rubuta sunayen harsunan kuma sanya su a waje da madauki, bisa ga wuraren su.]*

Which of the neighboring languages do you understand?
[Have them write we speak or do not speak each other's languages.]

- *Wanne daga cikin harsunan da ke kusa da ku kuna fahimta?*
- *[Bari su rubuta mu magana ko ba magana da harsunan juna.]*

How well do you understand the neighboring language(s)?
[Have them write on each either (a) A little, (b) Some, (c) Well, or (d) Very well.]

- *Yaya kuke fahimci harshen makwabcinku?*
- *[Bari su rubuta kowanne ko dai (a) kadan, (b) wasu, (c) da kyau, ko (d) sosai.]*

[Take photos of these and make SURE you can read the words in the photos.]

- *[Dauki hotunan wadannan ka kuma tabbatar za ka iya karanta kalmomi na hotuna.]*

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[21] The "key" is a list of the markers that are used and what each one means.

If a film or book is going to be produced in your language, which dialect would you prefer it to be in? [Point to the dialect and write the answers here.]

- *Idan fim ko littafi za a samar a cikin harshen ku, wane yarre za ku fi son shi a cikin?*
- *[Nuna waƙa da rubuta amsoshin a nan.]*

Which dialect should be used as the one for writing or recording, so that you will understand it well? [Have them point.]

- *Wadanne yare ya kamata a yi amfani dashi a matsayin rubutaccen rubutu, rikodi, don ku fahimta da kyau?*
- *[Bari su nuna.]*

1st choice – Why?

- *Zabin na Farko – Me yasa?*

2nd choice – Why?

- *Zabi na biyu – Me yasa?*

3rd choice – Why?

- *Zabi na Uku – Me yasa?*

[Write observations. (See first page for suggested observations.)]

- *[Rubuta abin Lura. (Duba shafin farko don shawarwarin akan abin da zaka yi Lura akai.)]*

A.5   Contact and Prestige / *Hulda da Daraja*

Which town/city/village do your people consider as important for all of you? Why?

- *Wane birni gari / garin / kauye ne mutanenku suke ganin muhimmancin ku duka?Me yasa?*

What dialect is spoken in that town/city/village?

- *Wane harshe ake magana a wannan gari / birni / kauye?*

Where do all speakers of your language gather for your cultural festival?

- *A ina ne duk masu magana da harshenku sukan taru don bikin al'adun ku?*

Why do you gather there?

- *Me yasa kuke taruwa a can?*

Where is the palace of your paramount ruler located?

- *Ina masallacin mai mulkinku ya kasance?*

Tell me other places where your people are located

- *Fada mini wadansu wurare inda ake samun mutanenku*

A.6   Bilingualism / Domains of Language Use / *Yanki na amfani da harshe*

What languages can the (people below) in this village speak?

- *Wadanne harsuna ne (a ƙasa) a wannan ƙauyen ke magana da su/ita?*

Can they speak each language very well?

- *Za su iya magana da kowane harshe sosai*

Which language do you hear them speaking most of the time?

- *Wane harshe kukan ji su suna magana mafi yawan lokaci?*

[(Mark with +), or only a bit *ko kawai da* (mark with -)?]

- *[(yi alama tare da +) ko (yi alama tare da +)?]*

Old men – Old women

- *Tsohon Maza – Sofofi Mata*

Men – Women

- *Maza – Mata*

Young men – Young women

- *Samarai – Matashi*

Children

- *Yara*

Tell me the languages people speak in this community?

- *Ka gaya mini harsunan da mutane suna yi a cikin wannan al'umma?*

What language(s) is/are used…:

- *Wane harshe ko harsuna ake amfani da su:*

  (a) In markets that are in this community?

  - *a kasuwanni da ke cikin wannan al'umma?*

  (b) In schools that are in this community?

  - *a makarantu da suke cikin wannan al'umma?*

  (c) In churches that are in this community?

  - *cikin majami'u da suke cikin wannan al'umma*

  (d) Among friends/age-mates?

  - *tsakanin abokai / masu aure?*

  (e) Between grandchildren and grandparents?

  - *tsakanin jikoki da kakanninsu*

  (f) Between brothers and sisters?

  - *tsakanin 'yan'uwa maza da mata?*

  (g) At the farm?

  - *a gona?*

  (h) For prayer at home?

  - *don addu'a a gida?*

What language(s) do teachers use for instruction in school?

- *Menene harshe (ko harsuna) da malamai suke amfani da su a makaranta?*

Which languages do you use during your cultural festivals?

- *Wadanne harsuna kuke amfani da su a lokacin bukukuwa naku?*

Which of these groups speak own language the best? (a) Children, (b) Youth, (c) Adult men, (d) Adult women

- *Wanne daga cikin wadannan kungiyoyi suna magana da harshe mafi kyau? (a) yara, (b) matasa, (c) tsofaffi maza, (d) mata masu girma*

Which of these groups speak Hausa the best? (a) Children, (b) Youth, (c) Adult men, (d) Adult women

- *Wanne daga cikin wadannan kungiyoyi suna Magana da Hausa mafi kyau? (a) yara, (b) matasa, (c) tsofaffi maza, (d) mata masu girma*

Which of these groups speak English the best? (a) Children, (b) Youth, (c) Adult men, (d) Adult women

- *Wanne daga cikin wadannan kungiyoyi suna magana daTuranci mafi kyau? (a) yara, (b) matasa, (c) tsofaffi maza, (d) mata masu girma*

Which of these groups speak any neighboring language the best? (a) Children, (b) Youth, (c) Adult men, (d) Adult women

- *Wanne daga cikin wadannan kungiyoyi suna magana da kyau a kowane harshe kusa da ku? (a) yara, (b) matasa, (c) tsofaffi maza, (d) mata masu girma*

Which of your neighboring languages do you understand?

