Kussummiya phonology

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The article provides a descriptive account of the phonology of Kussummiya spoken in southwest Ethiopia. It is basically a qualitative study in that linguistic data are collected from native speakers by using elicitation technique. The collected data are organized and analyzed categorically. The findings of the study show that Kussummiya has 21 attested consonant phonemes and five short and five long vowel phonemes which is a typical feature of Cushitic vowel system. All consonant phonemes geminate and they occur only in word medial position. Consonant gemination and vowel length are phonemic. Consonant cluster occur in word medial position with a maximum of two non-identical consonants. Some of the phonological processes identified in words or across words are: insertion, deletion, devoicing, spirantisation, assimilation and metathesis.

Keywords: Kussummiya, phonology, phonological process, gemination, consonant cluster

1. Introduction[1]

The Kussumme people live in Diraashe district particularly in a place called "Gatto,[2]" in Segen Area Peoples Zone within the Southern Nations, Nationalities and Peoples Regional State of the Federal Democratic Republic of Ethiopia. According to the 2007 Population and Housing census, the Kussumme people are 9, 213. The basic economic activities of the people is mixed agriculture. They are pastoralists and cultivators. They grow crops such as sorghum, maize, teff, barley, wheat, peas, chickpeas, lentils, beans and enset (false banana). They also produce cash-crops such as coffee and Khat (Catha edulis). Moreover, they rear animals such as cattle, goats, sheep, mules, donkeys, etc.

They refer to their language by the name "Afa Kussummiya" which means the language of Kussumme. Kussummiya is surrounded by Konso, Diraytata, Mosittacha and Mashooleya speech

[1] My special thanks go to the Office of the Director for Research of Addis Ababa University for the generous financial support to undertake the research.

[2]Gatto is the homeland of Kussumme people.

varieties. According to the information obtained from the language consultants during focus group discussion, there is a high level of mutual intelligibility between Konso, Mashooleya and Kussummiya. Thus, the people of Kussumme communicate with the people of Konso and Mashoole without any difficulty. The intelligibility among the three language speakers can be either due to language contact or close genetic relationship. However, the Kussumme people have a strong self-esteem and language identity as a result they consider themselves and their language different form Konso and Mashooleya. Black's (1973) work considers *Faaʃe*, *Karatte*, *Turo* and *χolme* as dialects of Konso but his (1974) work includes *Gatto* and *Mashoole* in addition to the previously mentioned dialects. Contrary to this, the House of Federation recognizes Kussumme as one of the nationalities in the country and Kussummiya as their language. The language consultants suggested that they can hear Diraytata and Mosittacha a little bit and hence require interpreter to communicate with them. Multilingualism is common in Kussumme society as a result in addition to their mother tongue they speak Mashooleya and Konso from the neighboring languages, and they also speak Amharic and Oromo languages. Little is known about Kussummiya. Some facts about Kussummiya have been mentioned in passing by in works dealing with a more general concern of Proto-Eastern Cushitic history and reconstruction[3]. However, there is no published work particularly on Kussummiya,

The data for the present study is collected in two field trips to Diraashe district for one month each. The data collected was 500 words including 200 words of basic vocabulary of Swadesh (1952), 300 additional words, and various data on the morphology and syntax of Kussummiya. The first field trip was from February 25, 2021– March 28, 2021, the second field trip was from May 4, 2021 – June 3, 2021. The key language consultants were seven: *Tadesse Guyyita* (age 50), *Dima Genc'ac'e* (age 45), *Luttayto Shabele* (age 40), *Ayyano Bunnayo* (age 38), *Dubbale Tadesse* (age 40), *Mengistu Messele* (age 42) and *Girma Ayyibo* (age 55). They were born in Gatto. All of them are farmers who live in *Gatto*. They served as language consultant in both field trips.

The research methods and techniques used for data collection is basically elicitation. However, interview and focus group discussion are also used to clarify concepts that require more attention and which are not clear during elicitation. The data is transcribed using IPA symbols.

The article has seven sections. The second section, presents some comparative notes. Section three, describes consonant and vowel phonemes. Section four, discusses consonant sequence. Section five, presents syllable structure. Section six, discusses phonological processes and section seven, summarizes the major findings of the study.

[3] For example, Black (1974).

2. Comparative notes

Although the purpose of this article is not to compare Kussummiya with other closely related languages and dialects, giving a few comparative notes on closely related languages will help the reader.

Regarding the similarities between Kussummiya and Konso, and their difference from Diraytata and Mosittacha, the following correspondences have been identified. Kussummiya and Konso /ɗ/ corresponds to /k'/ in Diraytata and Mosittacha as the following examples illustrate. Kussummiya *ɗanin-* 'bite,' Konso *ɗanin-*, Diraytata *k'anin-* and Mosittacha *k'anin-*. Kussummiya and Konso */m/* corresponds to */mɓ/* in Diraytata and Mosittacha. That is, Kussummiya *ʔama* 'breast,' Konso *ʔama*, Diraytata *ʔamɓ* and Mosittacha *ʔamɓa*. By the same token, Kussummiya and Konso */ɗt/* corresponds to */kk/* in Diraytata and */hh/* in Mosittacha. For example, Kussummiya *loɗta* 'foot,' Konso *loɗta*, Diraytata *lukket* and Mosittacha *luhhe*. Similarly, Kussummiya and Konso */tt/* corresponds to */ʃʃ/* in Diraytata and Mosittacha. The following are examples, Kussummiya *matta* 'head,' Konso *matta*, Diraytata *maʃʃ* and Mosittacha *maʃʃa*. Similarly, Kussummiya and Konso */ʃ/* corresponds to */t'/* in Diraytata and */tʃ'/* in Mosittacha as shown in the following examples. Kussummiya *kurmuʃa* 'fish,' Konso *kurmuʃa*, Diraytata *k'urt'umet* and Mosittacha *kurmutʃ'a*. Moreover, Kussummiya and Konso */r/* corresponds to */rɗ/* in Diraytata and */rʔ/* in Mosittacha as the following examples illustrate. Kussummiya *karitta* 'belly,' Konso *karitta*, Diraytata *karɗ* and Mosittacha *karʔa*.

The first person prevocalic clitic *ʔin-* has the allomorphs *ʔin-*, *ʔim-* *ʔil-* and *ʔiw-* in Kussummiya as the following examples illustrate*: ʔin-ħrip-e* 'I danced,' *ʔin-tooj-e* 'I watched,' *ʔim-pooj-e* 'I cried,' *ʔil-lel-e* 'I told,' *ʔiw-waat-e* 'I roasted.' The languages closely related to Kussummiya such as Konso, Diraytata and Mosittacha have such allomorphs as those in the following words: Konso *ʔin-krip-e*, Diraytata and Mosittacha *heŋ- hrip-I* 'I danced,' Konso *ʔin-tooj-e*, Diraytata and Mosittacha *hen- tooj-i* 'I watched,' Konso *ʔim-pooj-e*, Diraytata and Mosittacha *hem-pooj-i* 'I cried,' Konso *ʔil-lel-e*, Diraytata and Mosittacha *hel-lel-i* 'I told' and Konso *ʔiw-waat-e,* Diraytata and Mosittacha *hew-waat-i* 'I roasted.' Thus, Kussummiya and Konso have identical first person prevocalic allomorphs (*ʔin-*, *ʔim-*, *ʔil-* and *ʔiw-*) which are different from Diraytata and Mosittacha allomorphs (*heŋ-*, *hen-*, *hem-*, *hel-* and *hew-*).

