

# Swahili Morphological Sketch

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## 1 Introduction

Swahili has approximately 50 million speakers across Eastern Africa, with speaking communities in Tanzania, Kenya, Uganda, Rwanda, Burundi, DRC, and the Comoros. The domain spans from Northern Mozambique to southern Somalia, with speakers in northern Malawi and Zambia as well. Swahili originated from island communities such as Zanzibar and Lamu, and gained popularity as a trade language between East Africa, the Arabian Peninsula, and the Indian Subcontinent. So even though Swahili is a Bantu language, it has a significant of lexical influence from Arabic, Hindi, Portuguese, Persian, English, and more, due to trade.

### 1.1 Orthography

Swahili orthography is written in Latin alphabet, presented here drawing from the system used by Ashton<sup>1</sup> and Mpiranya<sup>2</sup>.

	Bilabial	Labio -dental	Dental	Alveolar	Post -alveolar	Palatal	Velar	Glottal
Explosive	p			t	ch		k	
Implosive	b			d		j	g	
Fricative		f v	th dh	s z	sh		kh gh	h
Nasal	m			n		ny	ng'	
Liquid, etc.	w			r l		y		
Nasal Compounds	mb			nd	nj		ng	

There are five vowels, distinguished by major features:

High Front	i
High Back Rounded	u
Mid Front	e
Mid Back Rounded	o
Open	a

### 1.2 Stress

Stress occurs on the penultimate syllable of each word. Words are typically required to be at least bisyllabic. There are some exceptions to the stress patterns regarding loanwords. For example

- (1) Ni la'zima ku-so'ma ki-ta'bu hi'-ki  
be necessary INF-read book this

<sup>1</sup>Contini-Morava, Ellen. "Bibliography" In *Discourse Pragmatics and Semantic Categorization: The Case of Negation and Tense-Aspect with Special Reference to Swahili*, 183-196. Berlin, Boston: De Gruyter Mouton, 1989. <https://doi.org/10.1515/9783110889031-008>

<sup>2</sup>Mpiranya, Fidèle. *Swahili grammar and workbook*. Routledge, 2014.

‘It is necessary to read this book’

The Swahili word *lazima* is derived from the Arabic “*lazim*”, which also indicates necessity, but where the stress is on the first syllable of the word. In this subjunctive clause, *lazima* has retained the same initial syllable stress, despite Swahili’s systematic penultimate syllable stressing. However, for emphasis in independent clauses, *lazima* takes the regular penultimate syllable stressing<sup>3</sup>.

## 2 Nouns

Swahili is highly agglutinative, though more notably on verbs rather than its nouns. In terms of distribution, Swahili is characterized by many roots but comparatively fewer affixes. Typically nouns only take a prefix indicating their noun class, but there are occasionally suffixes to be used, such as the locative suffix *-ni*. These will be discussed below. Nouns in Swahili are mostly of Bantu origin, but there are a significant amount of loanwords borrowed from Arabic and Persian, as well as Indian languages. (Swahili and Sabaki). There is evidence that loanwords have affected class system, especially with the addition of Omani loanwords to classes 9/10 and 5/6. But primarily, most of the non-Bantu influence is on the lexicon<sup>4</sup>.

One instance where Swahili borrows lexical items but not grammar is the from Arabic. Arabic templatic morphology treats changes in vowel quality and quantity as productive, and we can see this productivity in Arabic word for book “*qitab*” has been adopted in many different Swahili words:

*ki-tabu* (book), *maktaba* (library), *mktaba* (statue), *katibu* (secretary/writer), *ku-katibu* (to make agreement in writing), *katiba* (that which has the force of law as written in the Quran).

However in Swahili these are treated as separate lexical items in Swahili. In nearly all cases, the alternations in vowel quality are not generally productive.

### 2.1 Noun Classes

Depending on presentation there are 18 classes of nouns, which are grouped together in various ways. We will use presentation in *Swahili Grammar and Workbook* (Mpiranya, 2014)<sup>5</sup> and consider 8 major classes of nouns. The class of a noun governs how verbs, adjectives, and pronominals that concern that noun will be inflected. All stems referring to a particular noun must take a class affix in order to maintain concord with the class of that noun. This will be elaborated upon later in the sketch, but for now we will enumerate the Swahili noun classes in a table below, with examples of nouns from each class.

Historically, Swahili had many more noun classes than seen today. Over time, Swahili (and similarly Comoroan) have reduced the number of classes more than any other Bantu language in East Africa. The incorporation of many lexical items from Arabic and Omani have contributed to these change in inflectional morphology. The noun classes are traditionally presented as numbered, which we will mark in the table below using the numbering system of Swahili and Sabaki: A linguistic history. A particular noun typically follows a systematic alteration in inflection between its singular and plural forms, hence the organization as such.

