Sounds of Lengilo based on the Swadesh List

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Abstract: *The Lengilo is a small indigenous group who live in northern Sarawak and Malinau on Kalimantan Island of the Republic of Indonesia. They generally identify themselves as Lun Bawang in Sarawak and Lun Dayeh in Indonesia because of assimilation into these larger speech communities. This preliminary study examines phonetic aspects of the Lengilo language, focussing on vowels, consonants and diphthongs. To collect the data, a Swadesh list of 100 words was used. The informant interviewed was an 80-year-old native speaker of Lengilo. The results show that the Lengilo language has six types of consonants, three types of vowels and diphthongs. The six consonants are plosive, nasal, fricative, trill, lateral, and partial vowel. The Lengilo consonants do not occupy all the initial, middle and final positions of words. For example, velar plosive [g], alveolar fricative [s], glottal fricative [h], and lateral-alveolar [l]. The eight vowels in Lengilo are narrow front vowel [i], semi-narrow front vowels [e], semi-wide front vowels [ɛ], wide front vowels [a], semi-wide middle vowel [ə], narrow back vowel [u], semi-narrow back vowel [o], and semi-wide back vowel [ɔ]. The three types of diphthongs in Lengilo are [ai], [ui] and [oi]. The diphthong [ai] appears to be more productive than the diphthong [ui] and [oi] which are quite limited in number. The initial description of the Lengilo language is important for comparison with languages of indigenous groups in the Lun Bawang category.*

Keywords: Lengilo, Sarawak, Language, Vocal, Consonants, Diphthongs

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1. Introduction

The Lengilo is an indigenous group who live in northern Sarawak and Malinau on Kalimantan Island of the Republic of Indonesia. The Lengilo lived in the Krayan Tengah and Krayan Hulu highlands (Eghenter & Jok, 2012). Other records have it that the Lengilo migrated from Binuang to areas around Ba'Kelalan in northern Sarawak during the Japanese Occupation in the 1940s. Figure 1 shows the location of the Lengilo people in the mountain range of the Kalimantan island.

The Lengilo people in Sarawak live in remote areas accessible via jungle roads and helicopters such as Ba'Kelalan Lawas, Long Semadoh, Ulu Padas, Bario, and Krayan Selatan. It is said that many walked over through the jungles and mountains to reach Ba'Kelalan. This is possible because at this present point in time, with a timber logging road, the journey from Ba'Kelalan to the Kalimantan border takes 30 minutes. Krayan is further from the Kalimantan border but it is an achievable journey on foot to escape difficult conditions during the Japanese Occupation.