- *Wanda harshe makwabta ne ku ke ganewa?*

How well do you understand the languages? (a) A little, (b) Some, (c) Well, (d) Very well

- *Yaya iya ganewan ku na harsosin nan? (a) kadan, (b) da dan dama, (c) da dama, (d) sosai*

When you meet people from neighboring language groups, what language(s) do you speak with them?

- *Idan kun sadu da mutane daga kungiyoyin Harsuna wanda suke zaune kewaye da ku, wane harshe kuke Magana da su?*

A.7   Vitality/*Muhimmanci*

What language(s) do parents/care givers speak to their children in this community?

- *Wane harshe ne iyaye suna magana da 'ya'yansu a cikin wannan al'umma?*

What language(s) do children in this community speak when they are playing?

- *Menene harshe (ko harsuna) da yara suke yi a lokacin da suke wasa?*

What language(s) do husbands and wives speak at home?

- *Menene harshe (ko harsuna) da maza da mata suke yin magana a gida da shi?*

Which language(s) is/are mostly used everywhere in this community?

- *Wanne harshe (ko hasuna) ne / ake amfani dashi mafi yawa a cikin wannan al'umma?*

A.8   Attitudes towards speakers of neighboring languages / *Halin da ake nuna ga masu magana da harsuna makwabta*

From or into which of your neighboring community do your women and men prefer to marry? Why?

- *Wanne daga cikin ƙauyukan da ke kusa da ku ke yi matanku da maza sun fi so su auri daga ko cikin? Me ya sa?*

From or into which language groups do your people feel reluctant to marry? Why?

- *Wace harshe ne mutanen ku sukan jin kiwiyar yin aure dasu? Me ya sa?*

Which language groups attend your markets?

- *Wace kungiyoyi harshe ne suke zuwa cin kasuwa da ku?*

Which language groups you would not welcome at your markets?

- *Wace kungiyoyin harshe ne ba ku da marmarin cin kasuwa da su?*

With which language groups would you not farm?

- *Wace kungiyoyin harshe ba za ku je gona da su ba?*

With which language groups do you attend church service?

- *Wace kungiyoyin harshe ne kuke shida majelisa tare?*

With which language group's children do your children go to the same school?

- *Wace kungiyoyin harshe ne yaran su suke tafiyan makaranta daya da yaran ku?*

A.9   Literature and Literacy / *Litattafai da rubuce-rubuce*

What reading materials do you have in this community?
- *Wadanne kayayakin karatu ne kuke da su a cikin wannan al'umma?*

In which language(s) are the materials written?
- *An Rubuto Wadanan kayan karatun a wadane harshe ko harsuna ne?*

Who of these can read and write?
- *Wanene daga cikinsu zai iya karatu da rubutu?*

Old men – Old women
- *Tsohon Maza – Sofofi Mata*

Men – Women
- *Maza – Mata*

Young men – Young women
- *Samarai – Matashi*

Children
- *Yara*

In which language(s)?
- *A wanne harshe (ko harsuna)?*

How well? (in each language) [Choose: (a) Not at all, (b) A little, (c) Some, (d) Well]
- *Ta yaya? (a cikin kowane harshe) [Zabi Iraki (a) ba komai ba, (b) kadan, (c) wasu, (d) da kyau]*

What kind of information/reading materials do they read?
- *Wani irin littattafai ne sukan karanta?*

What language do they use for texting?
- *Wane harshe ne suke amfani dasu don sako na wayar salula?*

A.10   Estimated populations / *An kiyasta yawancin*

What is the number of all your people in the last national headcount?
- *Menene kimanin dukan mutanenku a cikin kidaya na kasa wanda aka yi a kwanakin baya?*

Based on the number of people in your community for the last election, what would you say is the total number of your people now?
- *Bisa ga yawan mutanen da ke cikin al'umman ku don zabe na kwanakin baya, me za ku ce shi ne yawan mutanen ku a yanzu?*

Estimated percentage of Muslims:
- *A kimanta kashi dari na Musulmai:*

Estimated percentage of Christians:
- *A kimanta kashi dari na Kiristoci:*

Estimated percentage of African Traditional Religion (ATR):
- *An kimanta kashi dari na ATR:*

A.11 Community perceived roles of vernacular Scriptures in their lives / *Yadda al'umma suke ganin amfanin nassosin harshensu a rayuwarsu*

Which category of people do you think will benefit the most if Scriptures were translated into your language?
- *Su wanda mutanene za su fi riba I dan aka juye littafi mai tsaki cikin yaren ku?*

How do you think they will benefit from the translated Scriptures?
- *Yaya kuke gani za su yi riba da ga juyeyen littafi mai tsarkin?*

When do you think they will use those Scriptures?
- *Yaushe kuke ganin za su fara amfani da littafin?*

A.12 Project Support / *Tallafin Ginin*

What are the names of your important persons who can be invited to discuss how your community can access Scriptures?
- *Mene ne sunayen mutanenku masu muhimmanci wadanda za a iya gayyace su domin tattauna yadda za ku iya samun damar samun Nassosi?*

