

Phonological Structure of Kaili Language Rai Dialect

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ARTICLE INFO

Keywords:

Dialect Land; Kaili
Language; Phonology;
Sound Distribution

Article history:

Received 2026-04-17

Revised 2026-05-19

Accepted 2026-06-29

ABSTRACT

The main problems studied are the form of phonological processes as well as the variations and sound characteristics of language used in daily communication. This study aims to analyze phonological processes and identify the dominant types of sound changes in the Kaili language of the Rai dialect. The method used in this study is qualitative descriptive. The research data is in the form of oral speech (words, phrases, and sentences) obtained directly from native speaker informants through the simak method (tapping technique, simak engaged cakap, simak free engaged cakap, and note) and cakap method (fishing technique, recording, and note). Data analysis is carried out interactively, which includes the data reduction stage, data presentation in the form of inventory tables and descriptions, and conclusion drawn. The results show that there is a variety of vowel phonemes (/a/, /i/, /u/, /e/, /o/) and various consonant phonemes, noting that the consonant phoneme /w/ is not found in this dialect. The sound system of the Kaili language of the Rai dialect has unique characteristics that are shown through the presence of contrasting consonants (such as the pairs /p/ and /b/, /k/ and /g/), front and middle consonant clusters (e.g. mpu'u, rombi), consonant sequences (punti, komporo), and diphthongs (/ai/, /au/, /oi/). In addition, a consistent pattern of sound distribution was found, including contrast distributions that function to distinguish the meaning of words (e.g. the vowels /u/ and /o/ in the word pulu polo) as well as complementary distributions influenced by the phonological environment around the phoneme.

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1. INTRODUCTION

Language is a sound symbol system used by humans to communicate, convey ideas, express feelings, and build social relationships in social life. In addition to functioning as a means of communication, language is also a means of forming cultural identity, inheriting social values, and storing collective knowledge of a society (Albury, 2022; Eberhard et al., 2024). In the context of culture, language is not only understood as a means of conveying messages, but also as a representation of people's perspective on the environment and their lives. Therefore, the existence of language has a very strategic role in maintaining the sustainability of a nation's culture (Austin & Sallabank, 2023).

Indonesia is known as one of the countries with the highest level of language diversity in the world. Based on data compiled by the Summer Institute of Linguistics through *Ethnologue*, Indonesia has more than 700 regional languages that are still spoken by its speaking community (Eberhard et al., 2024). The diversity of languages is an important part of the national cultural wealth that needs to be maintained. However, the development of globalization, urbanization, population migration, and the dominance of the use of national languages and foreign languages have caused many regional languages to experience a decrease in the number of speakers and are threatened with extinction (UNESCO, 2021; Grenoble, 2021). This phenomenon shows that the preservation of regional languages is one of the important issues in contemporary linguistic studies.

Regional languages as one of the intangible cultural heritage have a very important function in people's lives. In addition to being a tool of intraethnic communication, regional languages also function as a symbol of social identity, a means of cultural inheritance, and a medium for transmitting local values from one generation to the next (Yanti & Sahril, 2022; Lauder & Lauder, 2023). Therefore, the existence of regional languages has received special attention from the Indonesian government as stated in the 1945 Constitution of the Republic of Indonesia Article 32 which emphasizes that the state guarantees the community to maintain and develop its cultural values. Protection of regional languages has also been strengthened through various language revitalization programs implemented by the Language Development and Development Agency in recent years (Language Agency, 2023).

Central Sulawesi Province is one of the regions in Indonesia that has a very diverse linguistic richness. Based on data from the Language Development and Development Agency (2021), there are at least 14 regional languages that are still alive and used by the people in the region. One of the regional languages that has a relatively large number of speakers is the Kaili language. The Kaili language is a language used by the Kaili ethnic community spread across Palu City, Donggala Regency, Sigi, Parigi Moutong, and several other areas in Central Sulawesi (Rasyid et al., 2022). This language has an important position because it is not only used in daily communication, but also in various social, cultural, and customary activities of the local community.

The Kaili language has a fairly high level of dialect diversity. Sofyan et al. (1979) stated that the Kaili language consists of several dialects, namely the dialects of Ledo, Tara, Rai, Doi, Unde, Ado, Edo, Ija, Da'a, Moma, and Bare'e. The diversity of dialects shows that there is linguistic variation that develops due to geographical, social, and historical factors. These variations are not only seen in the lexical and morphological aspects, but also in the phonological aspects that are characteristic of each dialect (Rahman et al., 2024). Therefore, the study of each dialect of the Kaili language is important to obtain a more comprehensive picture of the structure and characteristics of the language.