The Lengilo can be considered a "lost tribe" in Sarawak. It is not listed in government records on indigenous languages of Sarawak. It is also not listed in Ethnologue (2008) and the World Directory of Minorities and Indigenous Peoples (2022). Ethnologue (2008) states that there are 47 language varieties in Sarawak whereas the World Directory of Minorities and Indigenous Peoples (2022) place the number at 26. There is an entry in Wikipedia on the Lengilo but without any description.
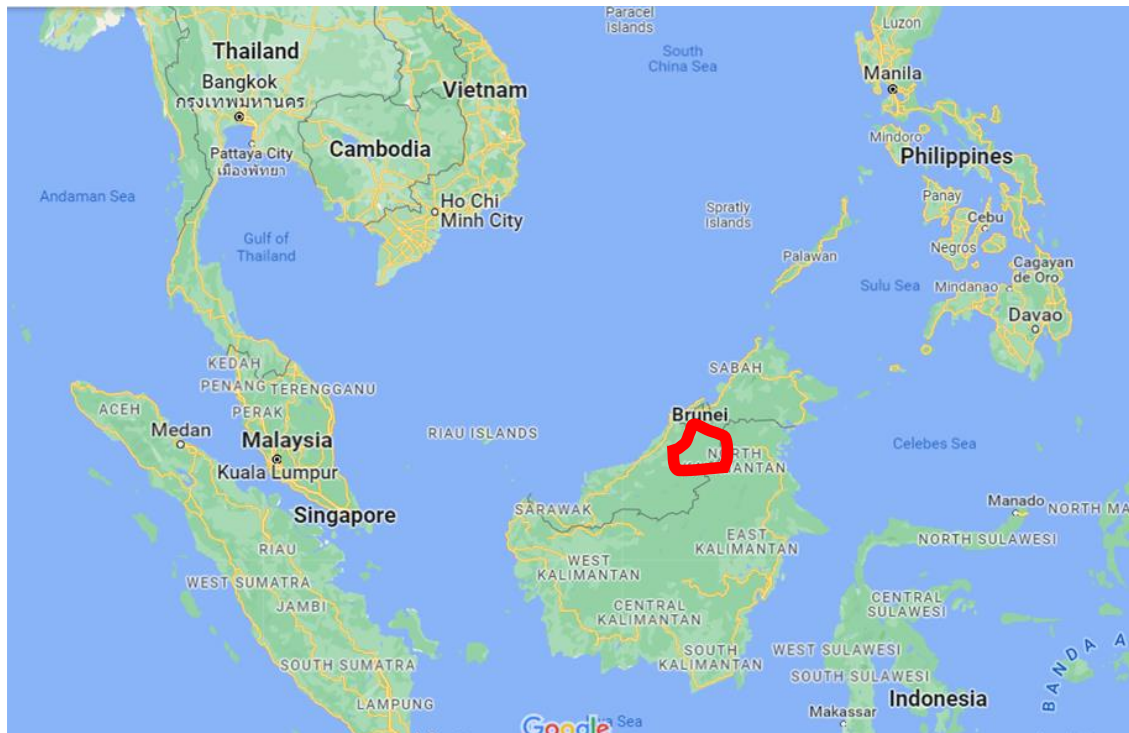

Figure 1: Circled area on the map showing general location of the Lengilo people in the mountain range of Kalimantan
(Source: https://www.google.com/maps/@6.4946495,110.7620168,5z)

The population of Lengilo people and their descendants in Sarawak is small. A second-generation Lengilo estimated that there are less than 150 speakers. The estimate is based on the size of the Lengilo Whatsapp group started in 2012.

In Sarawak, people are generally not aware of the existence of the Lengilo people. They identify themselves officially as Lun Bawang when they fill in government forms. They also identify themselves in daily life as Lun Bawang because they live among the Lun Bawang and speak the language. Almost all of them can speak Lun Bawang. In Indonesia, it is also politically and socially important for the Lengilo to align with bigger groups and sometimes they call themselves Lun Dayeh (Eghenter & Jok, 2012).

Based on the Expanded Graded Intergenerational Disruption Scale (EGIDS, Lewis & Simons, 2011), we assess the Lengilo language as Nearly Extinct (Level 8b). This is because the only remaining users of the language are members of the grandparent generation or older who have little opportunity to use the language. Partly because of their small population, many of the second generation Lengilo who live in urban areas and are descended from mixed marriages can no longer speak Lengilo. Lengilo people in mixed marriages speak the language of their (non-Lengilo) spouse with each other and their children.

Language is an important part of culture that reflects the identity of an ethnic group, and serves to show its uniqueness and distinguishes it from other groups. Because of the widespread assimilation of the Lengilo people into the Lun Bawang community in northern Sarawak, the Lengilo culture is at risk of being lost. The danger of cultural loss experienced by Lengilo due to modernisation is common to other indigenous groups. However, the risk of the Lengilo culture and material artifacts due to communal and social change brought about by assimilation into a larger community is unique to the Lengilo group. With the younger generation of Lengilo not being able to speak the language, there is an eminent danger of the language being lost from the Lengilo living in northern Sarawak. The Lengilo language may also become indistinguishable from Lun Bawang because of the mixed marriages and assimilation of lifestyles.

The preliminary study examined the sounds of Lengilo based on the Swadesh list. The aspects of the language studied are vowels, diphthongs and consonants.