Regarding the differences among Kussummiya , Konso, Diraytata and Mosittacha the following correspondences have been identified: Kussummiya */ħ/* corresponds to */k/*,*/h/* or */χ/* in Konso, and */k/* or */h/* in Diraytata and Mosittacha as the following examples illustrates: Kussummiya *ħuta* 'dog,' Konso *kuta*, Diraytata *herra*, Mosittacha *herro*. Kussummiya *ɗiiħa* 'blood,' Konso *ɗiiha*, Diraytata *ɗiik*, Mosittacha *ɗiika*. Kussummiya *ħala* 'yesterday,' Konso *χala*, Diraytata *hal* and Mosittacha *hala*. Moreover, Kussummiya */ħħ/* corresponds to */χχ/* in Konso, and */hh/* in Diraytata and Mosittacha as in Kussummiya *maħħa* 'name,' Konso *maχχa*, Diraytata *mahh*, and Mosittacha *mahha*.

The first and second person singular pronouns in Kussummiya are different from Konso, Diraytata and Mosittacha. For example, *ʔana* 'I' and *ħeʔe* 'you (sg.)' in Kussummiya corresponds to *ʔanti* and *ʔatti* in Konso, *ʔantot* and *ʔatti* in Diraytata, and *ʔantʃo* and *ʔatʃtʃi* in Mosittacha. The third person singular pronoun is different from Diraytata and Mosittacha. For example, *ʔiʃa* 'he' in Kussummiya and Konso corresponds to *ʔijja* and *ʔijjatʃa* in Diraytata and Mosittacha respectively. This is shown inTable 1 below:

Person	Kussummiya	Konso	Diraytata	Mosittacha	Gloss
1SG	*ʔana*	*ʔanti*	*ʔantot*	*ʔantʃo*	'I'
2SG	*ħeʔe*	*ʔatti*	*ʔatti*	*ʔatʃtʃi*	'you (SG)'
3SG (M)	*ʔiʃa*	*ʔiʃa*	*ʔijja*	*ʔijjatʃa*	'he'
3SG (F)	*ʔiʃetta*	*ʔiʃeetta*	*ʔit*	*ʔitʃa*	'she'
1PL	*ʔino*	*ʔinu*	*ʔinno*	*ʔinnotʃa*	'we'
2PL	*ʔiʃʃina*	*ʔiʃina*	*ʔinna*	*ʔinnatʃa*	'you (PL)'
3PL	*ʔiʃʃotta*	*ʔiʃootta*	*ʔijjaa*	*ʔijjotʃa*	'they'

Table 1. Pronouns in Kussummiya, Konso, Diraytata and Mosittacha

The possessive marker in Kussummiya is the prefix *ʔaħ-*, in Konso it is *χa(a)-*, in Diraytata and Mosittacha it is *hek-*.

Person	Kussummiya	Konso	Diraytata	Mosittacha	Gloss
1SG	*ʔaħaw*	*χajja*	*hekaw*	*hekaho*	'mine'
2SG	*ʔaħajti*	*χaajti*	*hekajt*	*hekajtʃi*	'yours (SG)'
3SG (M)	*ʔaħaɗɗi*	*χaaɗɗi*	*hekajj*	*hekajji*	'his'
3SG (F)			*hekaɗɗ*	*hekaɗɗi*	'her'
1PL	*ʔaħinno*	*χannu*	*hekajnu*	*hekajno*	'ours'
2PL	*ʔaħissina*	*χaajʃin*	*hekajn*	*hekajna*	'yours (PL)'
3PL	*ʔaħissole*	*χaajʃu*	*hekaɗɗu*	*hekaɗɗo*	'theirs'

Table 2. Possessive pronouns in Kussummiya, Konso, Diraytata and Mosittacha

The nominative case is marked by the suffix *-e* on a noun as in *Datikko-e to-e* 'Datikko died' in Kussummiya, in Konso it is marked by the suffix *-ʔ* as in *Datikko-ʔ to-e*, in Diraytata it is marked by the suffix *–**t*** as in *Datikko-**t** he-toy-i*, in Mosittacha it is marked by the suffix *-ntʃi* as in *Datikko-ntʃi he-toy-e*.

Accusative case is not morphologically marked in Kussummiya, Konso, Diraytata and Mosittacha and hence the citation form of a noun is used as an accusative form.

Dative case in Kussummiya, is marked by the morpheme *-teʔe* as in *Kittonnajjo-e ʔanna Datikk-o teʔe ɗass-e* 'Kittonnajjo gave a milk to Datikko', in Konso, it is marked by the suffix *-ʔ* as in Kittonnajjo-*ʔ ʔannaa Datikko-ʔ ɗaʃʃ-e*, in Diraytata, it is marked by the suffix *-as* as in *Kittonnajjo-t ʔannaa Datikko-as he-ɗaʃʃ-i*, and in Mosittacha, it is marked by the suffix *-hhi* as in *Kittonnajjo-ntʃi ʔannaa Datikko-hhi he-ɗetʃtʃ-e.*

3. Consonant and vowel phonemes

3.1. Consonant phonemes

This section presents the inventory of consonant phonemes, description of consonant phonemes, consonant germination and distribution of consonant phonemes.

3.1.1. Inventory of consonant phonemes

Kussummiya has 21 clearly attested consonant phonemes. That is, four stops (p, t, k, ʔ), four implosives (ɓ, ɗ, ƒ, ɠ), three nasals (m, n, ɲ), five fricatives (f, s, ʃ, ħ, h), one affricate (tʃ), two liquids (l, r) and two semivowels (w, j).

	Bilabial	Labiodental	Alveolar	Palatal	Velar	Uvular	pharyngeal	Glottal
Stops	*p*		*t*		*k*			*ʔ*
Implosive	*ɓ*		*ɗ*	*ƒ*		*ɠ*		
Nasals	*m*		*n*	*ɲ*				
Fricative		*f*	*s*	*ʃ*			*ħ*	*h*
Affricate				*tʃ*				
Liquids			*l, r*					
Glides	*w*			*j*				

Table 3. Consonant phonemes of Kussummiya

Close observation of the above consonant inventory reveals that there is no voiced stop in Kussummiya (for the allophonic variation see section 6). The absence of voiced stop is not uncommon to Kussummiya, similar cases have been observed in neighboring languages such as Konso (Ongaye 2013,

Black 1973), Diraytata (Wondwosen 2006, Sinkeneh 1983, Black 1974, Wedekind 1994), Mosittacha (Wondwosen 2000, 2015, Harlow 2016, Yibeltal 2020) and Gawwada (Black 1974, Geberew 2003). However, other Cushitic languages such as Oromo (Andrzejewski 1957, Black 1974, Owens 1985), Burji (Sasse 1982) and Ts'amakko (Savà 2005) make voice distinction. Moreover, like the neighboring language Konso (Ongaye 2013), Kussummiya does not have ejective sounds in its consonant inventory but such sounds exist both in Diraytata (Sinkeneh 1983, Wondwosen 2006) and Mosittacha (Wondwosen 2000, 2015, Harlow 2016, Yibeltal 2020). Besides, both Kussummiya and Konso have the palatal implosive /ʃ/ and the uvular implosive /ɠ/ in addition to the implosives /ɓ/ and /ɗ/. However, the palatal and the uvular implosives are absent from both Diraytata and Mosittacha phonemic inventories. The voiceless pharyngeal fricative /ħ/ exists in Kussummiya but absent in Konso, Diraytata and Mosittacha.