Most nouns are inflected with a prefix indicating their class, except for nouns in class [9/10], or [n-i/n-zi]. This is the class of nouns which do not alternate between singular and plural forms, and is mostly made up of animals and loanwords. One of the examples given is *kalamu*, which is borrowed from the

<sup>3</sup>personal communication with Fidèle Mpiranya

<sup>4</sup>Nurse, Derek, Thomas J. Hinnebusch, and Gérard Philipson. *Swahili and Sabaki: A linguistic history*. Vol. 121. Univ of California Press, 1993.

<sup>5</sup>Mpiranya, Fidèle. *Swahili grammar and workbook*. Routledge, 2014.

Arabic "qalam" (pen), and remains invariable across singular and plural inflection. Similarly, class [5/6], or [ji,∅-li/ma-ya] consists of nouns which take no prefix in the singular form but take the prefix ma- in the plural form. Note that the prefix ji- is rare, and the vast majority of nouns in this class do not take a prefix in singular form.

There is a ninth class for locatives, which only contains one word: mahali "place". The locative class prefixes pa-, ku-, and mu- have disappeared from nominative versions of words, but do arise when used in the inflection of adjectives.

Finally, but maybe most importantly, in nearly all cases animate nouns will take the class [1/2] [mu-yu,a/wa-wa].

Singular Nominal Prefix	Singular Pronominal Prefix	Plural Nominal Prefix	Plural Pronominal Prefix	Examples
mu <sup>1</sup> -	yu-,a-	wa <sup>2</sup> -	wa-	m-toto/wa-toto(child/children) mw <sup>a</sup> -alimu/w-alimu(teacher/teachers)
mu <sup>b3</sup> -	u-	mi <sup>4</sup> -	i-	m-ti/mi-ti(rees) mw-aka/mi-aka(year/years)
ji <sup>c</sup> , ∅ <sup>5</sup> -	li-	ma <sup>6</sup> -	ya-	∅-gari/ma-gari(car/cars)
ki <sup>7</sup> -	ki-	vi <sup>8</sup> -	vi-	ki-tabu/vi-tabu(book/books) ch <sup>d</sup> -akula/vy <sup>e</sup> -akula(food/foods)
n <sup>9</sup> -	i-	n <sup>10</sup> -	zi-	nyumba/nyumba(house/houses) kalamu <sup>f</sup> /kalamu(pen/pens)
mu <sup>3</sup> -	u-	n <sup>10</sup> -	zi-	u-bavu/n-bavu(rib/ribs) w-imbo/ny-imbo(song/songs)
mu <sup>3</sup> -	u-	ma <sup>6</sup> -	ya-	u-nyoya/ma-nyoya(feather/feathers)
ku <sup>15</sup> -	ku-			ku-pika(to cook) kw <sup>g</sup> -ende(to go)
pa <sup>16</sup> -,ku <sup>17</sup> -,mu <sup>18</sup> -				mahali

<sup>a</sup>Phonological rule changes /mu/ to /mw/ before a vowel.

<sup>b</sup>The u is deleted before a consonant, and changes to a w before a vowel. Thus, we almost never see this underlying form with u, besides in exceptional cases and loanwords; for instance, muziki/miziki(music/musics) - personal communication with Fidèle Mpiranya

<sup>c</sup>the prefix ji- is rare, only occurring before vowel initial and monosyllabic noun stems

<sup>d</sup>before a vowel initial noun stem, ki becomes ch

<sup>e</sup>before a vowel initial noun stem, vi becomes vy

<sup>f</sup>many nouns in this class have the n- prefix, but many others, particularly loanwords do not, and are only distinguished by their invariability across singular and plural inflection

<sup>g</sup>ku- ma become kw- before a vowel

## 2.2 Pronominals

Swahili pronominal stems are inflected with the appropriate class affix, depending on what class of noun they refer to. Below we present the major pronominal affixes, with aspects of presentation drawn from both Ashton and Mpiranya.