(a) What are their phone numbers or email addresses?
- *Menene lambobin waya ko adiresoshin imel nasu?*

(b) In which city/town/village do they live?
- *Wane birni / garin / kauye suke da zama?*

Which churches can be invited in the Scriptures access discussion?
- *Wace majami'u za a iya gayyace su a cikin shirin samun Nassosi a harshen ku?*

(a) What are the names and phone numbers of their leaders?
- *Mene ne sunayen da lambobin waya na shugabannin ku?*

(b) In which city/town/village do they live?
- *Wace birni / garin / kauye suke da zama?*

What organizations can be invited for the discussion?
- *Wadane kugiyoyi ne zaku iya gayyatar don tattaunawa a kai?*

(a) What are the names and phone numbers or email addresses of their leaders?
- *Menene sunayen da lambobin waya ko adiresoshin imel na shugabanninsu?*

(b) In which city/town/village are they located?
- *Wane birni / garin / kauye ne suke da zama?*

Appendix B: Church Leader Questionnaire

Hausa translation is in italics.

Village _____ Language _____
State _____ LGA _____
Church Name _____ Church Denomination _____
Language assistant _____ Position _____
Researcher _____ Date _____

B.1   Percentage of Christians, Muslims, and ATRs in the area

What percentage of the population is Christian in the area?
- *Mene ne yawan mutanen da suke Krista a yankin nan?*

What percentage of the population is Muslim in the area?
- *Mene ne yawan mutanen da suke musulmi a yankin nan?*

What percentage of the population is ATR in the area?
- *Wani kashi na yawan jama'a ne na safi a yankin nan?*

B.2   Language(s) in which church leaders are interested in having literature development

Which language(s) do you as a priest/pastor speak with members of your congregation in the community?
- *Wace harshe kake yi a matsayin firist / fasto yayi magana da mambobi na ikilisiyarku a cikin al'umma?*

Which language(s) do you use for most activities in the church?
- *Wanne harshe/harshuna kuke amfani da shi don yawancin ayyuka a coci?*

In which language(s) do you read the Bible and other materials?
- *A wadanne harshe/harshuna kuke karanta Littafi Mai-Tsarki da wasu litatafe ciki?*

In which language(s) do you think is best to read the Bible and other materials?
- *Wanne harshe/harshuna kake tsammani mafi kyau a karanta Littafi Mai-Tsarki da wasu litatafe ciki?*

Why do you think this language(s) is the best?
- *Me yasa kake tsammanin wannan harshe/harshuna shine/sune mafi kyau?*

B.3   Language use for other church activities

What languages are used in the church for preaching?
- *Wadanne harsuna ana amfani dasu a coci don wa'azi?*

What languages are used for…
- *wadanne harsuna ana amfani dasu a:*

Bible reading? Hymns / Songs?
- *Karatun Littafi Mai Tsarki? Waƙoƙi?*

Prayer? Announcements?
- *Addu'a? Sanarwe?*

Youth services? Women's fellowship?

- *Ayyukan matasa? Zumuntan mata?*

Bible studies? Other church activities?

- *Nazarin Littafi Mai Tsarki? Wasu ayyukan coci?*

B.4 Potential project support

What are the names of your important persons who can be invited to discuss how your community can access Scriptures?

- *Mene ne sunayen mutanenku masu muhimmanci wadanda za a iya gayyace su don tattauna yadda za ku iya samun damar Nassosi*

What are their phone numbers or email addresses?

- *Menene lambobin wayan su adiresoshin imel?*

In which city/town/village do they live?

- *Wace birni / garin / kauye suke zaune?*

Which churches can be invited to the Scripture access discussion?

- *Wace majami'un za a iya gayyatan su domin tattaunawa na samun Littafi?*

What are the names and phone numbers of their leaders?

- *Menene sunayensu da lambobin wayan shugabanninsu?*

What organization can be invited for the discussion?

- *Wadanne ƙungiyoyi za a iya gayyata don tattaunawa?*

What are the names and phone numbers or email addresses of their leaders?

- *Mene ne sunayen da lambobin waya ko adiresoshin imel na shugabanninsu?*

In which city/town/village do they live?

- *Wace birni / garin / kauye suke zaune?*

Appendix C: School Teacher Questionnaire

School _____ Language Area _____
State _____ LGA _____
Interviewee/Position _____ Others Present _____
Researcher _____ Date _____

C.1   School staff

Headmaster's name _____ Number of Teachers _____
What languages do teachers use…
- outside school with their families?
- with other teachers?
- with village adults?

C.2   Size and attendance

How many children attend this school?
How many children in this area are school-aged?
Which villages do your students come from?
Which language groups do your students come from?

C.3   Language use and attitudes

What languages are used in class for teaching?
In what language(s) are the textbooks written in?
What language(s) do the children use on the playground, among themselves?
- *(Confirm this by observation if possible as there may be an "official" answer.)*

What happens if the children use the local language?
If a child asks you a question about a school subject away from school grounds, in what language do you respond to him?
In what language do you prefer to teach?
If you had a chance to teach in the local language, would you do so? Why?