One of the dialects that is still actively used to this day is the Kaili Dialect Rai (BKDR). This dialect is used by the people in Donggala Regency, especially in Sindue District and the surrounding area. Based on initial observations, BKDR is still the main language in family communication, interaction between communities, customary activities, and various other social activities. This condition shows that the vitality of BKDR is still relatively strong compared to several other regional languages that have experienced a decrease in the number of speakers due to language shifts (Brenzinger & De Graaf, 2022). However, the influence of Indonesian as a national language and the increasing intensity of digital media use have the potential to affect the use of regional languages in the long term (Widodo & Mulyadi, 2023).

From a linguistic perspective, regional language documentation not only aims to record the existence of a language, but also to reveal the linguistic structure it has. One of the very important aspects of language documentation is phonology. Phonology is a branch of linguistics that studies the sound system of a language, including phoneme inventory, phoneme distribution, syllable patterns, and sound change processes that occur in the use of language (Odden, 2022). The study of phonology has a fundamental position because sound systems are the basis for the formation of more complex linguistic units such as morphemes, words, phrases, and sentences (Carr, 2021).

Research on regional language phonology is increasingly important today as part of language preservation efforts. Various studies have shown that phonological documentation can be the foundation for the development of teaching materials, dictionaries, grammar, and regional language revitalization programs (Himmelmann, 2022; Woodbury, 2023). In addition, a good phonological description also allows researchers to understand the distinctive characteristics of a language that distinguish it from other languages in the same language family.

One of the important aspects of phonological studies is the phonological process. The phonological process is a change in sound that occurs due to the interaction between phonemes in a language. These processes can be in the form of assimilation, neutralization, elision, epenthesis, or metathesis (Hayes, 2022). The existence of phonological processes indicates that the sound system of a language is dynamic and follows certain rules that develop in the community of speakers. Therefore, analysis of phonological processes can provide a deeper understanding of the pattern of sound changes that occur in a language.

The study of phonological processes in the Kaili Dialect Rai language is still relatively limited compared to research on other aspects, such as the lexicon or the culture of the speaking community. In fact, understanding phonological processes is very important because it can explain various linguistic phenomena that arise at the morphological and syntactic levels. In addition, a comprehensive description of phonological processes can also enrich the study of the linguistic archipelago, especially related to Austronesian languages in the Sulawesi region (Blust, 2023).

Based on this description, research on phonological processes in the Kaili Rai Dialect needs to be carried out. This research is important as an effort to document scientific one of the regional languages in Central Sulawesi that is still alive and used by the speaking community. In addition, this research is expected to make a theoretical contribution to the development of linguistics, especially in the field of phonology, as well as support regional language preservation programs that are currently of concern to various parties. The results of this research are also expected to be a reference for further research related to morphology, syntax, sociolinguistics, and the revitalization of regional languages as part of the cultural heritage of the Indonesian nation.

2. METHODS

This study uses a qualitative research method with a descriptive approach. The qualitative method was chosen because this study aims to describe and understand linguistic phenomena that occur naturally in the Kaili dialect Rai speaking community without manipulating the data obtained. According to Moleong (2021), qualitative research is research that produces descriptive data in the form of spoken and written words from the observed individuals or groups. The descriptive approach is used because this research focuses on the presentation of linguistic facts as they are in the field, especially those related to sound systems and phonological processes in the Kaili dialect of Rai.

The research was carried out in Sipeso Village, Sindue District, Donggala Regency, Central Sulawesi Province. The location was chosen because the local community still actively uses the Kaili language of the Rai dialect in various daily communication activities, both in the family environment, social interaction between communities, and traditional activities. The active use of language allows researchers to obtain linguistic data that is authentic and relevant to the research objectives.

The source of data in this study is the oral speech of the native speakers of the Kaili language of the Rai dialect who live in Sipeso Village. The research informants were selected using the purposive sampling technique by considering several criteria, namely: (1) being native speakers of the Kaili language of the Rai dialect; (2) born and raised in the research area; (3) using the Kaili dialect of Rai in daily communication; (4) have good and fluent language skills; and (5) willing to be research informants. The informants consist of community leaders, parents, and community members who are considered capable of providing representative linguistic data on the use of the Kaili dialect of Rai.