<b>Personal</b>	mimi, wewe, yeye, sisi, nini(ninyi)	me, you, him/her, you-PL, them
<b>Possessive</b>	-angu, -ako, -ake, -etu, -enu, -ao	mine, yours, his/hers, ours, yours-PL, theirs
<b>Demonstrative</b>	hu-, -le	this, that
<b>Interrogative</b>	-ni?, -pi?	who, what, where, etc.
<b>Reference</b>	-o	which
<b>Enumerative</b>	-ote	all
<b>State</b>	-enye	with
<b>Locative</b>	-ni	in

### 2.3 Noun Inflection

As mentioned before, every noun falls into a particular noun class which is typically discernible, due to the fact that a noun class prefix is almost always obligatory. However, similar surface forms and the possibility of null prefixes mean that this is not always the case. Noun inflection carries over to the words referring to the noun, so pronominals and adjectives all have to take the correct class affix to retain this concord. Swahili noun plural inflection follows directly from the class system. As seen in the examples, Swahili nouns follow predictable alternations for plural inflection depending on what noun class they fall in. Exceptions include the invariable class [9/10] [n-i/n-zi], and mass nouns, which are often found in class [ji,∅-li/ma-ya]. For example

- (2) ni-na-kunywa ma-ji  
 1.SG-PRES-drink c6-water  
 I drink water.

The Swahili word for water, maji, is in class [6] [ma-ya], and is in the category of "mass nouns", and therefore does not ever arise in singular form. The word for cooked rice has similar inflectional behavior. In this case, wali is in class [3] [mu-u], and has no plural form<sup>6</sup>.

- (3) ni-na-kula wa-li  
 1.SG-PRES-eat c3-rice  
 I eat rice.

That sums up Swahili plural inflection. Moving onto pronominal inflection, we see that pronominal stems take the affix for the class of noun they refer to, so Swahili sentences with multiple pronominals retain the same class affixes for a sort of repetitive harmony.

We can see this in the inflection of Swahili demonstrative pronouns. They follow the same class concord as all other pronominals, but receive slightly different inflectional rules. In particular, the stem for this here, h-, takes a vowel before the noun class affix that changes in order to maintain harmony with the vowel of the particular class affix. The table below enumerates the major demonstrative pronouns.

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<sup>6</sup>personal communication with Fidèle Mpiranya

	<b>this here (near me)</b>	<b>that there (near you)</b>	<b>that there (away from me and you)</b>
<b>[mu-yu,a]</b>	huyu	huyo	yule
<b>[wa-wa]</b>	hawa	hao	wale
<b>[mu-u]</b>	huu	huo	ule
<b>[mi-i]</b>	hii	hiyo	hile
<b>[∅-li]</b>	hili	hilo	lile
<b>[ma-ya]</b>	haya	hayo	yale
<b>[ki-ki]</b>	hiki	hicho	kile
<b>[vi-vi]</b>	hivi	hivyo	vile
<b>[n-i]</b>	hii	hiyo	ile
<b>[n-zi]</b>	hizi	hizo	zile

The following example illustrates the use of these class affixes on pronouns and the class concord that must be followed.

- (4) Hi-ki ni ki-tabu ch-angu na i-le ni mi-fuko y-ako.  
 this-c7 is c7-book c7-mine and c4-that is c4-PL-bag c4-yours  
 This is my book and those are your bags.

As we can see, in the first part both pronominals "this" and "mine" take the class affix "ki" in order to refer to ki-tabu. For class [7/8] [ki-ki/vi-vi], both the nominal and pronominal prefixes are identical, so the pronouns are inflected with ki just like the noun ki-tabu. Note also that ki becomes ch in front of a vowel, hence changu instead of kiangu. Similarly, mi-fuko is in the plural form of class [3/4] [mu-u/mi-i], and takes i as the class affix. Also note again that i becomes y in front of a, hence y-ako instead of i-ako.

Furthermore, this class concordial inflection also applies to adjectives. Put together, entire sentences can be made where every single word takes the particular class affix of the object of discourse. This example illustrates this, with the use of the adjective -ingi (many).

- (5) hi-vi ni vi-tabu vy-angu vi-ngi  
 this-c8 is c8-book c8-mine c8-many  
 These are my many books.

Another inflection that Swahili nouns may take is the locative suffix -ni. This suffix indicates location in, on, or around, depending on the verb used.

- (6) ni-na-rudi nyumba-ni  
 1.SG-PRES-return c9-house-LOC  
 I return home.
- (7) Ki-tabu ki-li-kuwa(po) meza-ni  
 c7-book c7-PAST-be(around) table-LOC  
 The book was on the table.
- (8) ni-li-kuwa darasa-ni  
 1.SG-PAST-be c5-classroom-LOC  
 I was in the classroom.

However, note that proper nouns cannot take the locative suffix, and so location must be marked using the preposition *kwenye*.

- (9) *ni-li-kuwa kwenye Chicago*  
 1.SG-PAST-be in Chicago  
 I was in Chicago.