Appendix D: Sample Observation Schedule

Speakers	Addressee					
Community Observations	**Children**	**Young males**	**Young females**	**Elderly males**	**Elderly females**	**Outsiders**
Children						
Young males						
Young females						
Elderly males						
Elderly females						
Outsiders						

Marketplace Observations	**Children**	**Young males**	**Young females**	**Elderly males**	**Elderly females**	**Outsiders**
Children						
Young males						
Young females						
Elderly males						
Elderly females						
Outsiders						

School	**Teacher**	**Student**
Teacher		
Student		

Appendix E: Wordlists

The SIL Nigeria standard 348-item wordlist is designed after the wordlists used by: Blench (for example, 2009) who has done extensive historical comparative work on Nigerian languages; the wordlists used by Dettweiler and Dettweiler (for example, 2002), former SIL Nigeria surveyors; and earlier SIL Nigeria surveys (for example, Hon et al. 2018).

The transcriptions are preliminary since there was no in-depth analysis of tones or other phonological or phonetic features. In the wordlists, all entries represent phonetic transcriptions although the items are not put between square brackets. Some vowels are transcribed with the IPA symbol for vowel lengthening [ː]. By this convention, however, we are not implying to have analyzed phonemic lengthening. However, Blench (2017:12–13) confirms that there are phonemic lengthened vowels in West Chadic A.3 languages (see sections 6.1 and 6.2). It appears that there is extensive labialization and palatalization (see section 6.2). We have transcribed these consonants with a raised [w] or [j]. However, we are not claiming to have decided that these are phonemic features; these may be separate approximant phonemes.

A few decisions were made as to words that are compared in the following list:

- An asterisk (*) in the number (NUM) column indicates that the word was not included in the final comparison.
- Numbers 88, 155, 247 to 259, 325, and 326 were excluded because it appears that the words simply repeat the comparison of another word.
- None of the plural/3rd person forms were compared.

Language name:	Koenoem	Piapung	Piapung
Dialect name:	Lifidi	Moedom	Moewa
Village name:	Lifidi	Piapung	Pangjem
LGA:	Mikang	Mikang	Mikang
State:	Plateau	Plateau	Plateau
Language helper:[a]	TL	JK	DT
Age:	69	53	32
Sex:	M	M	M
Other helpers:	GK, 36, M	T, 57, M	
	MJ, 53, M	H, 49, M	
	MK, 67, M		
Reliability:	1st	1st	2nd
Elicited by:	Christina Riepe	John Sacson	John Sacson
Date	25 April 2019	6 May 2019	7 May 2019

[a]We wish to acknowledge and thank the individuals who willingly gave of their time and knowledge to help us to collect these wordlists.

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
1	broom	bɛt	mpɛt	mpɛt	mpɛt	mpɛt
2	mortar	ʃiŋ	ʃiŋ	ʃiŋ	ʃiŋ	ʃiŋ
3	pestle	hɛːs	hɛs	hɛs	hɛ̀s	hɛ̀s
4	rope	tɛn	tiŋ	tiŋ	teŋ	teŋ
5	basket	gɪʃe	kɜtɜm	kɜtɜm	bɑndɑi	bɑndɑi
6	clothing	tuːn	tùn	tun	tún	tún

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
7	road/path	jé:kà:m	jéj	jej	jéj	jej
8	pit	do:n	to:n	to:n	tò:n	tò:n
9	house/hut	lə	lɜ	lɜ	l:ɜ	l:ɜ
10	room	pi	pɪn	pɪn	pin	pin
11	door	pʷɪlə	pʉlɜ	pʉlɜ	pʉlɜ	pʉlɜ
12	chair/stool	tò:m	tam	tɑm	tɔm	tɔm
13	salt	gʉn	kʉ:n	kʉ:n	kʉ:n	kʉ:n
14	tree	tiŋ	tɜŋ	tɜŋ	tɜŋ	tɜŋ
15	leaf	gomjɪm	komijɜm	komijɜm	komtɜŋ	komtɜŋ
16	bark	goŋtɨŋ	ṇkaŋtʉŋ	ṇkaŋtʉŋ	ṇkaŋtʉŋ	ṇkaŋtʉŋ
17	branch	ʃat	se:ltɜŋ	se:ltɜŋ	se:ltɜŋ	se:ltɜŋ
18	root	pɑ:r	pɑrtʉŋ		pɑitɜŋ	
19	medicine	ʉn	ʉ:ɜn		ʉ:ɜn	
20	thorn	ɨgʉl	nkijɪn		nkijɪn	
21	firewood	jom	jɑ:m		jɔ:m	
22	shea butter tree	dín	ɗi:n		ɗi:n	
23	mahogany	gɔk	ko:qˀ		ko:qˀ	
24	farm (field)	bái	maį̱		mái	
25	bush	fɔk	zam		zɑm	
26	grass	fɔk	kʉŋ		kɜŋ	
27	forest	lit	zam		zɑm	
28	seed	ʃɛrɛm	ʃɛrɛm		ʃɛrɛm	
29	ground nut	gomkwɑ:n	komkʉɑn		komkʉɑn	
30	bambara nut	kom	kɔm		kɔm	
31	guinea corn	swo	suwo		swo	
32	millet	bài	mai		mài	
33*	millet (another kind)					
34	yam	ʃɪm	ʃɪm		ʃɪm	
35	bean	im	i:m		i:m	
36	locust bean tree	bɛs	tɜŋmɛs		tɜ̀ŋmés	
37	*zobo* leaf	goi	goi		goi	
38	okra	toklɑ	toklɑ		toklɑ	
39	meat	luo	lu:o		lu:o	
40	fat	bʉr	ʍɜɣi		ʍɜɣi	
41	egg	hɑs	hɑs		hɑs	
42	*tuwo / fu-fu*	ɓɨn	mɜn		mɜn	
43	soup	tok	tɔk		tɔk	
44	flower	pɛl	pɛl		pɛl	
45	fruit	ʤɨ̀ptíŋ	ṇʒɛptʉŋ		ṇʒɛptʉŋ	
46	hair	ʃɪ̀pgá:	ɗipkɑ		ɗipkɑ	