3.1.2. Description of consonant phonemes

In this part, descriptions of consonant phonemes along with examples are given. The description is made based on point of articulation.

(1) /p/ is a voiceless bilabial stop.

pata	'back'
piʃaa	'water'
ʔerpa	'elephant'
ʔappa	'father'
ʔapitta	'fire'

(2) /ɓ/ is a bilabial implosive. It is rare in word initial position.

ɓuɓɓa	'egg'
hiɓta	'lip'
ʔamɓa	'breast'
kaɓa	'canal'

(3) /m/ is a bilabial nasal.

muukuta	'frog'
murra	'forest'
mana	'house'
nama	'man'

ɗimajta	'old man'
maaka	'snake'
moonta	'sky'

(4) /w/ is a bilabial glide.

waaɗa	'God'
waħira	'speech'
kawsa	'beard'
ʔalawta	'sister'
ʔawrara	'throat'

(5) /f/ is a voiceless labio-dental fricative.

farta	'horse'
foola	'warm (weather)'
filta	'hole'
ʔafa	'mouth'
lafta	'bone'
ʔafuri	'four'
koofina	'lung'

(6) /t/ is a voiceless alveolar stop.

takka	'one'
tira	'liver'
talteta	'female goat'
moonta	'sky'
kuutajta	'smoke'

(7) /ɗ/ is an alveolar implosive.

ɗaʔta	'butter'
ɗaħaa	'stone'
ɗikla	'elbow'
ɗiiħa	'blood'
hoɗɗeta	'thorn'

kuɗani	‘ten’

(8) /n/ is an alveolar nasal.

nama	‘man’
kofina	‘lung’
ʔaanna	‘milk’
sinɗaa	‘urine’
ʔana	‘I’

(9) /s/ is a voiceless alveolar fricative.

sinɗaa	‘urine’
surra	‘rope’
sokitta	‘salt’
sona	‘nose’
sipla	‘iron’
pissa	‘flower’
ʔiska	‘star’
sessa	‘three’

(10) /l/ is an alveolar lateral.

lakki	‘two’
lukta	‘foot’
latta	‘sun’
keltajta	‘baboon’
pulajta	‘cold (whether)’
pujjalajta	‘dust’
ʔilta	‘eye’

(10) /r/ is an alveolar trill.

ramajta	‘goiter’
roopa	‘rain’
ʔerpa	‘elephant’

tira ‘liver’

(12) /ɟ/ is a palatal implosive.

ɟolta ‘blind person’
ɟaʗaa ‘local beer’
kaaɟaa ‘money’
firɟa ‘diarrhea’
kurmuɟaa ‘fish’

(13) /ɲ/ is a palatal nasal.

ɲirfa ‘hair’
ɲaapa ‘enemy’
ɲaaɲɲaa ‘tomato’
sekiɲawwa ‘vegetable’

(14) /ʃ/ is a voiceless palatal fricative.

ʃokki ‘few’
ʃikreta ‘razor’
ʔiʃa ‘he’
piʃaa ‘water’
haʃʃa ‘leaf’

(15) /tʃ/ is a voiceless palatal affricate; it is a very rare phoneme.

natʃtʃa ‘crocodile’
ʔantʃufa ‘saliva’

(16) /j/ is a palatal glide.

jappa ‘grass’
joojta ‘jackal’
ʤojira ‘wood’
ʤajranta ‘tiger’

(17) /k/ is a voiceless velar stop.

karitta	'belly'
kawsa	'chin, beard'
karɗa	'feather'
mookota	'frog'
maaka	'snake'

(18) /ɗ/ is a uvular implosive.

ɗapana	'hold (in hand)'
ɗojira	'tree'
ɗolpajta	'he-goat'
ɗajranta	'tiger'
karɗa	'feather'
seeɗi	'far'
haɗa	'river'

(19) / ʔ/ is a voiceless glottal stop.

ʔaanna	'milk'
ʔana	'I'
ʔinno	'we'
saʔa	'cow'
soʔa	'meat'
leʔa	'moon'

(20) /ħ/ is voiceless pharyngeal fricative.

ħeni	'five'
ħaana	'fly (v.)'
ɗiiħa	'blood'
ɗaħa	'stone'
maħħa	'name'
leħi	'six'

(21) /h/ is a voiceless glottal fricative.

harka	'hand'

harreta	'donkey'
laha	'ram'
ojha	'fodder'

The consonant description above shows that in Kussummiya all consonant phonemes occur in word initial and medial positions but not in word final position. Except the phoneme /tʃ/ which occurs only word medial position.

3.1.3. Consonant gemination

In Kussummiya, all consonants may appear geminate. Geminate consonants occur only in word medial position. That is, a geminate consonant may function as ambi-syllabic segments as coda of the preceding syllable and onset of the following syllable. The following are illustrative examples.

Consonant	Word	Gloss	Consonant	Word	Gloss
/p/	*dippa*	'hundred'	/r/	*surra*	'rope'
/ɓ/	*ɓuɓɓa*	'egg'	/ɟ/	*kaaɟɟaa*	'a children's game'
/t/	*matta*	'head'	/ʃ/	*haʃʃa*	'leaf'
/k/	*lakki*	'two'	/ʧ/	*fatʃtʃa*	stick'
/m/	*kammaa*	'behind, after'	/ɲ/	*ɲaaɲɲaa*	'tomato'
/w/	*ɗawwijaa*	'herding'	/j/	*faɟja*	'right hand'
/f/	*taffataa*	'snatch'	/ɠ/	*peeɠɠaa*	'dispute'
/ɗ/	*hiɗɗan*	'bundle'	/ʔ/	*seʔʔe*	'this'
/n/	*ʔaanna*	'milk'	/ħ/	*maħħa*	'name'
/s/	*sessa*	'three'	/h/	*mehhi*	'shake'
/l/	*ʔofalla*	'tree bark'			

Table 4. Consonant gemination

Besides, consonant germination is phonemic. This can be learned from the examples below.

(22) a /p/ *kapaa* 'near'

kappa 'wheat'

b	/n/	*ʔana*	'I'
		ʔaanna	'milk'
c	/m/	*kamaa*	'hillside'
		kammaa	'behind'
d	/w/	*ɗawijaa*	'hitting (something)'
		ɗawwijaa	'herding'

Geminate and non-geminate consonants make meaning distinctions. Moreover, gemination is represented by doubling a consonant.

3.1.4. Distribution of consonant phonemes

The distribution of consonant phonemes in a word initial, medial, geminate, preceding and following a consonant is presented below.