The research data is in the form of words, phrases, and speech that contain phonological symptoms in the Kaili dialect of Rai. The focus of the research is directed at the identification of linguistic sound

inventory as well as the phonological processes that appear in speakers' speech, such as assimilation, disassimilation, neutralization, elicity, epenthesis, and metathesis. The data was obtained through the use of language naturally in daily communication as well as through elicitation or speech fishing carried out by researchers to informants.

Data collection techniques are carried out through observation, interviews, listening techniques, recording techniques, and recording techniques. Observation was carried out by directly observing the use of the Kaili language of the Rai dialect in people's lives. The listening technique is used to listen carefully to the informant's speech in order to obtain the necessary linguistic data. Furthermore, the recording technique is carried out using a voice recording device to document the informant's speech so that the data can be analyzed in more depth. In addition, the recording technique is used to record language forms that are considered important, especially those that indicate the presence of certain phonological processes.

The main instrument in this study is the researcher himself (*human instrument*) who plays a role in planning the research, collecting data, analyzing data, and drawing conclusions. To support the data collection process, supporting instruments were used in the form of interview guidelines, field notebooks, basic vocabulary lists, and voice recording devices. The use of these various instruments aims to improve the accuracy and completeness of the data obtained during the research.

Data analysis was carried out qualitatively by following the interactive analysis model of Miles, Huberman, and Saldaña (2014) which included three stages, namely data reduction, data presentation, and conclusion drawn. At the data reduction stage, the researcher selects, groups, and focuses data related to phonological phenomena in the Kaili language of the Rai dialect. Furthermore, the data that has been reduced is presented in the form of tables, phonetic transcriptions, and descriptive descriptions to facilitate the interpretation process. The last stage is drawing conclusions and verification, which is interpreting the found phonological patterns and re-examining the consistency of the data with the results of field observations.

To ensure the validity of the data, this study uses source triangulation techniques and triangulation techniques. Source triangulation is done by comparing data obtained from several different informants, while technical triangulation is done by comparing the results of observations, interviews, recordings, and field notes. In addition, the researcher also conducted member *checking* on several informants to ensure that the data obtained was in accordance with the actual use of language. Thus, the results of the research are expected to have a high level of validity and credibility and be able to provide an accurate picture of the phonological process in the Kaili dialect of Rai used by the people of Sipeso Village.

3. FINDINGS AND DISCUSSION

The data obtained showed the use of vowel phonemes and consonants that varied in each speech. The variation in sound is influenced by the phonological environment, the habits of the speaker, and the regional dialect used in daily communication. In this study, it was also found that there is the use of diphthongs, sequences and consonant groups in several words. In addition, the results of the study show that there is a sound distribution that includes complementary distribution and contrast distribution. The contrast distribution is seen in pairs of sounds that are able to distinguish the meaning of words, while the complementary distribution shows sounds that appear in a particular environment and do not distinguish the meaning. In this study, it was also found that there is the use of diphthongs, sequences and consonant groups in several words. In addition, the results of the study show that there is a sound distribution that includes complementary distribution and contrast distribution. The contrast distribution is seen in pairs of sounds that are able to distinguish the meaning of words, while the complementary distribution shows sounds that appear in a particular environment and do not distinguish the meaning. The results of this study are expected to be a source of reference for future research related to language sound analysis and linguistic development.

Phonemes

Vowel phonemes are language sounds that are produced without air resistance when spoken. Air comes out smoothly through the mouth so that the sound is heard clearly and can be the core of the syllable. In Indonesian, vowel phonemes consist of /a/, /i/, /u/, /e/, and /o/. Consonant phonemes are language sounds that are produced by the presence of obstacles or touches in speech tools, such as lips, tongue, or teeth. These barriers make consonant sounds sound stronger and usually can't become the core of a syllable without the help of vocals. Examples of consonant phonemes in Indonesian are /b/, /c/, /d/, /p/, /t/, /g/, /k/, /m/, /n/, and /j/.