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
47	head	gáː	ka		ká	
48	forehead	pùkĺ	pɯːkɜn		pɯːkɜn	
49	ear	kom	kɔm		kɔ̀m	
50	mouth	pɯə	kɜpʰɯ		kɜpʰɯː	
51	tooth	os	hɔs		hɔs	
52	tongue	lis	liːs		liːs	
53	chin	ʒoːm	ʒɔːm		nɔːm	
54	beard	pɛp	pɛp		pɛp	
55	nose	goŋ	gɔŋ		gɔn	
56	eye	it	jɪt		jɪt	
57	neck	dok	tɔqˈ		tɔqˈ	
58	shoulder	pàlbáp	taŋgol		taŋgol	
59	back	ɨgoŋ	ṇkɔn		ṇkɔn	
60	knee	fə̀rə́ŋ	fɜɾɜm		pɯːfim	
61	leg	kwak	kwakˈ		kwakˈ	
62	foot	làpʃíː	lapʃi		lapʃi	
63	thigh	ʃiː	ʃi		ʃi	
64	hand	sai	sai̥		sai̥	
65	arm	sai	sai̥		sai̥	
66	finger	la rɛp sai	la sai	ʒaɾap sai	la sai	ʒaɾap sai
67	skin	gɔkʃɪm	ʃɪm		ʃɪm	
68	bone	jɛs	ʔɯːɜs		ʔɯːɜs	
69	breast	joi	joi̥		joi̥	
70	belly	bət	kɜbɜt		kɜbɜt	
71	stomach	dɨbɜt	ṇdɯlən bɜt		ṇdɯlən bɜt	
72	navel	fⁱankum	ʃaŋkum		ʃaŋkum	
73	intestines	jɪbɜt	jabɨt		jibɜt	
74	heart	ladalaŋ	ladɜlɜŋ		dɜlɜŋ	
75	liver	fɜlɔk	fɯlɔk		fɯlɔk	
76	body	sopʃɪk	sɔpʃik		sɔːpʃik	
77	blood	tiɜb	tiɣɜm		tiɣɜm	
78	saliva	dɪli	tɜzɛl		tɜzɛl	
79	sweat	pɛ.dl̩	peːdɯn		peːdɯn	
80	tear drop	bɯa	mɯla jit		mɯla jit	
81	cough	sɯm	sɯlm̩		sɯlm̩	
82	pain	pʲirɛm	gɔk		gɔk	
83	corpse	úm	uːm wim		kuːm wim	
84	grave	dod	tɔːn wim		kɜ tɔːn	
85	woman	bat	mat	sweːp	mat	sweːp
86	man	lɨbis	wim gɜmis	wim madas	wim gɜmis	wim madas
87	[L1_] language	dɨa	ɗɯːɜ		ɗɯːɜ	
88*	[L1_] person	wim	wim		wim	
89	person	wim	wim		wim	
90	father	dædæ	dada		dada	

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
91	mother	nænæ	nɑnɑ		nɑnɑ	
92	child	la	ⁿla	ŋ̩ʒɛp	ⁿla	ŋ̩ʒɛp
93	old person	gafɛl	wim gɜfel	wim mɜfel	wim gɜfel	gwim mɜfel
94	chief	lɔŋ	lɔŋ		lɔŋ	
95	blacksmith	gosom	wim gɜsɔm	wim mɜsɔm	gwim gɜsɔm	gwim mɛsɔm
96	friend	gɪʃai	gɜʃai̯	gɜʃai̯	gɜʃai̯	gɜʃai̯
97	stranger	gmos	gɜmɔs	mɜmɔs	gɜmɔs	mɜmɔs
98	God	naːn	naːn		nɑːn	
99	name	sɜm	sɯm		sɯm	
100	animal	bikaŋ	biːkaŋ	biːkaŋ	biːkaŋ	biːkaŋ
101	dog	ɑs	ɑːs	ɑːs	ɑːs	ɑːs
102	goat	ʔɯ	ɯː	bikaŋ	ɯː	bikaŋ
103	cow	nɜŋ	nɜŋ	nɜŋ	nɜŋ	nɜŋ
104	sheep	dɜm	tɜm	tɜm	tɜm	tɜm
105	chicken	ko	koː	koː	koː	koː
106	guinea fowl	ʃom	ʃɔm	ʃɔm	ʃɔm	ʃɔm
107	bird	jej	jèi̯	jèi̯	jéi̯	jéi̯
108	horn	som	soːm	soːm	soːm	soːm
109	tail	dɜŋ	daŋ	daŋ	daŋ	daŋ
110	claw	ʃon	ʃijɔn	ʃijɔn	ʃijɔn	ʃijɔn
111	wing	ŋkap	gɜkɜp	gɜkɜp	kɜkap	kɜkap
112	feather	ɗip	ɗip	ɗip	ɗip	ɗip
113	snake	zɛm	woː		woː	
114	tortoise	dàkʷí	ur		kur	
115	agama lizard	ta.ɓl̩	geːr		tabl̩	
116	crocodile	kɯt	kwʊt		kwʊt	
117*	crocodile, 2nd					
118*	crocodile, 3rd					
119	fish	ʃɛɾɛpp	ʃɛɾɛp		ʃɛɾɛp	
120	toad	numɯɛt	nɨmɣɯt		nɨmɣɯt	
121	rat	gzɜm	kɜzɜm		kɜzɜm	
122	bush pig	tos	lede	lede	leːde	
123	red monkey	pit	pit	pit	pit	pit
124	buffalo	kɔŋ	kɜbɜn		kɜbɜn	
125	elephant	dɜˈpɜŋ	tɔs		tɔs	
126	hyena	kɜˈmu	kɜmu		kɜmu	
127	fly	nʃi	n̩ʃi		n̩ʃi	
128	louse (head louse)	iʃɛm	n̩ʃiɛm		n̩ʃiɛm	
129	spider	loŋvɪlɪp	laŋvɪlipnaːn		laŋvɪlipnaːn	
130	mosquito	mfɜt	m̩fɯt		m̩fɯt	
131	honeybee	nʃile	n̩ʃile		n̩ʃiːleː	
132	scorpion	ɗoi	ɗoi̯		ɗoi̯	
133	fire	os	wʊs		wʊs	