3.1.4.1. Stops (p, t, k, ʔ)

Stops occur in word initial and medial positions. Moreover, all stops geminate in intervocalic position and also they occur as a first member in a non-geminate cluster. Except the glottal stop /ʔ/ all the other stops occur as a second member in non-geminate consonant cluster.

	initial	medial	geminate	-C	C-
/p/	*para* 'year'	*kapaa* 'near'	*ɗippa* 'hundred'	*sapta* 'wound'	*ʔerpa* 'elephant'
/t/	*tira* 'liver'	*ɦuta* 'dog'	*matta* 'head'	*naatŋa* 'crocodile'	*moonta* 'sky'
/k/	*karitta* 'belly'	*maaka* 'snake'	*lakki* 'two'	*ʃikreta* 'razor'	*harka* 'hand'
/ʔ/	*ʔana* 'I'	*saʔa* 'cow'	*seʔʔe* 'this'	*ɗaʔta* 'butter'	—

Table 5. Distribution of stops

3.1.4.2. Implosives (ɓ, ɗ, ʄ, ɠ)

Implosives occur in word initial and medial positions. Besides, all implosives may geminate in a word medial position. The implosives /ɓ/, /ɗ/ and /ɠ/ may occur as a first and second member in a non-

geminate cluster. However, the implosive /ʃ/ may not occur as a first member in a non-geminate cluster but it may occur as a second member in a non-geminate cluster.

	initial	medial	geminate	-C	C-
/ɓ/	*ɓubba* 'egg'	*kaba* 'canal'	*ɓubba* 'egg'	*hiɓta* 'lip'	*kolba* 'water reservoir'
/ɗ/	*ɗaħaa* 'stone'	*kuɗani* 'ten'	*hoɗɗeta* 'thorn'	*muɗkanhonta* 'plant sp.'	*sinɗaa* 'urine'
/ʃ/	*foʃaa* 'local beer'	*kaafaa* 'money'	*paraffa* 'type of crop'	—	*firfa* 'diarrhea'
/ʄ/	*ʄojra* 'tree'	*seeʄi* 'far'	*laaʄʄuta* 'bread'	*tololoʄsaa* 'tickle'	*karʄa* 'river'

Table 6. Distribution of implosives

3.1.4.3. Nasals (m, n, ɲ)

Nasals may occur in word initial and medial positions. All of them may geminate in word medial position. Moreover, except /ɲ/ all the other nasals may occur as a first member in a non-geminate cluster.

	initial	medial	geminate	-C	C-
/m/	*mana* 'house'	*nama* 'man'	*tomma* 'hoe'	*taamta* 'branch'	*ʔarma* 'weed'
/n/	*nama* 'man'	*ʔana* 'I'	*ʔaanna* 'milk'	*sinɗaa* 'urine'	*ɗakajna* 'listen'
/ɲ/	*ɲirfa* 'hair'	*sekiɲawwa* 'vegetable'	ɲaaɲɲaa 'tomato'	—	*naatɲa* 'crocodile'

Table 7. Distribution of nasals

3.1.4.4. Fricatives (f, s, ʃ, ħ, h)

Fricatives may occur in word initial and medial positions. Besides, all fricatives may geminate in intervocalic positions. They can also occur as first and second member in non-geminate cluster.

	initial	medial	geminate	-C	C-
/f/	*farta* 'horse'	*ʔafuri* 'four'	*taffaa* 'thighs'	*lafta* 'bone'	*konfa* 'shorts'
/s/	*surra* 'rope'	*kaasa* 'horn'	*desse* 'there'	*ʔiska* 'star'	*polsaa* 'dream'
/ʃ/	*ʔiʃa* 'he'	*piʃaa* 'water'	*haʃʃa* 'leaf'	*koʃkoʃa* 'comb of chicken'	*teʔʃaa* 'elephantiasis'
/ħ/	*ħeni* 'five'	*diiħa* 'blood'	*maħħa* 'name'	*moħna* 'rocky area'	*malħaa* 'flood'
/h/	*harka* 'hand'	*laha* 'ram'	*mehhi* 'shake'	*halhota* 'left (hand)'	*ʔojha* 'fodder'

Table 8. Distribution of fricatives

3.1.4.5. Affricate (tʃ)

	initial	medial	geminate	-C	C-
/tʃ/	—	—	*fatʃtʃa* 'stick'	—	*ʔantʃufa* 'saliva'

Table 9. Distribution of affricate

The distribution of the affricate /tʃ/ is rare in the sense that it geminates in word medial position and also it occurs following a consonant in non- geminate cluster.

3.1.4.6. Liquids (l, r)

Liquids may occur in word initial and medial positions. They geminate in a word medial position and also they occur following and /or preceding a consonant in non-geminate cluster.

	initial	medial	geminate	-C	C-
/l/	*lakki* 'two'	*pulajta* 'cold (weather)	*ħalla* 'kidney'	*ʔilta* 'eye'	*hawla* 'grave'
/r/	*roopa* 'rain'	*tira* 'liver'	*surra* 'rope'	*marɗina* 'intestine'	*ɗajranta* 'leopard'

Table 10. Distribution of liquids

3.1.4.7. Glides (w, j)

Glides may occur in word initial and medial positions. They geminate in word medial position and also they occur preceding a consonant in a non-geminate cluster. However, glides do not occur as a final constituent in a non-geminate cluster.

	initial	medial	geminate	-C	C-
/w/	*waaɗa* 'God'	*kawsa* 'beard'	*ɗawwijaa* 'herding'	*alawta* 'sister'	—
/j/	*jappa* 'grass'	*ɗojira* 'wood'	*fajja* 'right (hand)'	*ɗajranta* 'tiger'	—

Table 11. Distribution of glides

3.2. Vowels

In this section, vowel phonemes and their description, vowel length and vowel co-occurrence will be considered.

3.2.1. Vowel phonemes

Kussummiya has five short /i, e, a, o, u/ and five long /ii, ee, aa, oo, uu/ vowels. These vowels are identified based on the height of the tongue (high, mid and low) and the position of the tongue (front, central and back) during the production of a vowel phonemes.

	Front	Central	Back
High	*i , ii*		*u, uu*
Mid	*e, ee*		*o, oo*
Low		*a, aa*	

Table 12. Vowel phonemes

(23) /i/ is a high front vowel.

ʔiska 'star'
piʃaa 'water'
lakki 'two'

(24) /e/ is a mid-front vowel.

ħeni ‘five’
leʔa ‘moon’
ħeʔe ‘you (sg.)’

(25) /a/ is a low central vowel.
ʔappa ‘father’
pata ‘back’
hiɓta ‘lip’

(26) /u/ is a high back rounded vowel.
ʔunta ‘grain, crop’
surra ‘rope’
ʔajinu ‘who’

(27) /o/ is a mid-back rounded vowel.
ʔoħinta ‘fence’
soʔa ‘cow’
ʔinno ‘we’

All short vowels occur in word medial and final positions. Most nouns end in the vowel /a/.

3.2.2. Vowel length

In Kussummiya, vowel length is phonemic in the sense that short and long vowels contrast in the same environment. The following are illustrative examples.

(28) a /i/ and /ii/
pisa ‘flower’
piisa ‘all’

b /e/ and /ee/
ħela ‘age mate’
ħeela ‘boundary’

c /u/ and /uu/
furaa ‘key’
fuuraa ‘fear’

d /o/ and /oo/

ʃoraa ‘jumping’
ʃooraa ‘thin stick’

e /a/ and /aa/
saraa ‘looting’
saaraa ‘poem’

3.2.3. Vowel co-occurrences

The vowel sequences are shown in the table below. The table is presented in such a way that the left-most column occur preceding the vowels on the top row.

	/i/	/e/	/a/	/u/	/o/
/i/	*hittina* ‘root’	*ʔappile* ‘other’	*piʃaa* ‘water’	—	*ʔirroota* ‘mountain’
/e/	*ħeni* ‘five’	*ħeʔe* ‘you (sg)’	*sessa* ‘three’	*ɗeruma* ‘tallness’	*nessotta* ‘to breath’
/a/	*laawi* ‘green’	*talteta* ‘female goat’	*latta* ‘sun’	*kaakurta* ‘beehive’	*halhota* ‘left (hand)
/u/	*muukitta* ‘to sleep’	*surra* ‘rope’	*ħuta* ‘dog’	*muukuta* ‘frog’	*ʔufotta* ‘to vomit’
/o/	*ʃokki* ‘few’	*roope* ‘to rain’	*ʔojha* ‘fodder’	*ɗojunta* ‘wetness	*ɗompolta* ‘chunk of dry soil’

Table 13. Vowel co-occurrences

Kussummiya may not allow cluster of non-identical vowels. But it may allow doubling of identical vowels which is technically termed as vowel length. The vowel phonemes may occur in word medial and final positions, but they may not occur in word initial position.