## 2.4 Morphophonology

One of the more prominent aspects of Swahili morphophonology that's interesting is the way that loan-words are absorbed into the Swahili noun classes. Swahili has adopted many lexical items from Arabic, Omani, and to a degree, French, English, and Portuguese, and often these words which are unprefixes in their respective origin languages are analyzed as having particular Swahili noun class prefixes. As before we mentioned *kitabu*, which originated from the Arabic "qitab". In Arabic, the plural for book is "alkutub". However, in Swahili, the plural for book is "vi-tabu". This is because the initial syllable *vi-* was analyzed as the class 7 prefix, and so *kitabu* was adopted in to class [7/8] [ki-ki/vi-vi]. Another example of this is *muziki*, which was adopted into the class [3/4] [mu-u/mi-i].

Another interesting aspect of the morphophonology of Swahili noun classes is the origin of the classes [3/10] [mu-u/n-zi] and [3/6] [mu-u/ma-ya]. Historically, these classes were in the Common Bantu classes [11/10] \*[d̥u.-d̥u/n-zi] and [14/6] \*[b̥u-b̥u/ma-ya]<sup>7</sup>. The initial-position consonants weakened over time, following the progression below

$$\begin{aligned} *d̥u &\rightarrow lu \rightarrow u \\ *b̥u &\rightarrow wu \rightarrow u \end{aligned}$$

Following these phonetic changes, the pronominal prefixes for classes [11/10] [u-u/n-zi] and [14/6] [u-u/ma-ya] became the same as the singular pronominal prefix for class [3/4] [mu-u/mi-i]. This similarity led to the realignment of classes [11] and [14], such that they took *mu-* as the nominal prefix instead of *u-*. As such, the classes [11/10] and [14/6] were reanalyzed as classes [3/10] and [3/6], creating an alignment of nominal prefixes across three different classes, in addition to the previous class [3/4]. The vestiges of these historical [11/10] and [14/6] noun classes are only visible through the plural-singular alternations in inflections of these nouns.

## 3 Verbs

Swahili has many verbs, with highly agglutinative inflection. Just like with the nouns, most verbs are of Bantu origin, but many have been borrowed from Arabic and other neighboring languages. Swahili follows nominative–accusative alignment, and is pro-drop. The affix ordering for Swahili verbs is roughly as follows:

Negation - Subject – Tense – Object – Verb Stem – Suffixes – Mood

### 3.1 Verb inflection

All verbs must be inflected with at least a tense and subject, or otherwise have the infinitive prefix *ku-*. Some common infinitive verbs are:

<sup>7</sup>Guthrie, Malcolm (1967–1971). *Comparative Bantu: an introduction to the comparative linguistics and prehistory of the Bantu languages*. Farnborough: Gregg Press.

ku-enda	"to go"
ku-ona	"to see"
ku-penda	"to love"
ku-soma	"to read"

To inflect verbs with a subject, a subject prefix is obligatory. Transitive verbs also take an object pronoun after the tense infix. The personal pronoun prefixes are as follows:

Person	Subject Pronoun	Object Pronoun
1.SG	ni-	-ni-
2.SG	u-	-ku-
3.SG	a-	-m-
1.PL	tu-	-tu-
2.PL	mu-	-wa...-eni
3.PL	wa-	-wa-

The main tenses in Swahili are as past, perfect, present, and future, with corresponding affixes for verb inflection.

Past	Perfect	Present	Future
-li-	-me-	-na-	-ta-

Some examples of these inflections:

(10) a-li-ni-ona jana  
3.SG-PAST-1.SG-see yesterday  
He/she saw me

(11) ni-me-soma leo  
1.SG-PERF-read today  
I have read today

(12) ni-na-wa-pend-eni  
1.SG-PRES-2.PL-love-2.PL  
I love you all

(13) tu-ta-enda kesho  
1.PL-FUT-go tomorrow  
We will go tomorrow

The above subject and object inflections primarily apply to people and other animate nouns. For nouns in other classes, the nominal prefix is used as the subject prefix and the pronominal prefix is used as the object prefix.

(14) Ki-tabu ch-angu ni ki-zuri, tu-ta-ki-soma kesho.  
c7-book c7-mine is c7-good, 1.PL-FUT-c7-read tomorrow.  
My book is good, we will read it tomorrow.

For negation, the prefix *ha-* is used before the subject, and alternate tense prefixes are used. This prefix is subject to allomorphic alternation, depending on the subject prefix. The alternations include *ha-u* becoming *hu-* and *ha-a* becoming *ha-*, and *ha-ni* taking the alternative form *si-*. The negated tense affixes are as follows, with the present negation morpheme exceptionally occurring as a suffix to the verb.