Vocal phoneme and

Front vocals	Middle A vowel	Back a vowel
Dog	Solid	Between
São Paulo	Horizon	Squirt
Ase	Letter	Bride
Path	Suraya	Hand
Stuttgart	Between	Pre-Dawn

Fonem vokal i

Front I vowel	Vocals in the middle	Back i vocals
Ira	Bride	Jobesi
Ino	Tough	Tough
City	Pokio	Bayari
Yes	Ranindi	Raninids
	Talinga	Tonji

Phoneme vowel in

Front u vowel	Middle u vowel	Back u vowels
Beehives	Stuttgart	Grill
Uwe	Grill	Stuttgart
Upe	Vungu	Hancuru
	hancuru	Vungu
	pudu	Pudu

Vowel phoneme e

Front vocals	Middle vocals	Back vocals
Yes	Eembere	Ask
Man	Ask	Man
It was	Gadera	Header

Eve	Bicycle	Bone
Yes.	Onggetaka	Uwe

Phoneme vowel o

Front vocals	Vocals or middle vocals	Back vocals
Here it is	Hatch	Soyo
Oroo	Lolona	Here it is
Ongu	Tonji	Gold
Or	Boboka	Hatch
It was	Soyo	Only

The sound of the consonant p

Front p consonants	Middle p consonant	Rear p consonants
Horizon	Komporo	-
Blue	Tumpa	-
Points	Sapeda	-
Posibu	Ngepe	-
Panjaraka	Taposis	-

The sound of the consonant b

Consonant b depends on	Middle b consonant	Rear b consonant
Bone	Kambi	-
Construction	Boboka	-
Bontu	Jobesi	-
Bontuyu	Rhombs	-
Bala		-

The sound of the consonant t

Consonant t depending	Middle t consonant	Rear t consonants
Tanana	Nanto'o	-
Or	Letter	-
Tumpa	Together	-
Taveve	Sapatu	-
One	Pemanto	-

The sound of the consonant d

Consonant d depending	Middle d consonant	D consonant after
Dumondo	Dumondo	-
Duria	Ranindi	-
Come on	Probe	-
Doyo	Sapeda	-
Dayo	Poindo	-

The phoneme is consonant k

Dependent consonants	Middle K consonants	Rear k consonants
Kambi	Panjaraka	-
Kaca	Message	-
Komporo	Boboka	-
Kale	Onggetaka	-
Kuli	Pentaka	-

The consonant phoneme g

Consonant g depends	Middle G consonant	Rear g consonant
Gumbu	Bungga	-
Gadera	Panggou	-
Gambara	Nggayu	-
Race	Pangga	-
Garu	ngangga	-

The phoneme consonant c

Consonant c depends	Middle c consonants	Rear c consonants
Campuru	-	-
Colo	-	-
Ask	-	-
Cambu	-	-
Camba	-	-

The consonant sound of j

Consonant j depends	Middle j consonants	Rear j consonants
Half	Which	-
Jarita	Lenje	-
Jara	Nguju	-
Yes,	-	-
Jeko	-	-

The sound of the consonant m

Consonant m ahead	Middle m consonant	Suffix m consonant
Mpu'u	Mokumoni	-
He ate	Parame	-
Motoro	Calibamba	-
Mokumoni	Kambi	-
Mpae	Tumpa	-

The sound of the consonant n

Consonants depend on us	Middle n consonant	Rear n consonants
Nakuya	Nene	-
Bride	Tonji	-
Nembua	Is there	-
Nene	Defeated	-
Norongo	Ranindi	-

The phoneme consonant ny

Consonants in front of them	A consonant in the middle	Back consonants
Meat	-	-
Nyava	-	-
-	-	-
-	-	-
-	-	-

Phonemes consonants of

Front consonant	Middle consonants	Back consonants
Ngepe	Nangote	-
Ngangga	Norongo	-
About it	Sky	-
Ngisi	District	-
Ngapa	Ivongi	-

The consonant phoneme l

Front l consonant	Middle l consonant	Rear l consonants
Read more	Lamale	-
Love	Beehives	-
Lamari	Calibamba	-
Lano	Talinga	-
Lamale	Hatch	-

The phoneme is consonant with

Front s consonant	Middle s consonants	Rear s consonants
Soyo	One	-
Only	Asu	-
Sapatu	Rate	-
Letter	Posibu	-
Frog	Marisa	-

The sound of the consonant r

Consonant r depends	Middle r consonants	Rear r consonants
Ruongu	Stuttgart	-
Rhombs	Gadera	-
Ranindi	Tabaro	-
Rasai	Paguru	-

Riulu	Letter	-
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The sound of the consonant h

Front h consonant	Middle h consonant	Back consonants
Hancuru	-	-
Delete	-	-
-	-	-
-	-	-
-	-	-

The phoneme of consonants in

Front w consonants	The middle consonant	w	Rear w consonants
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

The phoneme of the consonant W does not exist in the kaili rai dialect

The phoneme consonant y

Consonant y front	Consonants and middle	Consonant y back
Yaku	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Consonant Contrast

Contrasting consonants are two consonant sounds that are in the same position or environment and can distinguish the meaning of words. In phonology, contrasting consonants indicate that the sounds are different phonemes because the change of one of the consonants causes a change in meaning.