4. Phonotactics

Kussummiya allows a maximum of two consonant clusters. The non-geminate consonants appear in word medial position.

4.1. Stops as the first member of the cluster

Stops may occur as a first member of the cluster.

(29) a *ɗapnaa* ‘possession’

b	*naatɲa*	‘crocodile’
c	*takma*	‘honey’
d	*joʔmaa*	‘grindstone’
e	*ħaʔnaa*	‘rising’
f	*ʔipsaa*	‘light’
g	*ɗepʃi*	‘to break’
h	*teʔʃaa*	‘elephantiasis’
i	*kiʔsaa*	‘fireplace’
j	*sipla*	‘metal’
k	*ɗikleeta*	‘elbow’
l	*ʃikreta*	‘razor’

As can be observed from the above examples, in (29a), /p/ occurs preceding /n/ in *ɗapnaa* ‘possession,’ in (29b), /t/ occur preceding /ɲ/ in *naatɲa* ‘crocodile,’ in (29c), /k/ occurs preceding /m/ in *takma* ‘honey,’ in (29d, e), /ʔ/ occurs preceding /m/ in *joʔmaa* ‘grindstone’ and preceding /n/ in *ħaʔnaa* ‘rising.’ Similarly, in (29f, g), /p/ occurs preceding /s/ in *ʔipsaa* ‘light’ and preceding /ʃ/ in *ɗepʃi* ‘break (v.),’ in (29h, i), /ʔ/ occurs preceding /ʃ/ in *teʔʃaa* ‘elephantiasis,’ and preceding /s/ in *kiʔsaa* ‘fire-place,’ in (29j), /p/ occurs preceding /l/ in *sipla* ‘metal,’ in (29k, l) /k/occurs preceding /l/ in *ɗikleta* ‘elbow’ and preceding /r/ in *ʃikreta* ‘razor.’ However, non-geminate cluster of stops may not be followed by implosives or affricate or glides. However, two non-geminate stops may occur in a cluster.

(30)	a	*sapta*	‘wound’
	b	*pitpahaare*	‘loom soil’

In (30), we can see that two non-geminate stops occur in a cluster. Particularly, in (30a), the bilabial voiceless stop /p/ occurs preceding the voiceless alveolar stop /t/ in *sapta* ‘wound.’ Similarly, in (30b) the voiceless alveolar stop /t/ occurs preceding the voiceless bilabial stop /p/ in *pitpahaare* ‘looms soil.’

4.2. Implosives as the first member of the cluster

Implosives may occur as a first member in a non-geminate cluster of consonants as the following examples illustrate.

(31)	a	*hiɓta*	‘lip’
	b	*mudkanhanta*	‘plant species’
	c	*siiɓʃi*	‘hang’

d *tololoʗsaa* ‘tickle’

e *poʗla* ‘chief’

In (31a) the bilabial implosive /ɓ/ occurs preceding the voiceless alveolar stop /t/ in *hiɓta* ‘lip;’ in (31b) the alveolar implosive /ɗ/ occurs preceding the voiceless velar stop /k/ in *muɗkanhanta* ‘plant species;’ in (31c) the bilabial implosive /ɓ/ occurs preceding the voiceless palatal fricative /ʃ/ in *siiɓʃi* ‘hang;’ in (31d, e) the velar implosive /ʗ/ occurs preceding the voiceless alveolar fricative /s/ in *tololoʗsaa* ‘tickle’ and preceding the lateral /l/ in *poʗla* ‘chief.’

4.3. Fricatives as the first member of the cluster

Fricatives may occur as a first member in a cluster of non-geminate consonants.

(32) a *lafta* ‘bone’

b *ʔiska* ‘star’

c *koʃkoʃa* ‘comb of a chicken’

d *haʃhota* ‘left hand’

e *moħna* ‘rocky area

f *napahta* ‘ear’

g *pohmajta* ‘chameleon’

h *pahnaa* ‘example’

In (32a) the voiceless labio-dental fricative /f/ occurs preceding the voiceless alveolar stop /t/ in *lafta* ‘bone’ and in (32b) the voiceless alveolar fricative /s/ occurs preceding the voiceless velar stop /k/ in *iska* ‘star.’ By the same token, in (32c, d), the voiceless palatal fricative /ʃ/ occurs preceding the voiceless velar stop /k/ in koʃkoʃa ‘comb of a chicken’ and preceding the voiceless glottal fricative /h/ in *haʃhota* ‘left hand;’ in (32e), the voiceless pharyngeal fricative /ħ/ occurs preceding the alveolar nasal /n/ in *moħna* ‘rocky area;’ in (32f- h), the voiceless glottal fricative /h/ occurs preceding the voiceless alveolar stop /t/ in *napahta* ‘ear,’ preceding the bilabial nasal /m/ in *pohmajta* ‘chameleon,’ and preceding the alveolar nasal /n/ in *pahnaa* ‘example.’

4.4. Nasals as the first member of the cluster

Nasals may occur as a first member in non-geminate cluster as shown in the following examples.

(33) a *ħampiritta* ‘bird’

b	*kanta*	‘neighbor’
c	*kaankita*	‘mule’
d	*sinɗaa*	‘urine’
e	*fanɠala*	‘splinter’
f	*ɗumɗuma*	‘forearm’
g	*konfa*	‘short (cloth)’
h	*tansa*	‘dance’
i	*hantʃufa*	‘saliva’

In (33a) the bilabial nasal /m/ occurs preceding the voiceless bilabial stop /p/ in *ħampiritta* ‘bird;’ in (33b-e) the alveolar nasal /n/ occur preceding the voiceless alveolar stop /t/ in *kanta* ‘neighbor;’ preceding the voiceless velar stop /k/ in *kaankita* ‘mule;’ preceding alveolar implosive /ɗ/ in *sinɗaa* ‘urine’ and preceding the uvular implosive /ɠ/ in *fanɠala* ‘splinter.’ In (33f) the bilabial nasal /m/ occurs preceding the alveolar implosive /ɗ/ in *ɗumɗuma* ‘forearm;’ in (33g, h) the alveolar nasal /n/ occurs preceding the voiceless labio-dental fricative /f/ in *konfa* ‘short (cloth)’ and preceding the voiceless alveolar fricative /s/ in *tansa* ‘dance;’ and in (33i) the alveolar nasal /n/ occurs preceding the affricate /tʃ/ in *hantʃufa* ‘saliva.’

4.5. Lateral as the first member of a cluster

Lateral can occur as a first member in non-geminate cluster as the following examples illustrate.