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
134	smoke	dʲɛl	ɗiɛl		ɗiɛl	
135	ashes	fᵚɛt	fɯːɣɜt		fɯːɣɛt	
136	stick	dɑm	bɑ́ːl		bɑ́ːl	
137	stone	pɑm	p̪ɑŋ		p̪ɑŋ	
138	mountain	bɑlɑŋ	p̪ɑŋ		p̪ɑŋ	
139	up	kɜtŋ	kɨtɯŋ		kɑtɯŋ	
140	down	jɛl	injil		sɑnjil	
141	sky	kɜtŋ	kɜtɜŋ		liu	
142	earth, ground	jɛːl	jil		jil	
143	mud	tɑi	boːk		ɓoːk	
144	clay	wɑn	wuɔn		wuɔn	
145	sand	hɛs	eːs		heːs	
146	dust	orɯ	ɯurum		ɔrɔŋ	
147	iron	biʃol	ʃol		kuk ʃol	
148	money	ʃol	ʃol		ʃɔl	
149	wind	ŋhɑt	n̪hɑt		n̪hɑt	
150	cloud	liju	liu		liu	
151	rain	fᵚɛn	fɯɣɜn		fɯɣɜn	
152	rainy season	pɑs	pɑːs		pɑːs	
153	dry season	lɔn	lɔːn		lɔːn	
154	dew	ɓɯɑŋ	bɯɣɑŋ		bɯɣɑŋ	
155*	stream	sɑikɔŋ	koːŋ		koːŋ	
156	river	kɔŋ	koːŋ		koːŋ	
157	bridge	gɑdɑ	kɔŋ bɑŋ		kɔŋ bɑŋ	
158	water	hɑm	hɑm		hɑm	
159	lake	kɔŋɓʷeí	hɑm nɯɣn		hɑm nɯɣn	
160	moon	tɑi	tɑi		tɑi	
161	star	zɑr	zɑi		zɑi	
162	sun	pɯs	pɯs		pɯs	
163	year	ji	jiː		jiː	
164	morning	bɪt	ɓit		bit	
165	afternoon	kɜpɯs	kɜpɯs		kɜpɯs	
166	evening	kɑŋsɯn	kɑŋsɯɣn̪		kɑŋsɯɣn̪	
167	night	gɔŋ	gɔŋ		gɔŋ	
168	yesterday	dʲɛn	n̪dɪɣn̪		n̪dɪɣn̪	
169	tomorrow	ndɑi	kɜdɑi		kɜɗɑi	
170	ax	sɛp˺	sɛp		sɛp	
171	hoe	kʲɑŋ	kijɑŋ		kijɑŋ	
172	and	kɑŋjɪt	kɜ		kɜ	
173	bow	ɓɑu	ɓoː		ɓoː	
174	arrow	ɭɑɓɑu	ɣɑː ɓoː		pɑs	
175	quiver	bɑŋɓɑu	bɑŋ ɓo		bɑŋ ɓo	
176	spear	kop	kop		kɔp	
177	canoe	ʃiː	ʃiː		ʃiː	