2. Method of Study

The study involved a Lengilo informant who is 80 years old. He is a native speaker of Lengilo and knowledgeable in the language. The study was explained and permission was sought to audio-record the interview so that the pronunciation of the words can be checked. The informant was told that his identity would be kept anonymous in publications.

The sounds and words of Lengilo were elicited using the list of 100 Swadesh basic vocabulary (Hymes, 1970; Swadesh, 1955). In the interview process, the second researcher said each word in Malay and asked the informant to say the word in Lengilo. The first researcher wrote down the phonemic transcription of the word while the second researcher wrote down the phonetic transcription. The International Phonetic Alphabet was used to visually represent the speech sounds by means of a phonetic alphabet. Any unclarity was resolved with the informant during the interview. Subsequently, the transcriptions were checked by referring to the audio-recording.

3. Results

This section describes the vowels, consonants and diphthongs in Lengilo. Each section begins with background linguistic information to ease comprehension of the Lengilo sounds.

3.1 Vowels in Lengilo
A vocal sound is a sound that is produced without involving any airflow restriction and this sound is referred to as a voiced sound (Zahid, 2021). Vowel sounds are determined based on the position of the speaker's tongue. The different positioning of the tongue results in vowels being described as a front vowel sound, a back vowel sound or a middle vowel sound. In addition, the shape of the lips and the size of the oral cavity also determine the type of vowel. In Malay, for example, there are eight vowels (Zahid, 2021), which consists of a narrow front vowel [i], a semi-narrow front vowel [e], a semi-wide front vowel [ɛ], a wide front vowel [a]. Examples of Malay words which contain these vowels are "bin" (son of), "pen" (stationery), "telah" (already) and "baca" (read) respectively. The meanings are given in brackets.

The analysis shows that Lengilo has vowel sounds in high, middle and low positions. The eight vowels in Lengilo are narrow front vowel [i], semi-narrow front vowels [e], semi-wide front vowels [ɛ], wide front vowels [a], semi-wide middle vowel [ə], narrow back vowel [u], semi-

narrow back vowel [o], and semi-wide back vowel [ɔ]. Examples of Lengilo vowel sounds are shown in Table 1.

Specifically, these sounds consist of four types of front vowels, that is, narrow front vowels [i], semi-narrow front vowels [e], semi-wide front vowels [ɛ], and wide front vowels [a]. See Table 1, items 1 to 4. Examples of words for these front vowels are as follows:
  i. The narrow front vowel [i] is used in the word [ikəh], which means you.
 ii. The semi-narrow front vowels [e] is used in the words [raye] which means big and [nẽŋãr] which means listen.
iii. The semi-wide front vowels [ɛ] is used in the word [atɛ], which means liver.
 iv. The wide front vowels [a] is used in the word [dalan], which means road.

Table 1: Lengilo vowels

No.	Type of Vowel	Example of Lengilo words	Meaning in Malay	Meaning in English
1.	Narrow front vowel [i]	[ikəh]	kau/kamu/engkau/awak	you
		[lison]	kuku	finger nail
		[lawid]	ikan	fish
2.	Semi-narrow front vowels [e]	[raye]	besar	big
		[nẽŋãr]	dengar	listen
3.	Semi-wide front vowels [ɛ]	[atɛ]	hati	liver
4.	Wide front vowels [a]	[aŋãd]	banyak	a lot
		[dalan]	jalan	road
		[bada]	pasir	sand
5.	Semi-wide middle vowel [ə]	[ləmũlun]	orang	people
		[dərak]	darah	blood
		[mə̃batak]	hijau	green
6.	Narrow back vowel [u]	[uloh]	kepala	head
		[kutuh]	kutu	tick
		[batu]	batu	stone
7.	Semi-narrow back vowel [o]	[pusok]	jantung	heart
		[nõn]	apa	what
		[abo]	abu	ash
8.	Semi-wide back vowel [ɔ]	[ɔkɔk]	anjing	dog
		[pɔkuŋ]	gunung	mountain
		[dəsɔr]	perempuan	woman

Next, there is one semi-wide middle vowel [ə]. See Table 1, item 5. Words with the [ə] sound are [ləmũlun] which means people, [dərak] which means blood, and [mə̃batak] which means the green colour. Incidentally, these three examples show the [ə] in the first syllable of the word.