(34)

a	*kilpa*	‘knee’
b	*talteta*	‘she-goat’
c	*alkitta*	‘sisal’
d	*ɓaalɓaala*	‘potbellied’
e	*ʔipalɗa*	‘it is wide’
f	*telɠajta*	‘lizard’
g	*ħolma*	‘neck’
h	*ħolfa*	‘earring’
i	*olsaa*	‘dream’
j	*malħaa*	‘flood’

In (34a-j), the alveolar /l/ occurs preceding the voiceless bilabial stop /p/ in *kilpa* ‘knee,’ preceding the alveolar /t/ in *talteta* ‘she-goat,’ preceding the voiceless velar /k/ in *alkitta* ‘sisal,’ preceding the bilabial

implosive /ɓ/ in *ɓaalɓaala* 'potbellied,' preceding the alveolar implosive /ɗ/ in *ʔipalɗa* 'it is wide,' preceding the uvular implosive /ʛ/ in *telʛajta* 'lizard,' preceding the bilabial nasal /m/ in *ħolma* 'neck,' preceding a voiceless labio-dental /f/ in *ħolfa* 'earning,' preceding the alveolar fricative /s/ in *olsaa* 'dream,' and finally preceding the voiceless pharyngeal fricative /ħ/ in *malħaa* 'flood.'

4.6. Trill as the first member of a cluster

A trill may occur as the first member in non-geminate cluster as the examples below illustrate.

(35)

ʔerpa	'elephant'
farta	'horse'
murkufa	'fish'
ʔerɓa	'lie'
tarɗaa	'ash'
furʃa	'diarrhea'
marʛinaa	'intestine'
ʔurmala	'market'
ʔirɲa	'gum'
ɲirfaa	'hair'
marsaa	'buttock'
ħarħarajta	'warthog'

In (35), the trill /r/ occurs preceding the voiceless bilabial stop /p/ in *ʔerpa* 'elephant,' preceding the voiceless alveolar stop /t/ in *farta* 'horse,' preceding the voiceless velar stop /k/ in *murkufa* 'fish,' preceding the bilabial implosive /ɓ/ in *ʔerɓa* 'lie,' preceding the alveolar implosive /ɗ/ in *tarɗaa* 'ash,' preceding the palatal implosive /ʃ/ in *furʃa* 'diarrhea,' preceding the uvular implosive /ʛ/ in *marʛinaa* 'intestine,' preceding the bilabial nasal /m/ in *ʔurmala* 'market,' preceding the palatal nasal /ɲ/ in *ʔirɲa* 'gum,' preceding the voiceless labio-dental fricative /f/ in *ɲirfa* 'hair,' preceding the voiceless alveolar fricative /s/ in *marsaa* 'buttock,' and finally preceding the voiceless pharyngeal fricative /ħ/ in *ħarħarajta* 'warthog.'

4.7. Glides as the first member of the cluster

4.7.1. The glide /w/ as the first member of a cluster

The glide /w/ may occur as the first member in non-geminate cluster as shown in the examples below.

(36) *kawpa* ‘besides’
ʔalawta ‘sister’
kawkawa ‘jaw’
hawɗatta ‘clan name’
ʄiwʄiwa ‘chicken’
tawna ‘bell’
kawsa ‘beard’
ɗawraa ‘prohibition’
hawla ‘grave, tomb’

In (36), the glide /w/ occurs preceding the voiceless bilabial stop /p/ in *kawpa* ‘besides,’ preceding the voiceless alveolar stop /t/ in *ʔalawta* ‘sister,’ preceding the voiceless velar stop /k/ in *kawkawa* ‘jaw,’ preceding the alveolar implosive /ɗ/ in *hawɗatta* ‘clan name,’ preceding the palatal implosive /ʄ/ in *ʄiwʄiwa* ‘chicken,’ preceding the alveolar nasal /n/ in *tawna* ‘bell,’ preceding the voiceless alveolar fricative /s/ in *kawsa* ‘beard,’ preceding the flap /r/ in *ɗawraa* ‘prohibition,’ and finally preceding the lateral /l/ in *hawla* ‘grave, tomb.’

4.7.2. The glide /j/ as the first member of the cluster

The examples below show when the glide /j/ occurs as the first member in non-geminate cluster.

(37) *ʔajkitta* ‘grass species’
hajɗaa ‘fried meat’
ɗejmatta ‘irony’
ħajnaʔtaa ‘thread’
kalatejsata ‘praise’
hajhita ‘guest’
sajleeta ‘mane’
ɗojra ‘tree’

In (37), the palatal glide /j/ occurs preceding the voiceless velar stop /k/ in *ʔajkitta* ‘grass species,’ preceding the alveolar implosive /ɗ/ in *hajɗaa* ‘fried meat,’ preceding the bilabial nasal /m/ in *ɗejmatta* ‘irony,’ preceding the alveolar nasal /n/ in *ħajnaʔtaa* ‘thread,’ preceding the voiceless alveolar fricative /s/ in *kalatejsata* ‘praise,’ preceding the voiceless glottal fricative /h/ in *hajhita* ‘guest,’ preceding the lateral /l/ in *sajleeta* ‘mane,’ and preceding the flap /r/ in *ɗojra* ‘tree.’

From the preceding discussion on a consonant sequence, we observe that a consonant sequence in Kussummiya is made up of two non-geminate consonants. Consonant sequence occurs only in word medial position. The consonants that occur in the coda position are stops, implosives, fricatives, nasals, liquids and glides.

	Stops					Implosives				Fricatives					Affr	Nasals			Liquids		Glides	
		p	t	k	ʔ	ɓ	ɗ	ƒ	ɠ	f	s	ʃ	ħ	h	tʃ	m	n	ɲ	l	r	w	j
Stops	p		x								x	x					x		x			
	t	x																x				
	k															x			x	x		
	ʔ										x	x				x	x					
Implosives	ɓ		x									x										
	ɗ			x																		
	ƒ																					
	ɠ										x								x			
Fricatives	f		x																			
	s			x																		
	ʃ			x										x								
	ħ																x					
	h		x													x	x					
Affricate	tʃ																					
Nasals	m	x	x				x					x										
	n		x	x			x		x	x	x				x							
	ɲ																					
Liquids	l	x	x	x		x	x		x	x	x		x			x						
	r	x	x	x		x	x	x	x	x	x		x			x		x				
Glides	w	x	x	x			x	x		x	x						x		x	x		
	j			x			x				x			x		x	x		x	x		

Table 14. Phonotactic grid

From the above table, we may learn that not all consonants combine in a sequence in Kussummiya. For example, a stop may be followed by another stop or a fricative or a nasal or a lateral. However, a stop may not be followed by an implosive or an affricate or a glide. Implosives may be followed by stops, fricatives and liquids in non-geminate clusters of consonants. But implosives may not be followed by

other implosives, affricate and glides. Fricatives may be followed by a stops or fricatives or nasals. Fricatives, however, may not be followed by implosives, affricate, liquids and glides. Affricate, in Kussummiya, may not occur as a first member but it may come as second member in a cluster only with a nasal. Nasals may be followed by a stop, or an implosive, or an affricate or a fricative but they may not be followed by a liquid or a glide. Liquids may be followed by a stop or an implosive or a fricative or a nasal but they may not be followed by an affricate or a glide. Glides may be followed by stops or implosives or fricatives or nasals or liquids but not with an affricate or another glide.

From the preceding discussion on non-geminate cluster of consonants we can make the following generalization. Sonorants make more non-geminate consonant cluster than obstruents. This is because, obstruent's may allow stops, fricatives, nasals and liquids as the second member, whereas sonorant's allow stops, implosives, fricatives, affricate, nasals and liquids as their second member in a cluster.

5. Syllable Structure

In this section, syllable types, syllable internal phonotactics, syllable profiles of nouns and verbs will be considered.

5.1. Syllable types

Clements and Keyser (1983) classify the syllable structure of world languages into four canonical types. They argue that languages of the world can fall into one of the four types. The four canonical types are presented in 38 below.