P and B

P	B
It puts	Bone
Blue	Bulu
Horizon	Bae
Pale	Bale
Father	Bai

K and G

K	G
Koro	Goro
Kula	Gula
Kale	Gale
Kasi	Gas
-	-

P and T

P	T
Father	Or
Pass	Rate
Pa'a	Ta'a
Straw	Taja
Poi	Toai

C and J

C	J
Chiefs	Half
Cala	Jala
Cole	Jole

-	-
-	-

S and C

S	C
Only	Colo
Sole	Cole
-	-
-	-
-	-

L and R

L	R
In order to	Rai
-	-
-	-
-	-
-	-

T and D

T	D
Or	Come on
Key	Soul
-	-
-	-
-	-

M and N

M	N
----------	----------

-	-
-	-
-	-
-	-
-	-

Nothing at all

F dan V

F	V
-	-
-	-
-	-
-	-
-	-

Nothing at all

H and K

H	K
-	-
-	-
-	-
-	-
-	-

Nothing at all

Consonant clusters

A consonant cluster is a combination of two or more consonant sounds that are in a single syllable and are pronounced sequentially without being interspersed with vowel sounds. In phonology, a consonant cluster is considered to be a series of consonants that occupy a single part of the same syllable.

Front Cluster

Front Cluster
Mpu'u
Burnt
Nda'a

Mpae

Ntomo

Middle Group

Middle Group

Rhombs

Ranindi

Nonju

Gumbu

Tonji

Deret consonant

A consonant sequence is a combination of two or more consonant sounds that are located side by side in a word, but each consonant is still on a different syllable. In phonology, a series of consonants differ from consonant clusters in that their pronunciation is still separated by a syllable boundary.

A series of two consonants

Points	/n/ and /t/
Komporo	/m/ and /p/
Probe	/n/ and /d/
Between	/n/ and /t/
Abstracts	/n/ and /t/

Contrast distribution

Contrast distribution is the relationship between two sounds of a language that appear in the same environment or position and can differentiate meaning. In phonology, sounds that have a contrast distribution are considered different phonemes because changes in sound cause changes in the meaning of words.

On day O

	U	O
Blue		Polo
Vulu		Flight
	-	-
	-	-
	-	-

I to E

	I	E
--	---	---

Ira	It was
-	-
-	-
-	-
-	-

I U Day

I	U
	Putu
Or	Tau
Go	Vau
Bai	Construction
Pi'i	Pu'u

I day O

I	O
Horses	Kono
Related	Polo
Flights	Flight
Related	Polo
-	-

Complementary distribution

A complementary distribution is the relationship between two language sounds that appear in different environments and never occupy the same position. In phonology, these sounds are considered variations of one phoneme because their appearance complements each other and does not distinguish meaning.

K and Kh

K/ appears at the beginning	Kh/consonant after s
Kale	-
Kagole	-
Camiu	-
Kambi	-

Nightmare	-
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and Th

T/ appears at the beginning	Th/ consonants after s
Rate	-
Or	-
Tapolis	-
Tonji	-
Tau	-

N dan ŋ

N/ before vowel	ŋ/ before the velar g sound
Nolanto	Langgai
Nakuya	Mangge
Naranindi	São Paulo
Navu	Pojunggu
Nene	pasanggo

In the day Ū

U/ open	Ū/ Closed
Vulu	Weekly
Blue	Talua
Soul	King
Nunu	Moon
Color	His

4. CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that phonology studies have a very important role in understanding the sound system of the kaili language used by speakers in daily life. Through this study, it was found that each language has a variation of sounds that are arranged regularly and have a certain function in distinguishing meaning. The research data showed that there was a variation in the use of vowel phonemes and consonants in various speeches. The variation of sounds is influenced by the phonological environment, the habits of the speakers, and the regional dialects used in the communication process. In addition, we also found the use of diphthongs, consonant sequences, and consonant clusters in some words. The presence of these

elements shows that language sounds have certain patterns and arrangements that form a uniqueness in a regional language. This study also shows the existence of sound distribution, namely contrast distribution and complementary distribution. The contrast distribution is seen in pairs of sounds that are able to distinguish the meaning of words, while the complementary distribution shows sounds.

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