The final type of Lengilo vowels are the back vowels (Table 1, items 6-8). The three types of back vowels are the narrow back vowel [u], semi-narrow back vowel [o], and semi-wide back vowel [ɔ]. Examples of words for these back vowels are as follows:
  i. The narrow back vowel [u] is used in the word [uloh], which means head.
 ii. The semi-narrow back vowel [o] is used in the word [pusok], which means heart.
iii. Semi-wide back vowel [ɔ] is used in the word [ɔkɔk], which means dog.

To sum up the description of vowels in Lengilo, it can be concluded that the vowels occupy the middle position of the word. However, there are some vowel sounds in Lengilo that can occupy the initial position of the word, for example the vowels i, a, u and ɔ, while the vowels

e, ɛ, a, u and o are found to be in the final position of the word. The spread of vowel sounds in Lengilo words is quite extensive, although not comprehensive.

3.2 Diphthongs in Lengilo

The diphthong sound refers to a sliding sound, which results from the sliding of two vowel sounds, that is, from one vowel sound that first slides into the second vowel sound. This means that there are two vowel sounds that are sounded in succession, for example the diphthongs [ai], [au] and [oi] in Malay (Zahid, 2021). In diphthongs, the first vowel sound is louder than the second vowel sound. Examples of Malay words containing these diphthongs are "pet<u>ai</u>" (a type of vegetable), "k<u>au</u>" (you) and "kant<u>oi</u>" (Malay slang for caught red-handed).

Our analysis revealed that Lengilo has its own diphthongs. The three types of diphthongs [ai], [ui] and [oi] are shown in Table 2. Examples of words with these diphthongs are as follows:
   i. [ai] - [kai] meaning we, [mãtai] meaning die
  ii. [ui] - [apui] meaning fire
 iii. [oi] - [ləmãŋõĩ] meaning swim

Table 2: Diphthongs in Lengilo

No.	Type of diphthong	Example of Lengilo words	Meaning in Malay	Meaning in English
1.	[ai]	[ai]	siapa	who
		[kai]	kami	we
		[mãtai]	mati	die
		[mə̃rai]	beri	give
		[ŋãtai]	bunuh	kill
2.	[ui]	[apui]	api	fire
3.	[oi]	[ləmãŋõĩ]	berenang	swim

With limited preliminary data, the findings from the Lengilo word list show the tendency of the diphthong [ai] which is found to be more productive than the diphthong [ui] and [oi] which are quite limited in number.

3.3 Description of Lengilo Language Consonants

Consonant sounds are produced when there is a blockage of air that passes through the vocal tract and this production is closely related to its type, whether it is voiced or voiceless, the location of the sound production that receives the blockage, the way the blockage occurs in the air flow and the way the sound is produced (Zahid, 2021). Areas of articulation involved in producing consonant sounds include the two lips, teeth, gums, past gums, hard palate-gums, hard palate, soft palate and glottal. The pronunciation of consonant sounds includes plosive, nasal, affricate, fricative, vibration, lateral and semi-vowel. In Malay, for example, there are a total of 27 vowel sounds. Table 3 shows the Lengilo consonants.