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
178	war	lɛk	ʃɛl		ʃɛl	
179	work	biʃɪt	bɜʃɪt		biʃit	
180	hunger	nen	neːn		neːn	
181	one	kɜme	kɜmei̯		kɜmei̯	
182	two	vɜ.lɜl	vʷɛl		vɯlɛl	
183	three	kún	kun		kun	
184	four	fɛr	feːr		feːr	
185	five	pat˺	pɑːt		pɑːt	
186	six	pəˈmɜ	pɜmɜ		pɜmɜ	
187	seven	pəˈvɜl	pɨːvl		pɨːvl	
188	eight	pəˈkun	pɯːkun		pɯːkun	
189	nine	pəfɑr	pɜfɑr		pɜfɑr	
190	ten	sɑr	sɑr		sɑr	
191	twelve	sɑr ʃika vʷɛl	sɑr ʃikav vl̩		sɑr ʃikav vwɛl	
192	fifteen	sɑr ʃika pɑt	sɑr ʃikav pɑːt		sɑr ʃikav pɑːt	
193	twenty	ja gʷɪm	jaː gwim		jaː gwim	
194	hundred	sɑr sɑrjɪtsɑr	jaː gwim pɑːt		jaː gwim pɑːt	
195	who?	á.wè	we		we	
196	what?	ábímè	ɑːme		ɑːme	
197	when?	àntáknè	ɑːn tatne		ɑːn tat gɜne	
198	how?	án.dàŋ	ɑndɑŋ		ɑndɑŋ	
199	where?	a.ne	ɑːne		ɑːne	
200	here	nzɜ	n̩zɜ		n̩zɜ	
201	there	ʒɪˈni	n̩ʒini		n̩ʒini	
202	this	bisɜ	dənə		dənə	
203	that	gɜni	gɜni		gɜtɜnɜ	
204	white	gɜpiɑ	gɜpiɑ		gɜpiɑ	
205	black	gɜtʌp	gɜtɜp		gɜtɜp	
206	red	gɜɓɑŋ	gɜɓɑŋ		gɜɓɑŋ	
207	long	gɜgun	gɜkʷun		gɜkʷun	
208	short	gɜkɜp	gɜkɜp		gɜkɜp	
209	old	gəfɛl	gɜʃiː		gɜfɛːl	
210	new	gəpʷɯl	gɜpɯ		gɜpɯ	
211	ripe	gənu	gɜnu		gɜnu	
212	rotten	gəwɜm	gɜwɜm		gɜwɜm	
213	hot	gəlɑ	lɑː		lɑː	
214	cold	gəzom	gɜzom		zoːm	
215	sharp	hɑus	peːt		peːt	
216	dull	gəlut	luːs		luːs	
217	good	ɗaŋ	ɗoŋ		ɗoŋ	
218	narrow	pekɑt	ɗuwɛt		ɗuwɛt	

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
219	straight	nɑknɑk	ɗaimɨr		mɨr	
220	heavy	gətiɜn	tɨɣɲ		tɨɣɲ	
221	left	kul	kʷul		kʷul	
222	right	gəsɛ	sei̯		sei̯	
223	hard	bɑl	ɓɑl		bɑl	
224	soft	gəlɛn	dɯːɣm̩		dɯːɣm̩	
225	few	ʃɔklɔk	le		le	
226	wet	gəbɛk	gɜbeːk		gɜbeːk	
227	dry	gəfja	gɜfija		gɜfija	
228	dirty	fɔk	gɜfok		gɜfɔk	
229	full	gɑm	gɜgɜm		gɑm	
230	all	dɪp	dip		dìp	
231	I	hɑn	ɑn		hɑn	
232	you	ni	gɜ		gɜ	
233	you fem.	jə	jɜ		jɜ	
234	he	ni	ni		ni	
235	she	ni	ni		ni	
236	we	mun	mun		mun	
237	you	mʷɛp	wun		gun	
238	they	mʷɛp	mɨɣəp		mɨɣəp	
239	knife	ʃɪk	ʃik˺		ʃik˺	
240	my	mɑn	mɑn		mɑn	
241	your	mak	mak		mak	
242	his	mop˺	mɜmup		mɜmup	
243	her	mop˺	mɜmup		mɜmup	
244	our	mun	mun		ᵐmun	
245	your (pl)	mɑn	mɜmɪɣəp		mɜmɪɣəp	
246	their	mʷɛp	mɜmɪɣəp		mɜmɪɣəp	
247*	I ate	ɑsɜ	ɑsɨ		ɑsɨ	
248*	you ate	gɜsɜ	gɜsɨ		gɜsɨ	
249*	you fem. ate	jəsɜ	jɜsɨ		jɜsɨ	
250*	he ate	nisɜ	gɜsɨ		gɜsɨ	
251*	she ate	nisɜ	jɜsɨ		jɜsɨ	
252*	we ate	mɜ̀sɔ́	mɜ̀sɔ́		mɔ́sɨ̀	
253*	you (pl) ate	mɜ̀sɜ	wusɜ		gúsɨ̀	
254*	they ate	mɜ̀sɜ	mɔ́sɜ̀		mɜ̀sé	
255*	he is eating	dikɜsɜ	dekɜsɜ		dekɜːsɜ biːsɑ	
256*	he will eat	gəsɜ	dɑŋsɜ		dɑŋsɜ	
257*	he usually eats	doŋsɜ	toŋsɜ		toŋsɜ biːsɑ	
258*	he didn't eat	sɜ mɑʔ	toŋsɜmɜ		toŋsɜ bisɑ mɑ	
259*	he wants to eat	dika dɛm dɑnsɜ	dika dɛm dɑngsɜ		dika dɛm dɑngsɜ	
260	eat	sɜ	sɜ		sɜ	
261	do	ʃɪn	gɜsʃin		ʃin	