(38)

Type I	CV
Type II	CV, V
Type III	CV, CVC
Type IV	CV, V, CVC, VC

When we consider the syllable structure of Kussummiya in light of the above four canonical types, it seems that Kussummiya falls into Type III.

A syllable that may contain a consonant in its coda is called a closed syllable whereas a syllable that may not contain a consonant in its coda is called an open syllable. Kussummiya does not allow neither onset nor coda cluster. Thus, geminate consonants occur as coda of the preceding and onset of the following syllables. There are four types of syllables as the following examples illustrate.

(39)	a	CV	*ma-na*	'house'
	b	CVV	*maa-ka*	'snake'
	c	CVVC	*moon-ta*	'sky'
	d	CVC	*mur-ra*	'forest'

Based on the above data the following syllable template can be drawn for Kussummiya.

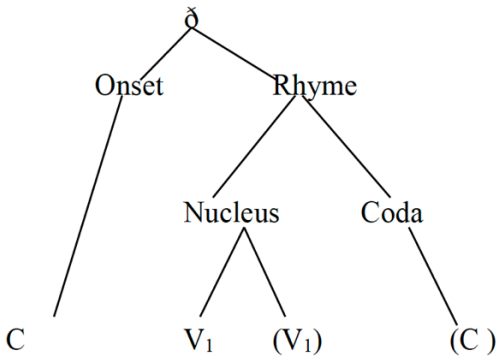

Figure 1. Syllable template

Kussummiya has a CV syllable pattern. In this speech variety, onset and nucleus are obligatory and coda is optional. The nucleus may contain either a long or short vowels. Similar, patterns of syllable can be observed in Konsoid languages such as Konso (Ongaye 2013), Diraytata (Wondwosen 2006) and Mosittacha (Wondwosen 2015, Yibeltal 2020 and Harlow 2015).

5.2. Syllable patterns in nouns

The most common syllable pattern in nouns is CV:

(40)	*ma-na*	'house'
	na-ma	'man'
	ʔa-fa	'mouth'
	ti-ra	'liver'
	so-na	'nose'
	ku-ta	'dog'
	sa-ʔa	'cow'
	le-ʔa	'moon'
	la-ha	'ram'
	ha-ɗa	'river'

The other common syllable pattern is CVC-CV structure:

(41)	*har-pa*	'elephant'
	ʔam-ɓa	'breast'
	hiɓ-ta	'lip'
	kaw-sa	'beard'
	far-ta	'horse'
	fit-la	'hole'
	tak-ka	'one'
	pis-sa	'flower'
	sup-ra	'rope'
	tak-ka	'one'
	haʃ-ʃa	'leaf'
	maħ-ħa	'name'
	mat-ta	'head'
	ses-sa	'three'

Another common syllable pattern in nouns is CVV(C)-CV structure:

(42)	*maa-ka*	'snake'
	waa-ɗa	'God'
	foo-la	'warm (weather)'
	ɗaa-ta	'butter'
	roo-pa	'rain'
	moon-ta	'sky'
	ʔaan-na	'milk'
	jooj-ta	'jakal'

The following tri-syllabic nouns with the CV(C)-CV(C) - CV structures have been observed:

(43)	*ʔaw-ra-ra*	'throat'
	ʔa-law-ta	'sister'
	hoɗ-ɗe-ta	'thorn'
	so-kit-ta	'salt'
	kel-taj-ta	'baboon'

pu-laj-ta	'cold'
ra-maj-ta	'goiter'
ʃik-re-ta	'razor'
ʔan-tʃu-fa	'saliva'
ɗoj-ran-ta	'tiger'
ɗol-paj-ta	'he-goat'

Regarding quadric-syllabic nouns, they are a few in number in Kussummiya:

(44)

puj-ja-laj-ta	'dust'
se-ki-ɲaw-wa	'vegetable'
ʔal-la-ʔit-ta	'vulture'
ko-kor-re-ta	'guinea fowl'

5.3. Syllable patterns in verb roots

In verb roots, there are five syllable patterns: CVC- (the most common), CVCC-, CVVC-, CV-CV(C)-and CV(C)-CVV(C):

CVC-	*ɗot-*	'to dig'
	ɗam-	'to eat'
	ɗur-	'to cut'
	ɗaw-	'to hit'
	toj-	'to see'
	muk-	'to sleep'
	tak-	'to swim'
	luk-	'to suck'
CVCC-	*ʔukk-*	'to drink'
	kull-	'to enter'
	piɗɗ-	'to buy'
	ʔerk-	'to send'
	ɗink-	'to kiss'
CVVC-	*tooj-*	'to die'
	fuur-	'to fear'
	ɗaaf-	'to give'
	pooj-	'to cry'
CV-CV(C) -	*ɗa-kay-*	'to hear'
	ɗe-ham-	'to advise'
CV(C)-CVV (C)-	*ɗa-niin-*	'to bite'

ʔo-raap	'to fetch water'
ʔa-ħaaw-	'to roast'
su-raaw-	'to hurt'

Table 15. Syllable patterns in verb roots

6. Phonological processes

The phonological processes discussed here are: insertion, deletion, devoicing, spirantisation, assimilation and metathesis. In what follows we shall take up each in turn.

6.1. Insertion

The epenthetic vowel [i] is inserted to break the impermissible consonant cluster as in the examples below.

(45) */iʔakk- + -t + -e/* → [iʔakkite]
see - 3FS - PRF 'she saw'
/ipiɗɗ- + -t + -e/ → [ipiɗɗite]
buy- 3FS- PRF 'she bought'

In (45), the epenthetic vowel [i] is inserted, when the feminine marker morpheme *-t* is suffixed on the verb roots *iʔakk* 'see' and *ipiɗɗ* 'buy' as in *iʔakkite* 'she saw' and *ipiɗɗite* 'she bought.' Similarly, a sequence of two non-identical vowels is not allowed in Kussummiya. Thus, in order to break the impermissible vowel sequence, the glottal stop [ʔ] or the glide [j] is inserted:

(46) */Datikko-e ʔana iɗaw-e /* → [datikkoʔe ʔana iɗawe]
Datikko-NOM I hit-PRF 'Datikko hit me'
/ʔiʃeete -e ʔana iɗaw-t-e / → [ʔiʃeeteʔe ʔana iɗaw-t-e]
she-NOM I hit-3FS-PRF 'she hit me'
/nama-e ito-e/ → [namaʔe itoje]
man-NOM die-PRF 'a man died'

In (46) the glottal stop *[ʔ]* is inserted before the nominative marker morpheme *-e* as shown in the phonetic forms while in the last example the glide /j/ is inserted on the verb root preceding the aspect marker morpheme *-e*.

6.2. Deletion

Deletion refers to the loss of a sound in a certain defined context. In other words, it is the omission of a certain sound in a certain context. Consider the following examples.

(47)	/*ħuta + -aɗa* /	→	[*ħutaɗa*]	'dogs'
	/*okotta + -awwa*/	→	[*okottawwa*]	'cows'
	/*ħorma + -aɗa*/	→	[*ħormaɗa*]	'oxen'

In (47), the base final vowel [a] is deleted when a plural suffix is attached to it.

6.3. Devoicing

In Kussummiya, implosives are devoiced when they occur geminate. Devoicing of geminate implosives have also been observed in Konso (see Ongaye 2013: 40).