Table 3: Lengilo consonants

No.	Type of consonant		Example of Lengilo words	Meaning in Malay	Meaning in English
1.	Plosive	Plosive voiceless bilabial [p]	[pənũk]	penuh	full
			[laput]	awan	cloud
			[rudap]	tidur	sleep
		Plosive voiced bilabial [b]	[bulu]	bulu	hair
			[mə̃batak]	hijau	green
			[nə̃səb]	terbakar	burnt
		Plosive voiceless alveolar [t]	[tisok]	tangan	hand
			[mãtəh]	mata	eye
			[suʷit]	burung	bird

		Plosive voiced alveolar [d]	[dilaʔ]	lidah	tongue
			[mũdan]	hujan	rain
			[lawid]	ikan	fish
		Plosive voiceless velar [k]	[kəlik]	tahu	know
			[dukuʔ]	duduk	sit
			[tanãk]	tanah	land
		Plosive voiced velar [g]	[gituʔən]	bintang	star
		Plosive voiced glotal [ʔ]	[mə̃siaʔ]	merah	red
			[dikiʔ]	kecil	small
			[mə̃budaʔ]	putih	white
2.	Nasal	Nasal bilabial [m]	[mõŋ]	semua	all
			[kumãn]	makan	eat
			[mãləm]	malam	night
		Nasal alveolar [n]	[nə̃səb]	terbakar	burnt
			[inĩh]	ini	this
			[lipan]	gigi	teeth
		Nasal voiced velar [ŋ]	[ŋãdan]	nama	name
			[uŋã]	tanduk	horn
			[isuŋ]	hidung	nose
3.	Fricative	Fricative voiceless labiodental [f]	[fok]	rambut	hair
			[rəfun]	asap	smoke
		Fricative alveolar [s]	[suʷit]	burung	bird
			[mãta sao]	matahari	sun
			[pusok]	jantung	heart
		Fricative voiced glotal [h]	[dəlaʔih]	lelaki	men
			[mə̃libuh]	bulat	round
4.	Trill	Trill postalveolar [r]	[riʔər]	leher	neck
			[tərur]	telur	egg
			[nĩʔər]	lihat	see
5.	Lateral	Lateral-alveolar [l]	[lison]	kuku	finger nail
			[kulit]	kulit	skin
			[təlubid]	berbaring	lie down
6.	Partial vowel	Partial labio-velar vowel [w]	[waŋ]	daging	meat
			[lawid]	ikan	fish
			[lawa kajuh]	pokok/pohon	branch
		Partial palatal vowel [j	[anĩt kajuh]	kulit pokok	bark
			[raje]	besar	big

Table 3 shows that Lengilo has six types of consonants, namely, plosive, nasal, fricative, trill, lateral, and partial vowel.

Examples of words with seven types of plosives are as follows and there are no words where the plosive voiced glottal [ʔ] is in the front and middle positions.

   i. Plosive voiceless bilabial [p] - [pənũk] meaning full and [rudap] meaning sleep
  ii. Plosive voiced bilabial [b] - [bulu] meaning hair and [nə̃səb] meaning burnt
 iii. Plosive voiceless alveolar [t] - [tisok] meaning hand and [suʷit] meaning bird
 iv. Plosive voiced alveolar [d] - [dilaʔ] meaning tongue and [lawid] meaning fish
  v. Plosive voiceless velar [k] - [kəlik] meaning know and [tanãk] meaning land
 vi. Plosive voiced velar [g] - [gituʔən] meaning star
vii. Plosive voiced glotal [ʔ] - [mə̃siaʔ] meaning red

The three types of nasals in Lengilo are as follows, and the nasals are found in front, middle and end positions in Lengilo words:

   i. Nasal bilabial [m] - [mõŋ] for all and [mãləm] for night
  ii. Nasal alveolar [n] - [nə̃səb] for burnt and [lipan] for teeth
 iii. Nasal voiced velar [ŋ] - [ŋãdan] for name and [isuŋ] for nose

The three types of fricatives in Lengilo are as follows:
  i.   Fricative voiceless labiodental [f] - [fok] meaning hair and [rəfun] meaning smoke
 ii.   Fricative alveolar [s] - [suʷit] meaning bird and [mãta sao] meaning sun
iii.   Fricative voiced glotal [h] - [dəlaʔih] meaning men and [mə̃libuh] meaning round

For trill, examples of Lengilo words for trill postalveolar [r] are [riʔər] meaning neck, [tərur] meaning egg, and [nĩʔər] meaning see.