Num	English Gloss	Koenoem	Piapung: Moedom		Piapung: Moewa	
		Sg.	Sg.	Pl. / 3rd sg.	Sg.	Pl. / 3rd sg.
262	dance	tɑm	tɑm		tɑm	
263	play	ɗɛl	ɗiɛl		ɗiɛl	
264	smell	du	ɗuː		ɗuː	
265	see	nɑ	nɑː		nɑː	
266	blow	fɪt	fiɑt		fiɑt	
267	whistle	tɪfit	tɜfit		tɜfit	
268	sing	sɛ	sei		sei	
269	laugh	sʷe	swei		swei	
270	say	kʷɑl	kwɑl		kwɑl	
271	ask	tɑl	tɑl		tɑl	
272	beg	bɑl	boːl		boːl	
273	hear	kɛl	kɨl		kɨl	
274	bark	wok	wokpʰe		wokpʰe	
275	shout	wɑr	biɣɛp wɔr		biɣɛp wɔr	
276	cry	wɑl	wol		wol	
277	fear	lɔtˀ	lɔt		lɔt	
278	want	dɛm	ɑdɛm		ɑdɛm	
279	think	rɑŋ	rɑŋ		rɑŋ	
280	count	kun	kʷun		kʷun	
281	know	mɑn	mɑn		mɑn	
282	teach	ʃɛ	ʃiːe		kɑm	
283	show	kɑm	nin		nin	
284	drink	sʷɔ	suwo		suwo	
285	suck	dʲɛs	suwo		suwo	
286	vomit	fɯɑt	fɨɣat		fɨɣat	
287	spit	kʲɛs	tiːɛs		tiːɛs	
288	sneeze	wɜs	wɜ́s		wɜ́s	
289	bite	ɑt	ɑt		ɑt	
290	sweep	kum	kum		kum	
291	sit	tɔŋ	tɑŋ		tɑŋ	
292	stand	jɔl	ɗɑi̯		ɗɑi̯	
293	fight	lɛk	lɛk		lɛːk	
294	lie down	te	teː		teː	
295	yawn	ɑp	ɑpːɑp		ɑpːɑp	
296	rest	nɔk	nokˀ		nɔk	
297	sleep	sɑm	sɑːm		sɑːm	
298	wash	fʷɑŋ	vjɑŋ		vɯlɑŋ	
299	bathe	sɔp	soːp		soːp	
300	steal	wɑt	ɯɜt		ɯɜt	
301	give	pɜn	pɜn		pɜn	
302	hide	sɔk	sɔk		sɔk	
303	take	mɑŋ	mɑŋ		mɑŋ	
304	hold	jɑ	jɑː		jɑː	
305	buy	sɛt	sei̯t		sei̯t	

Num	English Gloss	Koenoem Sg.	Piapung: Moedom Sg.	Pl. / 3rd sg.	Piapung: Moewa Sg.	Pl. / 3rd sg.
306	sell	sɛt	seit kɜni		seit kɜni	
307	give birth	la	lan la		lan la	
308	marry	dɪk	su:mat		su:mat	
309	die	mut	mutˀ		mutˀ	
310	kill	tu	tʰu		tʰu	
311	drop	dá	bɨɣɜt		bɨɣɜt	
312	fall over	pal	pal		pal	
313	walk	mɯaŋ	mɨɣan		mɨɣan	
314	run	su	su		su	
315	fly	jol	jo:l kɜtɜŋ		jo:l kɜtɜŋ	
316	jump across	mɛt	met ka		me:t ka	
317	swim	hɛt	he:t ham		he:t ham	
318	come	pa	ba		ba	
319	enter	ju	zɜm		zɜm	
320	exit	pat	pɜt		pɜt	
321	go	mɯaŋ	mɨyan		mɨyan	
322	follow	mɯaŋ	mɨyan kɨdika		mɨyan kɨdika	
323	send	pai	pai		pai	
324	cut	gap	gapˀ		gapˀ	
325*	cut down	gap	gap tɯŋ		gap tɯŋ	
326*	cut neck	gap	gap tɔk		gap tɔk	
327	break	tap	tap		tap	
328	split	ɓe	bak		bak	
329	scratch	kan	ko:n		ko:n	
330	cook	ʃɛt	ʃɪ:t		ʃɪ:t	
331	boil	fjɛl	fiɛl		fiɛl	
332	fry	tuŋ	tuŋ		tuŋ	
333	hunt	sɛŋ	seŋ		seŋ	
334	hit	mot	mᵚot		mᵚot	
335	tie	ɓɔt	ɓo:t		ɓo:t	
336	sew	tan	ta:n		ta:n	
337	forge	sɔm	kwɜləm		kwɛlɛm	
338	burn	pʲak	piak		piak	
339	throw	kɔm	kom		kom	
340	pour	gɯl	ɗɯ:ɜ		ɗɯ:ɜ	
341	pour out	kʷan	kɯan		kɯan	
342	fill	gam	gam		gam	
343	push	tus	tu:s		tu:s	
344	pull	dɛl	dɜl		dɜl	
345	squeeze	dʷat	ɗuwat		ɗuwat	
346	dig	ɔk	ɔ:k		ɔ:k	
347	plant	ka	kop		kop	
348	harvest	dɪp	dip		ɗíp	

Appendix F: GPS Points for Select Villages

Village Name	Dialect Name	Longitude	Latitude
Pangjem	Moewa	9.503531	9.065731
Gotlang	Moewa	9.505629	9.073986
Matbuen	Moewa	9.512205	9.050762
Tanguk	Modom	9.493169	9.061063
Poekot	Modom	9.501819	9.061456
Gwotkat	Modom	9.506439	9.056886
Koetes	Modom	9.511843	9.042569
Longbis	Modom	9.527919	9.036583
Jilong	Modom	9.47422	9.026322
Shang	Modom	9.53151	9.023586
Ganggoevoel	Modom	9.504832	9.014009
Piapung	Modom	9.485165	9.02256
Tongaras	Modom	9.494058	9.006826
Kyes	Modom	9.443779	9.025724
Shamang	Modom	9.500556	8.985706
Tod	Modom	9.502608	9.000242

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