Negated Past	Negated Perfect	Negated Present	Negated Future
-ku-	-ja-	-i	-ta-

- (15) Si-*pend-i*                      ku-*soma vi-tabu*  
 NEG-1.SG-love-PRES INF-read c8-book  
 I do not like reading books.
- (16) Ki-*tabu ch-angu si*      ki-*zuri*, ha-*tu-ta-ki-soma*      kesho.  
 c7-book c7-mine NEG-is c7-good, NEG-1.PL-FUT-c7-read tomorrow.  
 My book is not good, we will not read it tomorrow.

### 3.2 Morphophonology

One aspect of Swahili verb morphophonology is the blocking the application of typical phonological when they concern morphemes within a verb. As such, sometimes Swahili verbs may take exceptionally long strings of vowels. This seems to be because deletion or epenthesis of even a single vowel can drastically alter the meaning of a verb.

- (17) Yule    mbwa a-na-bweka-bweka.  
 c1-that dog    3.SG-PRES-bark-bark  
 That dog always/habitually barks.

### 3.3 Verb reduplication

Reduplication in Swahili occurs in 4 major forms: partial reduplication, complete reduplication, multiple reduplication, verb-external reduplication, and verb doubling. Consider the following examples, taken from [Gibson and Yoneda, 2018]<sup>8</sup> and [Novotna, 2000]<sup>9</sup>. The rest of the section will use examples taken from these two papers.

Type	Stem	Reduplicated
Partial	ku- <i>temea</i> (to spit it out)	ku- <i>tetemea</i> (to tremble)
Complete	ku- <i>lia</i> (to weep)	ku- <i>lialia</i> (to whimper)
Multiple	fo <sup>10</sup>	fofofo (absolutely)
External	watoto watulia (the children got quiet)	watoto walitulia tulii (the children got completely silent).
Verb Doubling	a- <i>fagia</i> (she sweeps)	ku- <i>fagia</i> , a- <i>fagia</i> (as for sweeping, she sweeps).

Partial reduplication is not typically very productive. One other example provided was *tarika* (brotherhood) to *ku-tatarika* (to chatter).

<sup>8</sup>Gibson, Hannah, and Nobuko Yoneda. "Functions of Verb Reduplication and Verb Doubling in Swahili." *Journal of Asian and African Studies* 96 (2018): 5-27.

<sup>9</sup>Novotna, Jana. "Reduplication in Swahili." *Afrikanische Arbeitspapiere* 64 (2000): 57-73.



However, complete reduplication is particularly productive in Swahili. Both nouns and verbs can be reduplicated in order to derive more meaning. For nouns, reduplication typically serves to modify or transfer meaning

Stem	Reduplicated
moto (heat)	u-moto-moto (passion)
jivu (ashes)	-jivu-jivu (ash-like)
bata (duck)	ku-bata-bata (to waddle)
bui (large spider, tarantula)	bui-bui (black garment worn by women)

For verbs, full reduplication systematically serves to intensify meaning, express a repeated action, or express a continual/habitual state.

- (18) A-li-lewa-lewa..  
3.SG-PAST-be.drunk-be.drunk  
He staggered, he staggered (drunkenly).
- (19) Yule mbwa a-na-bweka-bweka.  
c1-that dog 3.SG-PRES-bark-bark  
That dog always/habitually barks.
- (20) Kamba hi-zi zi-na-legea-legea.  
c10-rope this-c10 c10-PRES-get.loose-get.loose  
These ropes are getting looser and looser.

Verb-external reduplication has even further productive meaning. This kind of reduplication expresses a degree of unexpectedness or remarkableness about the meaning of the sentence which contains it. Verb-external reduplication often expresses a sense of completeness/totality, an extant meaning, or sense of intensity. This kind of reduplication is fairly unique.

- (21) Asumini z-ote zi-me-chanu-a chanu.  
Jasmine.flower c10-all c10-PERF-bloom bloom  
All jasmine flowers have fully bloomed.
- (22) Mchuzi huu u-me-nyoror-a nyororo.  
c3-stew this-c3 c3-PERF-boil boil  
This stew has been boiled (and become) completely soft.

Furthermore, verb-external reduplication can be combined with full reduplication on the reduplicated verb.

- (23) A-li-duguda maziwa katika chupa dugu-dudu-gudu  
3.SG-PAST-shake c6-milk in c9-bottle shake-shake-shake  
He shook milk in a bottle very hard.

Finally, as for verb doubling, the purpose of duplicating the verb in infinitive is to convey emphasis, add focus, and provide confirmation of the truth value of the action.

- (24) Ku-pim-a ni-ta-ku-pim-a.  
INF-measure 1.SG-FUT-measure  
I will MEASURE you.