For for lateral, Lengilo has lateral-alveolar [l]. Examples of words with the lateral-alveolar are [lison] meaning finger nail, [kulit[] meaning skin, and [təlubid] meaning lie down.

Finally, partial vowel in Lengilo consists of two types:
  i.   Partial labio-velar vowel [w] - [waŋ] meaning meat and [lawa kajuh] meaning branch
 ii.   Partial palatal vowel [j] - [anĩt kajuh] meaning bark and [raje] meaning big

This research shows that nasalisation involves vowels that are present after nasal or nasal consonants. The consonants of this language also do not occupy all the initial, middle and final positions of words. For example, velar plosive [g], alveolar fricative [s], glottal fricative [h], and lateral-alveolar [l]. Affricate consonants such as [č] and [ǰ] were not found in the list of basic vocabulary studied. We acknowledge the limitations of using a 100-word Swadesh list. Studies with a longer and richer word list may yield different results.

4. Discussion and Conclusion

This preliminary study on the Lengilo language from a phonetic point of view shows that this language has six types of consonants, three types of vowels and three types of diphthongs. The six consonants are plosive, nasal, fricative, trill, lateral, and partial vowel. The three types of diphthongs in Lengilo are [ai], [ui] and [oi]. The eight vowels in Lengilo are narrow front vowel [i], semi-narrow front vowels [e], semi-wide front vowels [ɛ], wide front vowels [a], semi-wide middle vowel [ə], narrow back vowel [u], semi-narrow back vowel [o], and semi-wide back vowel [ɔ]. Using a 100-word Swadesh list, the study shows that the diphthong [ai] is more productive than [ui] and [oi]. However, affricate consonants such as [č] and [ǰ] were not found in Lengilo. A limitation of the study might be the limited number of words studied.

Research and documentation conducted in the present study is very important for the preservation of indigenous languages like the Lengilo which has a diminishing population of native speakers. Preserving the language is a way of promoting the culture of a disappearing indigenous group in Sarawak. Although there are Lengilo people living in Malinau, Indonesia, the Lengilo community in Sarawak deserves more attention as they are blending into the Lun Bawang community, among whom they live and intermarry. The audio recordings of the sounds and words of the Lengilo language will be useful for a future language study to establish the extent of similarity or differences between Lengilo and Lun Bawang and Lun Dayeh, the communities and languages they are most associated with in Sarawak and Sabah respectively.

Acknowledgement

References

Eghenter, C., & Jok, D. (2012). *Formadat: Forum masyarakat adat dataran tinggi Borneo*. Kabupaten Nunukan, Kalimantan Timur: Formadat.

Ethnologue. (2008). *Languages of Malaysia (Sarawak)*. https://www.seameo.org/seameoweb2/images/stories/Projects/2008_MotherTongue BridgeLang/Other_references/Languages_of_Southeast_Asia/Malaysia_Sarawak.pdf)

Hymes, D. (1970). Morris Swadesh. *Word, 26*(1), 119-138, DOI:10.1080/00437956.1970.11435588

Lewis, M. P., & Simons, G. F. (2010). Assessing endangerment: Expanding Fishman's GIDS. *Revue Roumaine de Linguistique 55*(2). 103–120.

Swadesh, M. (1955). *Concept list Swadesh 1955 100*. https://concepticon.clld.org/contributions/Swadesh-1955-100

World Directory of Minorities and Indigenous Peoples. (2022). *Indigenous peoples and ethnic minorities in Sarawak*. https://minorityrights.org/minorities/indigenous-peoples-and-ethnic-minorities-in-sarawak/#:~:text=Sarawak%20has%20a%20population%20of,some%2026%20different%20ethnic%20groups

Zahid, I. (2021). *Fonetik dan fonologi bahasa Melayu*. Dewan Bahasa dan Pustaka.