(48)	/*ɓuɓɓa*/	→	[ɓu̥ɓ̥a]	'egg'
	/*kuɗɗeta*/	→	[ku̥ɗ̥eta]	'thorn'
	/*kaaffaa*/	→	[kaḁffaa]	'dispute'
	/*peeƈƈaa*/	→	[pee̥ƈ̥a]	' a children game'

However, non-geminate implosives are not devoiced:

(49)	*ƈojranta*	'tiger'
	ƒolta	'blind person'
	ɗiiħa	'blood'

6.4. Spirantisation

In Kussummiya, the voiceless bilabial stop /p/ becomes a voiceless bilabial fricative [ɸ] between vowels:

(50)	/*ƈapana*/	→	[ƈaɸana]	'hold (in hand)'
	/*roopa*/	→	[rooɸa]	'rain'
	/*ʔarrapa*/	→	[ʔarraɸa]	'tongue'
	/*ħupata*/	→	[ħuɸata]	'tortoise'

It is also spirantised following a resonant consonant:

(51)	/*sipla*/	→	[siɸla]	'metal'

/harpa/	→	[harɸa]	'elephant'
/ʔerpa/	→	[ʔerɸa]	'lie'
/ɗolpajta/	→	[ɗolɸajta]	'he̱-goat'
/kilpa/	→	[kilɸa]	'knee'

Besides, the bilabial implosive [ɓ] may occur spirantised in a non-geminate cluster preceding the consonant [t] consider the following examples:

(52)	/hiɓta/	→	[hiɸta]	'lip'
	/ħoɓta/	→	[ħoɸta]	'shoe'

6.5. Assimilation

Assimilation is a process by which a consonant becomes more like its neighbor in point or manner of articulation or both. In Kussummiya, assimilation happen when the preceding consonant becomes more like the following consonant or vice versa in point or manner of articulation or both. In a consonant sequence, when the following consonant becomes more like the preceding consonant it is called progressive assimilation and when the preceding consonant becomes more like the following consonant it is called regressive assimilation but in Kussummiya progressive assimilation is very rare. Moreover, assimilation could be complete or partial. The following examples illustrate complete assimilation.

(53)	a	/ʔin- + -lel + -e /	→	[ʔillele]
		I-tell-PRF		'I told'
	b	/ʔin- +- wat + -e/	→	[ʔiwwate]
		I-roast- PRF		'I roasted'

In (53a), the alveolar nasal /n/ completely assimilates to the following lateral sound [l] in (53a) and in (53b) to the following glide sound [w].

As to the partial assimilation, consider the examples in (54):

(54)	/hanfufaa/	→	[haɲfufaa]	'saliva'
	/konfa/	→	[koɱfa]	'short'
	/kaankita/	→	[kaaŋkita]	'mule'

In (54) the alveolar nasal /n/ becomes a palatal nasal /ɲ/ preceding the palatal implosive /ʄ/, while in (54), it becomes /ɱ/ preceding the labiodentals sound /f/, and it becomes /ŋ/ preceding the voiceless velar stop /k/.

The voiceless velar stop /k/ is phonetically a voiced [g] in the environment following a voiced consonant:

(55)	*/dîkla/*	→	[dîgl*a*]	'elbow'
	/ʔajkitta/	→	[ʔajgitta]	'grass species'
	/ʔalkitta/	→	[ʔalgitta]	'sisal'
	/murkuʄa/	→	[murguʄa]	'fish'
	/kaankita/	→	[kaaŋgita]	'mule'

Similarly, the voiceless bilabial stop /p/ becomes phonetically voiced after a nasal consonant:

(56)	*/ħampiritta/*	→	[ħambiritta]	'bird'
	/tampoota/	→	[tamboota]	'tobacco'
	/timaa/	→	[timbaa]	'drum'

6.6. Metathesis

Metathesis occurs in some words that contain non-geminate consonant clusters. Words that allow metathesis are limited in number. They require the alveolar later /l/ to be either the first or the second member in a consonant cluster. The speaker may show preference in the use of one form from the other. For example, in (57) below the variants listed in the left of the arrow are preferred to those in the righ of the arrow.

(57)	a	*/kilpa/*	→	*kipla*	'knee'
	b	*/silpa/*	→	*sipla*	'iron, metal'
	c	*/ʔilkitta/*	→	*ʔiklitta*	'tooth'
	d	*/ʔalkitta/*	→	*ʔaklitta*	'sisal'
	e	*/ɠolfaa/*	→	*ɠoflaa*	'bark (of tree)'

7. Conclusion

Kussummiya has 21 consonant phonemes. That is, four stops (p, t, k, ʔ), four implosives (ɓ, ɗ, ʄ, ɠ), three nasals (m, n, ɲ), five fricatives (f, s, ʃ, ħ, h), one affricate (tʃ), two liquids (l, r) and two glides (w, j). Except the affricate (tʃ) all consonants occur in word initial and medial positions but not in word final

position. Moreover, all consonants may geminate. However, gemination may occur in word medial position only. Thus, geminate consonant may function as ambi-syllabic segments as coda of the preceding syllable and onset of the following syllable. Regarding the vowel phonemes, there are five short (i, e, a, o, u) and five long (ii, ee, aa, oo, uu) vowels. All short vowels occurs in a word medial and final positions. Kussummiya may not allow two non-identical vowels in a sequence.

Consonant sequence, in Kussummiya, is made up of two non-geminate consonants. Consonant sequence may occur only word-medially. The consonants (ɲ, ʃ and tʃ) may not occur as first member in non-geminate cluster. The consonants that occur in the coda position are stops, implosives, fricatives, nasals, liquids and glides.

The syllable structure of Kussummiya allow neither onset nor coda cluster. There are four types of syllables: CV, CVV, CVVC and CVC. The syllable structures in noun consists of: CV-CV, CVC-CV, CVV(C)-CV, CV(C)- CV (C)- CV and CV (C)- CV(C)-CV (C)-CV. The following syllable structure is observed in verb roots: CVC-, CVC-CV-, CVVC-, CV-CV(C)- and CV(C)-CVV(C)-.

Regarding the phonological processes, insertion, deletion, devoicing, spirantisation, assimilation and metathesis have been discussed. The epenthetic vowel [iˀ] is inserted between the verb root that ends in double consonants and a suffix that begins in a consonant. Moreover, the glottal stop [ʔ] or the glide [j] is inserted to break a sequence of two non-identical vowels. The final vowel of the base may be deleted when a suffix beginning with a vowel is attached to a base. In Kussummiya, implosives are devoiced when they geminate. Moreover, the voiceless bilabial stop /p/ becomes a voiceless labiodentals fricative [ɸ] in intervocalic or when it occurs preceding a resonant consonant.

In Kussummiya, progressive assimilation is rare whereas regressive assimilation is the common type of assimilation. The alveolar nasal /n/ becomes a palatal nasal [ɲ] preceding the palatal implosive /ʃ /, it becomes [ɱ] preceding /f/, it becomes [ŋ] preceding /k/. Similarly, the voiceless bilabial stop /p/ becomes a voiced bilabial stop [b] following a nasal consonant. The voiceless velar stop /k/ becomes a voiced velar stop [g] following a voiced consonant.

Finally, metathesis changes /lp/ into /pl/, as in *kilpa* becoming *kipla* ‘knee.’

Symbols and abbreviations

1	First Person	SG	Singular
2	Second Person	C	Consonant
3	Third Person	V	Vowel
F	Feminine	PRF	Perfective

M	Masculine	NOM	Nominative
PL	Plural	→	the constituent before the arrow is changed into …

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